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GAF
Safety Data Sheet
SDS # 2203
SDS Date: January 2016

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Cobra® Ridge Vent 3, Cobra® Ridge Vent 3 – 9", Cobra® Snow Country, Cobra® Snow Country AH, Cobra® Snow Country Advanced, Cobra® Snow Country Advanced – 9", Cobra® Ridge Runner, Cobra® Ridge Runner AH, TruSlate Ridge Vent, Cobra® Hip Vent, Master Flow® RT65
TRADE NAME:	N/A
CHEMICAL NAME / SYNONYM:	N/A
CHEMICAL FAMILY:	N/A
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the product listed above in Section 1 is considered an article and does not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Not Hazardous.

SIGNS & SYMPTONS OF EXPOSURE

Eyes: May cause mechanical irritation to the eyes.

Skin: Not Hazardous.

Ingestion: Not Hazardous.

Inhalation: None Respirable.

ACUTE HEALTH HAZARDS: See above.

CHRONIC HEALTH HAZARDS: None known.

CARCINOGENICITY: The International Agency for Research on Cancer (IARC) has determined that there is limited or inadequate evidence in humans for the carcinogenicity of exposure to carbon black. Classified as a Group 2B (Possibly Carcinogenic to Humans).

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**%**	**OSHA**	**ACGIH**	**OTHER**
Glass Fibers (Nuisance Particles, Non-Respirable)		10 - 30	10 mg/m3	10 mg/m3	NE
Cured Urea Formaldehyde Resin	NE	0 - 10	NE	NE	NE
Polybutene Emulsion	NE	0 - 10	NE	NE	NE

Nails
Makes up approximately 20% of product (Not all products have nails)

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**%**	**OSHA**	**ACGIH**	**OTHER**
Galvanized Iron	1309-37-1	1 - 20	10 mg/m3 (Fume)	5 mg/m3 (Fume)	REL: 5 mg/m3 (Fume)
Zinc	1314-13-2	1 - 5	5 mg/m3 (Fume)	NE	5 mg/m3 (Fume)

NE = Not Established

SECTION 4: FIRST AID MEASRURES

FIRST AID PROCEDURES

EYES:	Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.
SKIN:	Wash affected area thoroughly with soap and water.
INHALATION:	Not Expected to occur.
INGESTION:	Not expected to be ingested.
NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:	No information available

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Carbon dioxide, Foam, water or water fog.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	NIOSH-approved self contained breathing apparatus is recommended for smoke protection, but not required.
UNUSUAL FIRE & EXPLOSION HAZARDS:	None expected. May release carbon dioxide, carbon monoxide, keytones, acrolein, formaldehyde, aldehydes, or unidentified organic compounds when large amounts are burning.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Pick up or sweep up large pieces and dispose of properly.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	No specific handling or storage requirements.
OTHER PRECAUTIONS:	None

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION: N/A

RESPIRATORY PROTECTION: N/A

EYE PROTECTION: Safety glasses with side shields.

SKIN PROTECTION: Cotton or leather gloves are recommended when handling.

OTHER PROTECTIVE EQUIPMENT: None

WORK HYGIENIC PRACTICES: Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.

EXPOSURE GUIDELINES: N/A

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Black plastic material with slightly waxy odor.		
FLASH POINT:	No data	**LOWER EXPLOSIVE LIMIT:**	No data
METHOD USED:	No data	**UPPER EXPLOSIVE LIMIT:**	No data
EVAPORATION RATE:	No data	**BOILING POINT:**	No data
pH (undiluted product):	No data	**MELTING POINT:**	>120^{o} C
SOLUBILITY IN WATER:	No data	**SPECIFIC GRAVITY:**	.88 - .92
VAPOR DENSITY:	No data	**PERCENT VOLATILE:**	No data
VAPOR PRESSURE:	No data	**MOLECULAR WEIGHT:**	No data
VOC WITH WATER (LBS/GAL):	No data	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): Keep away from heat, sparks and flame.

INCOMPATIBILITY (MATERIAL TO AVOID): Oxidizing materials.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: At elevated temperatures the material will begin to decompose producing fumes that can contain carbon dioxide, carbon monoxide, keytones, acrolein, formaldehyde, aldehydes, or unidentified organic compounds when large amounts are burning.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: No information available.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION

PROPER SHIPPING NAME: This product is not classified as a hazardous material for transport.

HAZARD CLASS: N/A

ID NUMBER: N/A

PACKING GROUP: N/A

LABEL STATEMENT: N/A

OTHER: N/A

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA

311 / 312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains a chemical known to the state of California to cause cancer and birth defects or other reproductive harm. Cancer: carbon black.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Propylene Ethylene Copolymer	9010-79-1	No	No	No	No	No	No
Carbon Black	1333-86-4	Yes	Yes	Yes	Yes	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS SDS: December 2014

CHANGES SINCE PREVIOUS SDS: Added Master Flow®RT65

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It

is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 1002
SDS Date: July 2018

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Camelot® Camelot® II Grand Sequoia® Grand Sequoia ®ArmorShield™ Grand Canyon® Slateline® Glenwood® Sienna® Woodland®
TRADE NAME:	Asphalt / Fiberglass Shingles
CHEMICAL FAMILY:	N/A
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Occasional nuisance dust, Inhalation

SIGNS & SYMPTOMS OF EXPOSURE

Eyes:	May cause irritation to the eyes.
Skin:	May cause irritation to the skin.
Ingestion:	This product is not intended to be ingested. If ingested, it may cause temporary irritation to the gastrointestinal (digestive) tract.
Inhalation:	May cause irritation to the respiratory tract.
ACUTE HEALTH HAZARDS:	NIOSH has found that studies of workers exposed to asphalt fumes have repeatedly found irritation of the serous membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation).
CHRONIC HEALTH HAZARDS:	Studies in humans have found that exposure to respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is a serious and irreversible disease; it may be progressive even after exposure has ceased; it can lead to disability and death. Human studies also have found that silicosis is a risk factor for tuberculosis, and that occupational exposure to respirable crystalline silica is associated with chronic obstructive pulmonary disease, including bronchitis and emphysema. Some studies show excess numbers of cases of scleroderma, connective tissue disorders, lupus, rheumatoid arthritis, chronic kidney diseases and end-stage kidney disease in workers exposed to respirable crystalline silica.
CARCINOGENICITY:	IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A). IARC concluded that available data from cancer studies in humans points to an association between exposures to oxidized asphalts during roofing and lung cancer and tumors in the upper aero-digestive tract. In addition, IARC found sufficient evidence of carcinogenicity in experimental animals for extracts and fume condensates of oxidized asphalts. NIOSH has concluded that the collective data from human, animal, genotoxicity and exposure studies provide sufficient evidence that roofing asphalt fumes are a potential occupational carcinogen. Occupational exposure to respirable crystalline silica is classified as a known carcinogen in humans. IARC has determined that respirable crystalline silica is carcinogenic to humans (Group 1), based on findings of sufficient evidence of carcinogenicity in both humans and experimental animals. NTP has classified respirable crystalline silica as a known human carcinogen based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between exposure to respirable crystalline silica and increased lung cancer rates in workers exposed to crystalline silica dust. NIOSH has determined that respirable crystalline silica is a potential occupational carcinogen. IARC has determined that occupational exposure to Titanium Dioxide is possibly carcinogenic to humans (Group 2B). IARC concluded lung tumors were observed in rats following high dose exposure by inhalation and in female rats exposed by intra-tracheal instillation. Other studies have shown no tumors in rats following inhalation exposure and no tumors in mice or rats following oral

exposure.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**%**	**OSHA**	**ACGIH**	**OTHER**
Granules	-	20 – 45	NE	NE	NE
Limestone	1317-65-3	25 – 45	5 mg/m3 – resp. 15 mg/m3 – total	3 mg/m3 – resp. 10 mg/m3 – total	REL: 5 mg/m3 – resp. 10 mg/m3 – total
Oxidized Asphalt	64742-93-4	10 – 30	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	5 mg/m3 – ceiling (15 min. fumes)
Crystalline Silica	14808-60-7	0 – 10	50 µg/m³	0.025 mg/m3	REL: 0.05 mg/m3 – resp.
Fiberglass Mat	65997-17-3	1 – 3	1 f/cc – resp.	1 f/cc – resp.	REL: 5 mg/m3 – total fibers
Titanium Dioxide	13463-67-7	0 – 4	15 mg/m3 – total	10 mg/m3 – total	REL: lowest feasible concentration

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.

SKIN: Wash affected area thoroughly with soap and water.

INHALATION: Remove to fresh uncontaminated air.

INGESTION: Not expected to be ingested.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: No information available

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water spray, Alcohol foam, Carbon Dioxide, or Dry chemical.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	NIOSH-approved self-contained breathing apparatus is recommended for smoke protection.
UNUSUAL FIRE & EXPLOSION HAZARDS:	N/A

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Pick up large pieces. Avoid creating dusts during clean up.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	No specific handling or storage requirements.
OTHER PRECAUTIONS:	None

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	N/A
RESPIRATORY PROTECTION:	N/A under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable exposure levels, appropriate NIOSH approved respiratory protection is recommended.
EYE PROTECTION:	Safety glasses with side shields
SKIN PROTECTION:	Cotton or leather gloves are recommended when handling.
OTHER PROTECTIVE EQUIPMENT:	None
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Granule coated shingle; no appreciable odor.

FLASH POINT:	> 550 °F	**LOWER EXPLOSIVE LIMIT:**	No data
METHOD USED:	No data	**UPPER EXPLOSIVE LIMIT:**	No data
EVAPORATION RATE:	No data	**BOILING POINT:**	No data
pH (undiluted product):	No data	**MELTING POINT:**	No data
SOLUBILITY IN WATER:	No data	**SPECIFIC GRAVITY:**	No data
VAPOR DENSITY:	No data	**PERCENT VOLATILE:**	No data
VAPOR PRESSURE:	No data	**MOLECULAR WEIGHT:**	No data
VOC WITH WATER (LBS/GAL):	No data	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): None known.

INCOMPATIBILITY (MATERIAL TO AVOID): None known.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon Dioxide and Carbon Monoxide

HAZARDOUS POLYMERIZATION: Will Not Occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: None available for the product. See section 3.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the

U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA None

311 / 312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains silica and titanium dioxide, chemicals known to the State of California to cause cancer.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Limestone	1317-65-3	No	Yes	Yes	No	Yes	Yes
Oxidized Asphalt	64742-93-4	No	No	No	No	No	No
Crystalline Silica	14808-60-7	Yes	Yes	Yes	Yes	Yes	Yes
Fiberglass Mat	65997-17-3	Yes	No	Yes	Yes	No	Yes

Titanium Dioxide	13463-67-7	No	Yes	Yes	Yes	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None.

DATE OF PREVIOUS SDS: February 2016

CHANGES SINCE PREVIOUS SDS: Update to OSHA silica PEL.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 2054
SDS Date: March 2018

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	EverGuard® WATER BLOCK
TRADE NAME:	N/A
CHEMICAL NAME / SYNONYM:	N/A
CHEMICAL FAMILY:	N/A
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARD IDENTIFICATION

NFPA and HMIS RATINGS:

	NFPA Hazard Rating		HMIS Hazard Rating
Health	*2*	**Health**	*2*
Flammable	*2*	***Flammable***	*2*
Reactive	*0*	**Reactive**	*0*
Special Hazards	-	**Personal Protection**	X

GHS LABEL ELEMENTS:

GHS CLASSIFICATION: Eye Irritant - Category 2A
Skin Irritant - Category 2

GHS PICTOGRAMS:

SIGNAL WORD: Warning

HAZARD STATEMENTS:
Causes skin irritation.
Causes serious eye irritation.

PRECAUTIONARY STATEMENTS:
Wash thoroughly after handling.
Wear protective gloves / eye protection / face protection.
If on skin: Wash with plenty of water.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lens if present and easy to do.
Continue rinsing.
Specific treatment (see on this label).
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Inhalation

SIGNS & SYMPTONS OF EXPOSURE

EYES: May irritate the eyes.

SKIN: May irritate the skin.

INGESTION: Harmful if swallowed.

INHALATION: Inhalation may cause respiratory system irritation.

ACUTE HEALTH HAZARDS: Exposure to this product may irritate the skin and eyes.

CHRONIC HEALTH HAZARDS: None.

CARCINOGENICITY: None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**%**	**OSHA**	**ACGIH**	**OTHER**
Calcium carbonate	471-34-1	25-50	15* 5** mg/m³ *total dust **respirable fraction	NE	10* 5** mg/m³ *total dust **respirable fraction
Kaolin	1332-58-7	5-20	15* 5** mg/m³ *total dust **respirable fraction	2* mg/m³ E; as respirable fraction	REL: 10* 5** mg/m³ *total dust **respirable fraction
Stoddard solvent (mineral spirits)	8052-41-3	2.5-10	2900 mg/m³, 500 ppm	525 mg/m³, 100 ppm	REL: 350 mg/m³
Magnesite	546-93-0	2.5-10	15* 5** mg/m³ *total dust	NE	REL: 10* 5** mg/m³

			** respirable fraction		*total dust **respirable fraction
Precipitated silica (Silica-Amorphous)	112926-00-8	<=1	20mppcf or 80mg/m3 /%SiO2	NE	NE
Titanium dioxide	13463-67-7	<=1	10 mg/m³	15* mg/m³ *total dust	NE

NE – Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: If this material contacts the eyes, hold eyelids open flush immediately with gentle stream of water for at least 15 minutes, preferable at eye wash fountain. Get medical attention.

SKIN: In case of skin contact, wipe excess from skin.
Immediately wash with water and soap and rinse thoroughly.

INHALATION: In case of inhalation, remove to fresh, uncontaminated air. Administer oxygen if breathing is labored. Get medical attention immediately if oxygen or artificial respiration is administered.

INGESTION: In case of accidental ingestion, do not induce vomiting. Get medical attention and advise the physician of the nature of the material.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: None.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA: CO2, foam, dry chemical or water fog.

HAZARDOUS COMBUSTION PRODUCTS: Emits smoke when burned; carbon dioxide and carbon monoxide.

RECOMMENDED FIRE FIGHTING PROCEDURES: Water spray may be ineffective but may be used to cool closed containers. If water is used, use fog nozzles. Should use self contained breathing apparatus.

UNUSUAL FIRE & EXPLOSION HAZARDS: None.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Clean up spilled material with absorbents. Place in a designated

container for proper disposal.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Keep material away from heat, spark and open flame. Do not store in open or unlabeled containers. Use with adequate ventilation. Read product label and observe all precautions before use.

OTHER PRECAUTIONS: None.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION: Local exhaust should be used where possible. Use with ventilation sufficient to prevent exceeding recommended exposure limits or build up of explosive concentrations of vapor in air.

RESPIRATORY PROTECTION: If personal exposure concentrations cannot be maintained below the appropriate exposure limits using engineering controls, a NIOSH approved respirator may be appropriate based on employer-determined exposure levels.

EYE PROTECTION: Safety glasses with side shields or goggles are recommended when using or applying this product.

SKIN PROTECTION: Wear nitrile rubber or neoprene gloves when handling this product to avoid prolonged skin contact.

OTHER PROTECTIVE EQUIPMENT: Not required

WORK HYGIENIC PRACTICES: Wash exposed skin prior to eating, drinking or smoking and at the end of each shift. Wash contaminated clothing prior to reuse.

EXPOSURE GUIDELINES: N/A

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Gray paste with mild solvent odor		
FLASH POINT:	Not applicable	**LOWER EXPLOSIVE LIMIT:**	Not applicable
METHOD USED:	Not applicable	**UPPER EXPLOSIVE LIMIT:**	Not applicable
EVAPORATION RATE:	No data	**BOILING POINT:**	No data
pH (undiluted product):	No data	**MELTING POINT:**	No data

SOLUBILITY IN WATER:	Insoluble	**SPECIFIC GRAVITY:**	1.307
VAPOR DENSITY:	3.4	**PERCENT VOLATILE:**	15%
VAPOR PRESSURE:	No data	**MOLECULAR WEIGHT:**	No data
VOC WITH WATER (LBS/GAL):	No data	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): Avoid all sources of ignition.

INCOMPATIBILITY (MATERIAL TO AVOID): Avoid strong oxidizing agents.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: None.

HAZARDOUS POLYMERIZATION: Will not undergo hazardous polymerization.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Information on toxicological effects
· **Acute toxicity:**
· **Primary irritant effect:**
· **on the skin:** May irritate the skin.
· **on the eye:** May irritate the eye.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
Due to the form of this product, exposure to the potentially carcinogenic components is not expected.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION:

Toxicity
· **Aquatic toxicity:** Not expected to be harmful to aquatic organisms.
· **Persistence and degradability:** No further relevant information available.
· **Behavior in environmental systems**
· **Bioaccumulative potential:** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:** Do not allow product to reach ground water, water course or sewage system.

· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects:** No further relevant information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Disposal must be made according to official regulations.

SECTION 14: TRANSPORTATION INFORMATION

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None.

SARA

311 / 312 HAZARD CATEGORIES: Acute Health Hazard; Chronic Health Hazard.

313 REPORTABLE INGREDIENTS: None.

CALIFORNIA PROPOSITION 65: Not Applicable.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	NJ	PA
Kaolin	1332-58-7	Yes	Yes
Magnesite	546-93-0	Yes	No

Calcium oxide	1305-78-8	Yes	Yes
Titanium dioxide	13463-67-7	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None.

DATE OF PREVIOUS SDS: December 2014

CHANGES SINCE PREVIOUS SDS: Changes to Sections 2, 3, 9, and 15.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 1094
SDS Date: August 2018

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Everguard® PVC FleeceBack 50, 60 and 80 Everguard® PVC Smooth 50, 60 and 80 Everguard® PVC UN-55 Detailing Membrane Everguard® PVC UN T-Joint Cover Patch 55 Mil Everguard® PVC Vent Boots and Universal Corners Everguard® PVC Walkway Rolls Everguard® PVC Coated Metal Membrane Everguard® PVC Split Pipe Boots.
CHEMICAL NAME / SYNONYM:	Polyvinyl Chloride (PVC)
CHEMICAL FAMILY:	Plastic Laminate, Plastic sheet
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

PRIMARY ROUTE OF EXPOSURE: Skin Contact

SIGNS & SYMPTOMS OF EXPOSURE

EYES:	Not Applicable
SKIN:	May cause irritation to the skin.
INGESTION:	Not Applicable
INHALATION:	Not Applicable
ACUTE HEALTH HAZARDS:	Not Applicable
CHRONIC HEALTH HAZARDS:	Not Applicable
CARCINOGENICITY:	Not Applicable

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
PVC Resin	9002-86-2	30-60	NE	NE	MAK: 1.4 mg/m3 Resp.
Phthalate Ester		7-13	NE	NE	NE
Calcium Carbonate	471-34-1	0-30	15 mg/m3 total dust, 5 mg/m3 respirable fraction for nuisance dusts	NE	10 mg/m3 total dust, 5 mg/m3 respirable fraction for nuisance dusts

NE= Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES:	No known effect on eye contact, rinse with water for a few minutes.
SKIN:	No known effect on skin contact; rinse with water for a few minutes.
INHALATION:	Allow the victim to rest in a well ventilated area.
INGESTION:	Do not ingest. Contact Poison control and seek medical attention immediately.
NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:	None

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Dry chemical, carbon dioxide, water spray or foam
HAZARDOUS COMBUSTION PRODUCTS:	HCl gas, carbon monoxide, carbon dioxide. Hazardous emissions may occur durin processing at elevated temperatures.
RECOMMENDED FIRE FIGHTING PROCEDURES:	Small Fire: Use Dry Chemical, carbon dioxide, water spray or foam. Large Fire: Use water spray, fog or foam. DO NOT use water jet. All fires produce toxic gases. Fire fighter should use self-contained brathing apparatus and full protective gear.
UNUSUAL FIRE & EXPLOSION HAZARDS:	Flammable when expoised to external ignition sources such as shocks, heat, flames and sparks.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Use appropriate tools to put the spilled solid in a convenient waste disposal container. Recycle to process if possible. Consult your local or regional authorities.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Keep container dry. Keep container in a cool, well ventilated area.
OTHER PRECAUTIONS:	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommende exposure limits. Keep away from sources of ignition.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	This product is combustible. Use adequate ventilation when heat welding this product.
RESPIRATORY PROTECTION:	A self contained breathing apparatus should be sued to avoid inhalation of the product when exposed to extreme temperatures.
EYE PROTECTION:	Use safety goggles when appropriate.
SKIN PROTECTION:	Use impervious gloves and clothing when appropriate.

OTHER PROTECTIVE EQUIPMENT:	Boots, Full suit.
WORK HYGIENIC PRACTICES:	Use proper protective equipment at all times and wash after handling material.
EXPOSURE GUIDELINES:	Not Applicable

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Solid plastic with characteristic odor		
FLASH POINT:	301 °C (573.8 °F)	**LOWER EXPLOSIVE LIMIT:**	No Data
METHOD USED:	Closed Cup	**UPPER EXPLOSIVE LIMIT:**	No Data
EVAPORATION RATE:	No Data	**BOILING POINT:**	400 °F
pH (undiluted product):	No Data	**MELTING POINT:**	320 °F
SOLUBILITY IN WATER:	Insoluble in water (cold/hot)	**SPECIFIC GRAVITY:**	1.35 (Water = 1)
VAPOR DENSITY:	No Data	**PERCENT VOLATILE:**	No Data
VAPOR PRESSURE:	No Data	**MOLECULAR WEIGHT:**	No Data
VOC WITH WATER (LBS/GAL):	No Data	**WITHOUT WATER (LBS/GAL):**	No Data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY):	Hazardous decomposition occurs above 400 °F.
INCOMPATIBILITY (MATERIAL TO AVOID):	Not Applicable
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:	HCl gas is evolved.
HAZARDOUS POLYMERIZATION:	Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: No information available.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: Not Applicable

CERCLA: Not Applicable

SARA

311/312 HAZARD CATEGORIES: Not Applicable

313 REPORTABLE INGREDIENTS: Not Applicable

CALIFORNIA PROPOSITION 65: Not Applicable

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
PVC Resin	9002-86-2	No	No	No	Yes	No	No
Phthalate Ester		Yes	No	No	No	Yes	No
Calcium Carbonate	471-34-1	No	No	No	No	No	No

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None.

DATE OF PREVIOUS SDS: August 2014

CHANGES SINCE PREVIOUS SDS: Added Split Pipe Boots.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 2107
SDS Date: March 2021

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Air Duct Sealant WBA
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24 HOUR EMERGENCY PHONE: (CHEMTREC)	800–424–9300
INFORMATION ONLY:	800–766–3411
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

NFPA and HMIS RATINGS:

	NFPA Hazard Rating		HMIS Hazard Rating
Health	*0*	Health	*1*
Flammable	*0*	*Flammable*	*0*
Reactive	*0*	Reactive	*0*
Special Hazards	-	Personal Protection	X

Classification

This chemical does not meet the hazardous criteria set forth by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). However, this Safety Data Sheet (SDS) contains valuable information critical to the safe handling and proper use of this product. This SDS should be retained and available for employees and other users of this product.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Eye, skin, and ingestion.

SIGNS & SYMPTOMS OF EXPOSURE

EYES: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.

	Inorganic particulate materials may cause mechanical irritation. Seek immediate medical attention/advice.
SKIN:	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. DO NOT USE SOLVENTS OR THINNERS to remove from skin. Get medical attention if irritation occurs.
INGESTION:	Do NOT induce vomiting. Drink plenty of water or milk immediately. Call a poison center or doctor/physician if you feel unwell.
INHALATION:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician. If breathing is difficult, oxygen should be administered by qualified personnel.
ACUTE HEALTH HAZARDS:	May cause mild eye irritation.
CHRONIC HEALTH HAZARDS:	Not applicable.
CARCINOGENICITY:	Not applicable.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**NIOSH**
Kaolin	1332-58-7	15-20	5 mg/m3 – resp 15 mg/m3 – total	2 mg/m3	TWA: 10 mg/m3 total dust TWA: 5 mg/m3 respirable dust
Aluminum Hydroxide*	21645-51-2	5-10	NE	TWA: 1 mg/m3 respirable fraction	NE
Ground Limestone*	1317-65-3	5-10	5 mg/m3 – resp. 15 mg/m3 – total	3 mg/m3 – resp. 10 mg/m3 – total	TWA: 5 mg/m3 – resp. 10 mg/m3 – total
Fly Ash*	68131-74-8	1-2	NE	TWA: 1 mg/m3 Cu dust and mist	NE

NE = Not Established

* As respirable dust, nuisance dust only. Normal application procedures pose no hazard since these ingredients are encapsulated, but grinding or sanding dried films may yield respirable dusts.

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES:	Mild irritation may occur. Flush eyes for 15 minutes with eyelids spread apart. Irritation will depend on the length of exposure and first aid.
SKIN:	Mild irritation may occur.
INHALATION:	If inhaled, the components of this product are considered practically non-toxic to internal organs. No adverse effects expected.
INGESTION:	The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if swallowed. No adverse effects expected.
NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:	Not applicable.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Dry chemical, carbon dioxide, universal type foam, and water fog.
HAZARDOUS COMBUSTION PRODUCTS:	May form toxic materials; carbon dioxide, carbon monoxide, and water vapor.
RECOMMENDED FIRE FIGHTING PROCEDURES:	Proper protection equipment, including self-contained breathing apparatus, if entering an enclosed or confined space area.
UNUSUAL FIRE & EXPLOSION HAZARDS:	None.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Stop the spill at the source. Prevent spill from spreading and entering drains, sewers, streams, or other bodies of water. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for disposal.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Store away from incompatible materials. Store away from heat, sparks, and flame. Keep containers tightly closed in a dry, cool and well-ventilated place.
OTHER PRECAUTIONS:	None.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION: Mechanical ventilation.

RESPIRATORY PROTECTION: Use NIOSH/MSHA approved dust and mist respirator when spraying product.

EYE PROTECTION: Use safety goggles or face shield with safety glasses when eye contact may occur.

SKIN PROTECTION: Use chemical resistant gloves, if needed, to avoid prolonged or repeated skin contact.

OTHER PROTECTIVE EQUIPMENT: Use chemical resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing which could result in prolonged or repeated skin contact.

WORK HYGIENIC PRACTICES: Keep containers closed when not in use. Minimize breathing vapor or mist. Avoid prolonged or repeated contact with skin. Launder or dry clean contaminated clothing and/or shoes before reuse. Cleanse skin thoroughly after contact, before breaks and meals, and then at the end of the work period.

EXPOSURE GUIDELINES: Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	A tan viscous liquid with a pleasant odor.		
FLASH POINT:	>325 °F	**LOWER EXPLOSIVE LIMIT:**	No Data
METHOD USED:	Open Cup	**UPPER EXPLOSIVE LIMIT:**	No Data
EVAPORATION RATE:	No Data	**BOILING POINT:**	212 °F
pH (undiluted product):	7.0 – 8.0	**MELTING POINT:**	No Data
SOLUBILITY IN WATER:	Miscible	**SPECIFIC GRAVITY:**	>1.30
VAPOR DENSITY:	Of Water	**PERCENT VOLATILE:**	No Data
VAPOR PRESSURE:	Of Water	**MOLECULAR WEIGHT:**	No Data
VOC:	<50 g/l		

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE ☐**

CONDITIONS TO AVOID (STABILITY): Keep away from heat, sparks, and open flame.

INCOMPATIBILITY (MATERIAL TO AVOID): Avoid contact with strong oxidizing agents.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon dioxide and carbon monoxide.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: No information available.

CARCINOGENICITY: Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP**.**

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14: TRANSPORTATION INFORMATION

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA

311/312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: Fly Ash (68131-74-8)

CALIFORNIA PROPOSITION 65: None

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

US State Regulations
U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Kaolin 1332-58-7	X	X	X
Ground Limestone 1317-65-3	X	X	X
Propylene Glycol 57-55-6	X		X
Fly ash 68131-74-8	X		X

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None.

DATE OF PREVIOUS SDS: December 2017

CHANGES SINCE PREVIOUS SDS: Update to Sections 9.

This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 2078
SDS Date: April 2018

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	GAFGLAS® EnergyCap™ Mineral Surface Cap Sheet GAFGLAS® Mineral Surface Cap Sheet
TRADE NAME:	Roll Roofing
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Occasional nuisance dust, Inhalation

SIGNS & SYMPTOMS OF EXPOSURE

EYES: Temporary irritation (itching) or redness may occur.

SKIN: Temporary irritation (itching) or redness may occur.

INGESTION: Not Applicable

INHALATION: May cause irritation to the respiratory tract.

ACUTE HEALTH HAZARDS: NIOSH has found that studies of workers exposed to asphalt

fumes have repeatedly found irritation of the serous membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation).

CHRONIC HEALTH HAZARDS: Studies in humans have found that exposure to respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is a serious and irreversible disease; it may be progressive even after exposure has ceased; it can lead to disability and death.

CARCINOGENICITY: Crystalline Silica: The International Agency for Research on Cancer (IARC) Group 1 - Known Human Carcinogen (listed under Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources).

IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A).

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Oxidized Asphalt	64742-93-4	40 -60	NE	0.5 mg/m3 (fume)	5 mg/m3 – Ceiling (15 min. fumes)
Granules	-	20-25	NE	NE	NE
Calcium Borate	12291-65-5	~20	NE	NE	15 mg/m3
Silica, Crystalline Quartz	14808-60-7	3-5	50 ug/m^3 / (% SiO2 + 2) – resp.	0.025 mg/m3	REL: 0.05 mg/m3 – resp.
Acrylic Polymer	Mixture	<5	NE	NE	NE
Titanium Dioxide	13463-67-7	0.1–4	15 mg/m3 total	10 mg/m3 total	

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.

SKIN:	Wash exposed skin with soap and water. If irritation develops or persists, seek medical attention.
INHALATION:	More individual to area with fresh air and provide oxygen if breathing is difficult. Consult medical personnel.
INGESTION:	Consult medical personnel.
NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:	Dust from the product may cause mechanical irritation of the eyes, skin, and upper respiratory tract. Treat symptomatically.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water spray, Alcohol foam, Carbon Dioxide, or Dry chemical.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	NIOSH-approved self contained breathing apparatus is recommended for smoke protection.
UNUSUAL FIRE & EXPLOSION HAZARDS:	None.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Pick up pieces and dispose off properly. Vacuum dust. Use a dust suppressant if sweeping is necessary.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Hot asphalt is used to apply many of these products; appropriate personal protective equipment should be worn handling this material.
OTHER PRECAUTIONS:	When heated, small amounts of hydrogen sulfide may be given off. Hydrogen sulfide is a flammable, toxic gas. Avoid breathing fumes.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	Not Applicable.

RESPIRATORY PROTECTION:	Not applicable under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable exposure levels, appropriate NIOSH approved respiratory protection is recommended.
EYE PROTECTION:	Safety glasses with side shields
SKIN PROTECTION:	Long sleeve shirt and long pants. Suitable gloves should be worn to protect against mechanical abrasion.
OTHER PROTECTIVE EQUIPMENT:	Work shoes.
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.
EXPOSURE GUIDELINES:	These products should be handled using methods and techniques that minimize or eliminate dust or fume generation.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Thin black sheet in roll form, may be surfaced with granules, talc, sand or film. Slight asphalt odor.		
FLASH POINT:	>500° F	**LOWER EXPLOSIVE LIMIT:**	No Data
METHOD USED:	COC	**UPPER EXPLOSIVE LIMIT:**	No Data
EVAPORATION RATE:	No Data	**BOILING POINT:**	No Data
pH (undiluted product):	No Data	**MELTING POINT:**	No Data
SOLUBILITY IN WATER:	No Data	**SPECIFIC GRAVITY:**	No Data
VAPOR DENSITY:	No Data	**PERCENT VOLATILE:**	No Data
VAPOR PRESSURE:	No Data	**MOLECULAR WEIGHT:**	No Data
VOC WITH WATER (LBS/GAL):	No Data	**WITHOUT WATER (LBS/GAL):**	No Data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY):	None known.
INCOMPATIBILITY (MATERIAL TO AVOID):	None known.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: None known.

HAZARDOUS POLYMERIZATION: Will Not Occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Crystalline silica is considered a hazard by inhalation. The International Agency for Research on Cancer (IARC) has classified crystalline silica as a Group 1 substance, carcinogenic to humans. This classification is based on the findings of laboratory animal studies (inhalation and implantation) and epidemiology studies that were considered sufficient for carcinogenicity. Excessive exposure to crystalline silica can cause silicosis, a non-cancerous lung disease.

IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A).

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of waste material according to Local, State, and Federal, environmental regulations.

SECTION 14: TRANSPORTATION INFORMATION

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA

311/312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains silica, a chemical known to the State of California to cause cancer.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Oxidized Asphalt	64742-93-4	No	No	No	No	No	No
Crystalline Silica	14808-60-7	Yes	Yes	Yes	Yes	Yes	Yes
Titanium Dioxide	13463-67-7	No	Yes	Yes	Yes	Yes	Yes
Calcium Borate	12291-65-5	No	No	No	No	No	No
Acrylic Polymer	Mixture	No	No	No	No	No	No

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS SDS: October 2016

CHANGES SINCE PREVIOUS SDS: Updated Section 2 and 8.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 1004
SDS Date: April 2018

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	GAFGLAS® Ply 4 Ply Sheet GAFGLAS® FlexPly 6 Ply Sheet
TRADE NAME:	Built Up Roofing
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Occasional nuisance dust, Inhalation

SIGNS & SYMPTOMS OF EXPOSURE

EYES: Temporary irritation (itching) or redness may occur.

SKIN: Temporary irritation (itching) or redness may occur.

INGESTION: Not Applicable

INHALATION: May cause irritation to the respiratory tract.

ACUTE HEALTH HAZARDS: NIOSH has found that studies of workers exposed to asphalt

fumes have repeatedly found irritation of the serous membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation).

CHRONIC HEALTH HAZARDS: Studies in humans have found that exposure to respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is a serious and irreversible disease; it may be progressive even after exposure has ceased; it can lead to disability and death.

CARCINOGENICITY: Crystalline Silica: The International Agency for Research on Cancer (IARC) Group 1 - Known Human Carcinogen (listed under Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources).

IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A).

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Oxidized Asphalt	64742-93-4	25 - 35	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	5 mg/m3 – ceiling (15 min. fumes)
Limestone	1317-65-3	~20	5 mg/m3 resp. 15 mg/m3 total	3 mg/m3 resp. 10 mg/m3 total	REL: 5 mg/m3 resp. 15 mg/m3 total
Fiberglass Mat	65997-17-3	5 – 10	1 f/cc – resp.	1 f/cc – resp.	REL: 5 mg/m3 – total fibers
Silica, Crystalline Quartz	14808-60-7	1 - 5	50 ug/m^3 / (% SiO2 + 2) – resp.	0.025 mg/m3	REL: 0.05 mg/m3 – resp.

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.

SKIN:	Wash exposed skin with soap and water. If irritation develops or persists, seek medical attention.
INHALATION:	More individual to area with fresh air and provide oxygen if breathing is difficult. Consult medical personnel.
INGESTION:	Consult medical personnel.
NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:	Dust from the product may cause mechanical irritation of the eyes, skin, and upper respiratory tract. Treat symptomatically.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water spray, Alcohol foam, Carbon Dioxide, or Dry chemical.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	NIOSH-approved self contained breathing apparatus is recommended for smoke protection.
UNUSUAL FIRE & EXPLOSION HAZARDS:	None.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Pick up pieces and dispose off properly. Vacuum dust. Use a dust suppressant if sweeping is necessary.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Hot asphalt is used to apply many of these products; appropriate personal protective equipment should be worn handling this material.
OTHER PRECAUTIONS:	When heated, small amounts of hydrogen sulfide may be given off. Hydrogen sulfide is a flammable, toxic gas. Avoid breathing fumes.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	Not Applicable

RESPIRATORY PROTECTION:	Not applicable under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable exposure levels, appropriate NIOSH approved respiratory protection is recommended.
EYE PROTECTION:	Safety glasses with side shields
SKIN PROTECTION:	Long sleeve shirt and long pants. Suitable gloves should be worn to protect against mechanical abrasion.
OTHER PROTECTIVE EQUIPMENT:	Work shoes.
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.
EXPOSURE GUIDELINES:	These products should be handled using methods and techniques that minimize or eliminate dust or fume generation.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Thin black sheet in roll form, may be surfaced with sand or film. Slight asphalt odor.		
FLASH POINT:	>500° F	**LOWER EXPLOSIVE LIMIT:**	No Data
METHOD USED:	COC	**UPPER EXPLOSIVE LIMIT:**	No Data
EVAPORATION RATE:	No Data	**BOILING POINT:**	No Data
pH (undiluted product):	No Data	**MELTING POINT:**	No Data
SOLUBILITY IN WATER:	No Data	**SPECIFIC GRAVITY:**	No Data
VAPOR DENSITY:	No Data	**PERCENT VOLATILE:**	No Data
VAPOR PRESSURE:	No Data	**MOLECULAR WEIGHT:**	No Data
VOC WITH WATER (LBS/GAL):	No Data	**WITHOUT WATER (LBS/GAL):**	No Data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY):	None known.
INCOMPATIBILITY (MATERIAL TO AVOID):	None known.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: None known.

HAZARDOUS POLYMERIZATION: Will Not Occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Crystalline silica is considered a hazard by inhalation. The International Agency for Research on Cancer (IARC) has classified crystalline silica as a Group 1 substance, carcinogenic to humans. This classification is based on the findings of laboratory animal studies (inhalation and implantation) and epidemiology studies that were considered sufficient for carcinogenicity. Excessive exposure to crystalline silica can cause silicosis, a non-cancerous lung disease.

IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A).

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of waste material according to Local, State, and Federal, environmental regulations.

SECTION 14: TRANSPORTATION INFORMATION

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA

311/312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains silica, a chemical known to the State of California to cause cancer.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Oxidized Asphalt	64742-93-4	No	No	No	No	No	No
Crystalline Silica	14808-60-7	Yes	Yes	Yes	Yes	Yes	Yes
Limestone	1317-65-3	No	Yes	Yes	No	Yes	Yes
Fiberglass Mat	65997-17-3	Yes	No	Yes	Yes	No	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS SDS: October 2016

CHANGES SINCE PREVIOUS SDS: Product Name Revisions

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF Materials Corporation
Safety Data Sheet
SDS #1005
SDS Date: April 2018

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	GAFGLAS® STRATAVENT® Perforated Venting Base Sheet, GAFGLAS® STRATAVENT® Nailable Venting Base Sheet
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24 HOUR EMERGENCY PHONE: (CHEMTREC)	800–424–9300
INFORMATION ONLY:	800–766–3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

PRIMARY ROUTE OF EXPOSURE:	Inhalation
SIGNS & SYMPTONS OF EXPOSURE	
EYES:	Temporary irritation (itching) or redness may occur.
SKIN:	Temporary irritation (itching) or redness may occur.
INGESTION:	Not Applicable
INHALATION:	May cause irritation to the respiratory tract.
ACUTE HEALTH HAZARDS:	Not Applicable

CHRONIC HEALTH HAZARDS: Studies in humans have found that exposure to respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is a serious and irreversible disease; it may be progressive even after exposure has ceased; it can lead to disability and death.

CARCINOGENICITY: Crystalline Silica: The International Agency for Research on Cancer (IARC) Group 1 - Known Human Carcinogen (listed under Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources).

IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A).

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Silica, Crystalline Quartz	14808-60-7	3 - 7	50 ug/m^3 / (% SiO2 + 2) – resp.	0.025 mg/m^3	REL: 0.05 mg/m^3 – resp.
Asphalt	8052-42-4	10-30	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	REL: 5mg/m3 – Ceiling (15 min. fumes)
Non-Hazardous Ingredients	NA	70 - 95	NA	NA	NA

NE=Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Flush eyes with water for 15 minutes while holding eyelids apart. Consult medical personnel.

SKIN: Wash exposed skin with soap and water. If irritation develops or persists, seek medical attention.

INHALATION: More individual to area with fresh air and provide oxygen if breathing is difficult. Consult medical personnel.

INGESTION: Consult medical personnel.

NOTES TO PHYSICIANS OR Dust from the product may cause mechanical irritation of the eyes, skin,

FIRST AID PROVIDERS:	and upper respiratory tract. Treat symptomatically.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	CO2, Foam, Dry Chemical or Water
HAZARDOUS COMBUSTION PRODUCTS:	Not Applicable
RECOMMENDED FIRE FIGHTING PROCEDURES:	Wear self-contained breathing apparatus and full protective clothing.
UNUSUAL FIRE & EXPLOSION HAZARDS:	None

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Pick up pieces and dispose off properly. Vacuum dust. Use a dust suppressant if sweeping is necessary.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Hot asphalt is used to install most of these products and is hazardous if contact is made with the eyes or skin.
OTHER PRECAUTIONS:	When heated, small amounts of hydrogen sulfide may be given off. Hydrogen sulfide is a flammable, toxic gas. Avoid breathing fumes.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	Not Applicable
RESPIRATORY PROTECTION:	Not applicable under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable exposure levels, appropriate NIOSH approved respiratory protection is recommended.
EYE PROTECTION:	Safety glasses with side shields.
SKIN PROTECTION:	Long sleeve shirt and long pants. Suitable gloves should be worn to protect against mechanical abrasion.
OTHER PROTECTIVE EQUIPMENT:	Work shoes.
WORK HYGIENIC PRACTICES:	Wash hands after application.
EXPOSURE GUIDELINES:	These products should be handled using methods and techniques that minimize or eliminate dust or fume generation.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Thin black sheet in roll form, granulars on one side and sand on the other. Slight asphaltic odor.		
FLASH POINT:	>500ºF	**LOWER EXPLOSIVE LIMIT:**	Not Applicable
METHOD USED:	COC	**UPPER EXPLOSIVE LIMIT:**	Not Applicable
EVAPORATION RATE:	Not Applicable	**BOILING POINT:**	Not Applicable
pH (undiluted product):	Not Applicable	**MELTING POINT:**	Not Applicable
SOLUBILITY IN WATER:	Insoluble	**SPECIFIC GRAVITY:**	Not Applicable
VAPOR DENSITY:	Not Applicable	**PERCENT VOLATILE:**	Not Applicable
VAPOR PRESSURE:	Not Applicable	**MOLECULAR WEIGHT:**	Not Applicable
VOC WITH WATER (LBS/GAL):	Not Applicable	**WITHOUT WATER (LBS/GAL):**	Not Applicable

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY):	Not Applicable
INCOMPATIBILITY (MATERIAL TO AVOID):	Not Applicable
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:	Thermal decomposition may release CO, CO2, carbon particulates, methane, ammonia, hydrogen cyanide and hydrogen sulfide.
HAZARDOUS POLYMERIZATION:	Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Crystalline silica is considered a hazard by inhalation. The International Agency for Research on Cancer (IARC) has classified crystalline silica as a Group 1 substance, carcinogenic to humans. This classification is based on the findings of laboratory animal studies (inhalation and implantation) and epidemiology studies that were considered sufficient for carcinogenicity. Excessive exposure to crystalline silica can cause silicosis, a non-cancerous lung disease.

IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A).

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of waste material according to Local, State, and Federal, environmental regulations.

SECTION 14: TRANSPORTATION INFORMATION

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA

311/312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains silica, a chemical known to the State of California to cause cancer.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Silica, Crystalline Quartz	14808-60-7	Yes	No	Yes	Yes	Yes	Yes
Asphalt	8052-42-4	Yes	Yes	Yes	Yes	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: N/A

DATE OF PREVIOUS SDS: September 2016

CHANGES SINCE PREVIOUS SDS: Update product name.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 2227
SDS Date: October 2015

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Grand Sequoia® IR
TRADE NAME:	Asphalt / Fiberglass Shingles
CHEMICAL NAME / SYNONYM:	N/A
CHEMICAL FAMILY:	N/A
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Occasional nuisance dust, Inhalation

SIGNS & SYMPTOMS OF EXPOSURE

Eyes: May cause irritation to the eyes.

Skin: May cause irritation to the skin.

Ingestion: This product is not intended to be ingested. If ingested, it may

cause temporary irritation to the gastrointestinal (digestive) tract.

Inhalation: May cause irritation to the respiratory tract.

ACUTE HEALTH HAZARDS: NIOSH has found that studies of workers exposed to asphalt fumes have repeatedly found irritation of the serous membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation).

CHRONIC HEALTH HAZARDS: Studies in humans have found that exposure to respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is a serious and irreversible disease; it may be progressive even after exposure has ceased; it can lead to disability and death. Human studies also have found that silicosis is a risk factor for tuberculosis, and that occupational exposure to respirable crystalline silica is associated with chronic obstructive pulmonary disease, including bronchitis and emphysema. Some studies show excess numbers of cases of scleroderma, connective tissue disorders, lupus, rheumatoid arthritis, chronic kidney diseases and end-stage kidney disease in workers exposed to respirable crystalline silica.

CARCINOGENICITY: IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A). IARC concluded that available data from cancer studies in humans points to an association between exposures to oxidized asphalts during roofing and lung cancer and tumors in the upper aero-digestive tract. In addition, IARC found sufficient evidence of carcinogenicity in experimental animals for extracts and fume condensates of oxidized asphalts.

NIOSH has concluded that the collective data from human, animal, genotoxicity and exposure studies provide sufficient evidence that roofing asphalt fumes are a potential occupational carcinogen.

Occupational exposure to respirable crystalline silica is classified as a known carcinogen in humans. IARC has determined that respirable crystalline silica is carcinogenic to humans (Group 1), based on findings of sufficient evidence of carcinogenicity in both humans and experimental animals. NTP has classified respirable crystalline silica as a known human carcinogen based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between exposure to respirable crystalline silica and increased lung cancer rates in workers exposed to crystalline silica dust. NIOSH has determined that respirable crystalline silica is a potential occupational carcinogen.

IARC has determined that occupational exposure to Titanium Dioxide is possibly carcinogenic to humans (Group 2B). IARC concluded lung tumors were observed in rats following high dose exposure by inhalation and in female rats exposed by intra-tracheal instillation. Other studies have shown no tumors in rats following inhalation exposure and no tumors in mice or rats following oral exposure.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**%**	**OSHA**	**ACGIH**	**OTHER**
Granules	-	20 – 45	NE	NE	NE
Limestone	1317-65-3	25 – 45	5 mg/m3 – resp. 15 mg/m3 – total	3 mg/m3 – resp. 10 mg/m3 – total	REL: 5 mg/m3 – resp. 10 mg/m3 – total
Oxidized Asphalt	64742-93-4	10 – 30	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	5 mg/m3 – ceiling (15 min. fumes)
Crystalline Silica	14808-60-7	0 – 10	10 mg/m3 / (% SiO2 + 2) – resp.	0.025 mg/m3	REL: 0.05 mg/m3 – resp.
Fiberglass Mat	65997-17-3	1 – 3	1 f/cc – resp.	1 f/cc – resp.	REL: 5 mg/m3 – total fibers
Titanium Dioxide	13463-67-7	0 – 4	15 mg/m3 – total	10 mg/m3 – total	REL: lowest feasible concentration

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.

SKIN: Wash affected area thoroughly with soap and water.

INHALATION: Remove to fresh uncontaminated air.

INGESTION: Not expected to be ingested.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: No information available

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water spray, Alcohol foam, Carbon Dioxide, or Dry chemical.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	NIOSH-approved self-contained breathing apparatus is recommended for smoke protection.
UNUSUAL FIRE & EXPLOSION HAZARDS:	N/A

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Pick up large pieces. Avoid creating dusts during clean up.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	No specific handling or storage requirements.
OTHER PRECAUTIONS:	None

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	N/A
RESPIRATORY PROTECTION:	N/A under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable exposure levels, appropriate NIOSH approved respiratory protection is recommended.
EYE PROTECTION:	Safety glasses with side shields
SKIN PROTECTION:	Cotton or leather gloves are recommended when handling.
OTHER PROTECTIVE EQUIPMENT:	None
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Granule coated shingle; no appreciable odor.

FLASH POINT:	> 550 °F	**LOWER EXPLOSIVE LIMIT:**	No data
METHOD USED:	No data	**UPPER EXPLOSIVE LIMIT:**	No data
EVAPORATION RATE:	No data	**BOILING POINT:**	No data
pH (undiluted product):	No data	**MELTING POINT:**	No data
SOLUBILITY IN WATER:	No data	**SPECIFIC GRAVITY:**	No data
VAPOR DENSITY:	No data	**PERCENT VOLATILE:**	No data
VAPOR PRESSURE:	No data	**MOLECULAR WEIGHT:**	No data
VOC WITH WATER (LBS/GAL):	No data	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): None known.

INCOMPATIBILITY (MATERIAL TO AVOID): None known.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon Dioxide and Carbon Monoxide

HAZARDOUS POLYMERIZATION: Will Not Occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: None available for the product. See section 3.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the

U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION

PROPER SHIPPING NAME: This product is not classified as a hazardous material for transport.

HAZARD CLASS: N/A

ID NUMBER: N/A

PACKING GROUP: N/A

LABEL STATEMENT: N/A

OTHER: N/A

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA None

311 / 312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains a chemical known to the state of California to cause cancer and birth defects, or other reproductive harm. Cancer: Oxidized Asphalt, Crystalline Silica and Titanium Dioxide.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Limestone	1317-65-3	No	Yes	Yes	No	Yes	Yes
Oxidized Asphalt	64742-93-4	No	No	No	No	No	No

Crystalline Silica	14808-60-7	Yes	Yes	Yes	Yes	Yes	Yes
Fiberglass Mat	65997-17-3	Yes	No	Yes	Yes	No	Yes
Titanium Dioxide	13463-67-7	No	Yes	Yes	Yes	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None.

DATE OF PREVIOUS SDS: New SDS

CHANGES SINCE PREVIOUS SDS: Not Applicable

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 2095
SDS Date: July 2018

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Timbertex® Ridglass® Seal-A-Ridge® Seal-A-Ridge® ArmorShield™ Z®Ridge TimberCrest™
TRADE NAME:	Asphalt / Fiberglass Shingles
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

ADDITONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Occasional nuisance dust, Inhalation

SIGNS & SYMPTOMS OF EXPOSURE

Eyes: May cause irritation to the eyes.

Skin: May cause irritation to the skin.

Ingestion: This product is not intended to be ingested. If ingested, it may cause temporary irritation to the gastrointestinal (digestive) tract.

Inhalation: May cause irritation to the respiratory tract.

ACUTE HEALTH HAZARDS: NIOSH has found that studies of workers exposed to asphalt fumes have repeatedly found irritation of the serous membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation).

CHRONIC HEALTH HAZARDS: Studies in humans have found that exposure to respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is a serious and irreversible disease; it may be progressive even after exposure has ceased; it can lead to disability and death. Human studies also have found that silicosis is a risk factor for tuberculosis, and that occupational exposure to respirable crystalline silica is associated with chronic obstructive pulmonary disease, including bronchitis and emphysema. Some studies show excess numbers of cases of scleroderma, connective tissue disorders, lupus, rheumatoid arthritis, chronic kidney diseases and end-stage kidney disease in workers exposed to respirable crystalline silica.

CARCINOGENICITY: IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A). IARC concluded that available data from cancer studies in humans points to an association between exposures to oxidized asphalts during roofing and lung cancer and tumors in the upper aero-digestive tract. In addition, IARC found sufficient evidence of carcinogenicity in experimental animals for extracts and fume condensates of oxidized asphalts.

NIOSH has concluded that the collective data from human, animal, genotoxicity and exposure studies provide sufficient evidence that roofing asphalt fumes are a potential occupational carcinogen.

Occupational exposure to respirable crystalline silica is classified as a known carcinogen in humans. IARC has determined that respirable crystalline silica is carcinogenic to humans (Group 1), based on findings of sufficient evidence of carcinogenicity in both humans and experimental animals. NTP has classified respirable crystalline silica as a known human carcinogen based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between exposure to respirable crystalline silica and increased lung cancer rates in workers exposed to crystalline silica dust. NIOSH has determined that respirable crystalline silica is a potential occupational carcinogen.

IARC has determined that occupational exposure to Titanium Dioxide is possibly carcinogenic to humans (Group 2B). IARC concluded lung tumors were observed in rats following high dose exposure by inhalation and in female rats exposed by intra-tracheal instillation. Other studies have shown no tumors in rats following inhalation exposure and no tumors in mice or rats following oral exposure.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**%**	**OSHA**	**ACGIH**	**OTHER**
Granules	-	20 – 45	NE	NE	NE
Limestone	1317-65-3	25 – 45	5 mg/m3 – resp. 15 mg/m3 – total	3 mg/m3 – resp. 10 mg/m3 – total	REL: 5 mg/m3 – resp. 10 mg/m3 – total
Oxidized Asphalt	64742-93-4	10 – 30	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	5 mg/m3 – ceiling (15 min. fumes)
Crystalline Silica	14808-60-7	0 – 10	50 µg/m³	0.025 mg/m3	REL: 0.05 mg/m3 – resp.
Fiberglass Mat	65997-17-3	1 – 3	1 f/cc – resp.	1 f/cc – resp.	REL: 5 mg/m3 – total fibers
Titanium Dioxide	13463-67-7	0 – 4	15 mg/m3 – total	10 mg/m3 – total	REL: lowest feasible concentration

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.

SKIN: Wash affected area thoroughly with soap and water.

INHALATION: Remove to fresh uncontaminated air.

INGESTION: Not expected to be ingested.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: No information available

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA: Water spray, Alcohol foam, Carbon Dioxide, or Dry chemical.

HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	NIOSH-approved self contained breathing apparatus is recommended for smoke protection.
UNUSUAL FIRE & EXPLOSION HAZARDS:	N/A

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Pick up large pieces. Avoid creating dusts during clean up.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	No specific handling or storage requirements.
OTHER PRECAUTIONS:	None

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	N/A
RESPIRATORY PROTECTION:	N/A under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable exposure levels, appropriate NIOSH approved respiratory protection is recommended.
EYE PROTECTION:	Safety glasses with side shields
SKIN PROTECTION:	Cotton or leather gloves are recommended when handling.
OTHER PROTECTIVE EQUIPMENT:	None
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Granule coated shingle; no appreciable odor.		
FLASH POINT:	> 550 °F	**LOWER EXPLOSIVE LIMIT:**	No data
METHOD USED:	No data	**UPPER EXPLOSIVE LIMIT:**	No data

EVAPORATION RATE:	No data	**BOILING POINT:**	No data
pH (undiluted product):	No data	**MELTING POINT:**	No data
SOLUBILITY IN WATER:	No data	**SPECIFIC GRAVITY:**	No data
VAPOR DENSITY:	No data	**PERCENT VOLATILE:**	No data
VAPOR PRESSURE:	No data	**MOLECULAR WEIGHT:**	No data
VOC WITH WATER (LBS/GAL):	No data	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): None known.

INCOMPATIBILITY (MATERIAL TO AVOID): None known.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon Dioxide and Carbon Monoxide

HAZARDOUS POLYMERIZATION: Will Not Occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: None available for the product. See section 3.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA None

311 / 312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains silica and titanium dioxide, chemicals known to the State of California to cause cancer.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Limestone	1317-65-3	No	Yes	Yes	No	Yes	Yes
Oxidized Asphalt	64742-93-4	No	No	No	No	No	No
Crystalline Silica	14808-60-7	Yes	Yes	Yes	Yes	Yes	Yes
Fiberglass Mat	65997-17-3	Yes	No	Yes	Yes	No	Yes
Titanium Dioxide	13463-67-7	No	Yes	Yes	Yes	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS:	None.
DATE OF PREVIOUS SDS:	December 2014
CHANGES SINCE PREVIOUS SDS:	Update to OSHA silica PEL.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 1008C
SDS Date: August 2022

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Liberty™ SBS Self-Adhering Cap Sheet Liberty™ SBS Self-Adhering Base/Ply Sheet
TRADE NAME:	Roll Roofing
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	877-GAF-ROOF
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Occasional nuisance dust, Inhalation

SIGNS & SYMPTOMS OF EXPOSURE

EYES:	May cause irritation to the eyes.
SKIN:	May cause irritation to the skin.
INGESTION:	This product is not intended to be ingested. If ingested, it may cause temporary irritation to the gastrointestinal (digestive) tract.
INHALATION:	May cause irritation to the respiratory tract.

ACUTE HEALTH HAZARDS: NIOSH has found that studies of workers exposed to asphalt fumes have repeatedly found irritation of the serous membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation).

CHRONIC HEALTH HAZARDS: Studies in humans have found that exposure to respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is a serious and irreversible disease; it may be progressive even after exposure has ceased; it can lead to disability and death.

CARCINOGENICITY: IARC has determined that occupational exposure to asphalt and its emissions is possibly carcinogenic to humans (Group 2B).

IARC has determined that respirable crystalline silica is carcinogenic to humans (Group 1), based on findings of sufficient evidence of carcinogenicity in both humans and experimental animals.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Asphalt	8052-42-4	50-60	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	5 mg/m3 – ceiling (15 min. fumes)
Limestone	1317-65-3	20-30	5 mg/m3: respirable 15 mg/m3: total dust		NIOSH 5 mg/m3: respirable 10 mg/m3: total dust
Silica, Crystalline (Quartz)	14808-60-7	0.1-1	50 ug/m3	0.025 mg/m3	REL: 0.05 mg/m3 – resp.

Balance of other ingredients are non-hazardous or less than 1% in concentration (or 0.1% for carcinogens, reproductive toxins, or respiratory sensitizers).

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES:	Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.
SKIN:	If contacted by hot asphalt cool with ice or water. Do not attempt to remove asphalt immediately. Consult medical personnel.
INHALATION:	Remove to fresh uncontaminated air.
INGESTION:	Not expected to be ingested.
NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:	None.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water spray, alcohol foam, carbon dioxide, or dry chemical.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	NIOSH-approved self contained breathing apparatus is recommended for smoke protection.
UNUSUAL FIRE & EXPLOSION HAZARDS:	Not applicable.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Pick up large pieces. Avoid creating dust during clean up.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Appropriate personal protective equipment should be worn handling this material.
OTHER PRECAUTIONS:	None.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	Not applicable.
RESPIRATORY PROTECTION:	Not required under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable

	exposure levels, appropriate NIOSH approved respiratory protection is recommended.
EYE PROTECTION:	Safety glasses with side shields
SKIN PROTECTION:	Cotton or leather gloves are recommended when handling.
OTHER PROTECTIVE EQUIPMENT:	None
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.
EXPOSURE GUIDELINES:	These products should be handled using methods and techniques that minimize or eliminate dust or fume generation.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Thin black sheet in roll form. Slight asphalt odor.		
FLASH POINT:	>500° F	**LOWER EXPLOSIVE LIMIT:**	Not Applicable
METHOD USED:	COC	**UPPER EXPLOSIVE LIMIT:**	Not Applicable
EVAPORATION RATE:	Not Applicable	**BOILING POINT:**	Not Applicable
pH (undiluted product):	Not Applicable	**MELTING POINT:**	No Data
SOLUBILITY IN WATER:	Not Applicable	**SPECIFIC GRAVITY:**	No Data
VAPOR DENSITY:	Not Applicable	**PERCENT VOLATILE:**	Not Applicable
VAPOR PRESSURE:	Not Applicable	**MOLECULAR WEIGHT:**	No Data
VOC WITH WATER (LBS/GAL):	Not Applicable	**WITHOUT WATER (LBS/GAL):**	No Data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE ☐**

CONDITIONS TO AVOID (STABILITY):	None known.
INCOMPATIBILITY (MATERIAL TO AVOID):	None known.
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:	None known.
HAZARDOUS POLYMERIZATION:	Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: No information available. See section 3.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of in accordance with Federal, state and local regulations.

SECTION 14: TRANSPORTATION INFORMATION

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA

311/312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: Silica
Bitumens, extracts of steam-refined and air refined

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Asphalt	8052-42-4	No	No	No	No	No	No
Crystalline Silica	14808-60-7	Yes	Yes	Yes	Yes	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None.

DATE OF PREVIOUS SDS: November 2021

CHANGES SINCE PREVIOUS SDS: Ingredient change.

This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 2062
SDS Date: January 2018

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	M-Bond™ Adhesive/Sealant
TRADE NAME:	N/A
CHEMICAL NAME / SYNONYM:	N/A
CHEMICAL FAMILY:	N/A
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARD IDENTIFICATION

NFPA and HMIS RATINGS:

	NFPA Hazard Rating		HMIS Hazard Rating
Health	*1*	**Health**	*1*
Flammable	*0*	***Flammable***	*0*
Reactive	*0*	**Reactive**	*0*
Special Hazards	-	**Personal Protection**	C

GHS LABEL ELEMENTS:

GHS CLASSIFICATION: Eye Irritant - Category 2
Skin Irritant - Category 2
Skin Sensitizer – 1B

GHS PICTOGRAMS:

SIGNAL WORD: Warning

HAZARD STATEMENTS:
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic reaction.

PRECAUTIONARY STATEMENTS:
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection.
IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue
Dispose of contents/container in accordance with local regulation.

ADDITONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Eye contact, skin contact

SIGNS & SYMPTOMS OF EXPOSURE

EYES: Contact can cause severe irritation.

SKIN: May cause irritation. Repeated or prolonged contact may cause dermatitis

INGESTION: May be harmful if ingested.

INHALATION: Short-term harmful health effects are not expected from vapors generated at ambient temperatures.

ACUTE HEALTH HAZARDS: NA

CHRONIC HEALTH HAZARDS: Preexisting skin or eye disorders may be aggravated by direct contact to this product. Repeated or prolonged direct contact to the skin may cause dermatitis.

CARCINOGENICITY: There are no components in this product that are listed as a carcinogen by NTP, IARC, ACGIH or OSHA.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Amino Silane	1760-24-3	1-3	NE	NE	NE
Non Hazardous Ingredients	-	97-99	NE	NE	NE

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Irrigate immediately with plenty of water for at least 15 minutes.

SKIN: Clean product from affected area with ethyl alcohol, then wash with soap and water.

INHALATION: If irritation, headache, nausea, or drowsiness occurs, remove to fresh air. Get medical attention if breathing becomes difficult or respiratory irritation persists

INGESTION: An unlikely route of entry. Consult a physician.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: N/A

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA: Foam, CO2, water and dry chemical.

HAZARDOUS COMBUSTION PRODUCTS: Thermal decomposition may produce toxic fumes of carbon monoxide, carbon dioxide, sulfur oxides and hydrogen.

RECOMMENDED FIRE FIGHTING PROCEDURES: Wear full protective clothing and positive pressure self-contained breathing apparatus.

UNUSUAL FIRE & EXPLOSION HAZARDS: None.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Contain large spill by building a dike with absorbent material. Collect remainder of the spill with absorbent material and place the

material into a container approved for waste disposal. For minor spills, collect with absorbent material and dispose in accordance to governmental regulations.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Use personal protection recommended in Section 8. Avoid eye, skin and clothing contact. Store away from heat, sparks and flame. Store in a cool, dry area away from incompatible materials. Do not freeze.

OTHER PRECAUTIONS: None

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION: Use in a well ventilated area.

RESPIRATORY PROTECTION: Not ordinarily required. Use NIOSH or MSHA approved respirator as appropriate.

EYE PROTECTION: Wear safety glasses or goggles to avoid eye contact.

SKIN PROTECTION: Wear gloves and protective clothing to minimize contact with skin.

OTHER PROTECTIVE EQUIPMENT: N/A

WORK HYGIENIC PRACTICES: Avoid contact with eyes and skin. Wash thoroughly after handling.

EXPOSURE GUIDELINES: N/A

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Paste with a mild mint odor.		
FLASH POINT:	Not flammable	**LOWER EXPLOSIVE LIMIT:**	No data
METHOD USED:	No data	**UPPER EXPLOSIVE LIMIT:**	No data
EVAPORATION RATE:	No data	**BOILING POINT:**	No data
pH (undiluted product):	No data	**MELTING POINT:**	No data
SOLUBILITY IN WATER:	Heavier than water.	**SPECIFIC GRAVITY:**	No data.

VAPOR DENSITY:	>1	**PERCENT NON-VOLATILE:**	No data
VAPOR PRESSURE:	>1	**SPECIFIC GRAVITY:**	1.43
VOC (g/L):	16.9	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): None known.

INCOMPATIBILITY (MATERIAL TO AVOID): None known.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: None known.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: Oral

Amino Silane: LD50 >2,000 mg/kg

Dermal

Amino Silane: LD50 >2,000 mg/kg

Skin Direct contact – Result: Slight irritation.
Eye Direct contact – Result: Severe irritation. Remark: Causes corneal injury.
Inhalation – Result: LC50 Not acutely Toxic.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: If this product as supplied becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. This product becomes a firm synthetic

rubber when cured. Please allow to cure before disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION Not regulated for transport.

IATA Not regulated for transport.

IMDG Not regulated for transport.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: All components of this product are listed on TSCA inventory.

CERCLA: None

SARA

311/312 HAZARD CATEGORIES: Immediate (acute) health hazard.

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: N/A

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Amino Silane	1760-24-3	No	No	No	No	No	No

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: N/A

DATE OF PREVIOUS SDS: December 2014

CHANGES SINCE PREVIOUS SDS: Updated GHS information.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 2063A
SDS Date: January 2018

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	M-Thane (Part A)
TRADE NAME:	Pro Pack, Seal Pack, Flash Pack, Resin Component
CHEMICAL NAME / SYNONYM:	N/A
CHEMICAL FAMILY:	Mixture
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARD IDENTIFICATION

NFPA and HMIS RATINGS:

	NFPA Hazard Rating		HMIS Hazard Rating
Health	*1*	**Health**	*1*
Flammable	*0*	***Flammable***	*0*
Reactive	*0*	**Reactive**	*0*
Special Hazards	-	**Personal Protection**	X

GHS LABEL ELEMENTS:

GHS CLASSIFICATION: Not Classified.

This material has no classified hazards under 29 CFR 1910.1200.

ADDITIONAL HAZARD IDENTICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Eye, Skin.

SIGNS & SYMPTOMS OF EXPOSURE Skin irritation or rash.

EYES: May cause irritation.

SKIN: May cause slight irritation.

INGESTION: An unlikely route of entry. Consult a physician.

INHALATION: An unlikely route of entry. Consult a physician.

ACUTE HEALTH HAZARDS: Contact with skin or eyes with hot material may cause serious thermal burns to skin or eyes. Vapors formed when material is processed at high temperatures may be irritating to the eyes and upper respiratory tract.

CHRONIC HEALTH HAZARDS: No adverse effects anticipated form available information.

CARCINOGENICITY: Not Listed

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
1,3-Butadiene, homopolymer, hydroxy-terminated	69102-90-5	25-35	NE	NE	NE
Non Hazardous ingredients	-	75-65	NE	NE	NE

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES:	Flush with flowing water for at least 15 minutes.
SKIN:	Clean product from affected area with ethyl alcohol, then wash with soap and water.
INHALATION:	No harmful effects anticipated. If necessary, give the person fresh air and oxygen.
INGESTION:	Do not induce vomiting. Call physician.
NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:	N/A

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water fog, foam, CO2, and dry chemical
HAZARDOUS COMBUSTION PRODUCTS:	May form toxic materials such as carbon monoxide, carbon dioxide and sulfur oxides.
RECOMMENDED FIRE FIGHTING PROCEDURES:	Wear full protective clothing and NOISH approved self-contained breathing apparatus with full face piece, operated in positive pressure.
UNUSUAL FIRE & EXPLOSION HAZARDS:	None known.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Ventilate the area. Contain the spill by building a dike using absorbent materials. Collect the remainder of the spill with absorbent material and place the material into a drum approved for waste disposal.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Store in a cool, well ventilated area. Avoid eye and skin contact when transferring from containers.
OTHER PRECAUTIONS:	None.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	Provide local exhaust ventilation while handling resin component alone.
RESPIRATORY PROTECTION:	Not required for resin component alone.
EYE PROTECTION:	Wear safety glasses or splash proof goggles.
SKIN PROTECTION:	Wear impervious body covering, gloves and boots while handling resin.
OTHER PROTECTIVE EQUIPMENT:	Not Applicable.
WORK HYGIENIC PRACTICES:	Avoid contact with eyes and skin. Wash thoroughly after handling and before eating or drinking.
EXPOSURE GUIDELINES:	Not Applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Paste with a mild mint odor.		
FLASH POINT:	No data	**LOWER EXPLOSIVE LIMIT:**	No data
METHOD USED:	No data	**UPPER EXPLOSIVE LIMIT:**	No data
EVAPORATION RATE:	No data	**BOILING POINT:**	No data
pH (undiluted product):	No data	**MELTING POINT:**	No data
SOLUBILITY IN WATER:	No data	**SPECIFIC GRAVITY:**	0.99
VAPOR DENSITY:	>1	**PERCENT VOLATILE:**	No data
VAPOR PRESSURE:	<1	**MOLECULAR WEIGHT:**	No data
VOC (g/l):	15.19	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY:	**STABLE X**	**UNSTABLE ☐**
CONDITIONS TO AVOID (STABILITY):	None known.	
INCOMPATIBILITY (MATERIAL TO AVOID):	None known.	
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:	None known.	
HAZARDOUS POLYMERIZATION:	Will not occur.	

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Information below is based on Amino Silane. (Refer to sections 2.and 3.)

Oral – Result:	LD50 > 2,000 mg/kg. Remark: Very low order of toxicity.
Skin Absorption – Result:	LD50 > 2,000 mg/kg. Remark: Very low order of toxicity.
Skin Direct contact – Result:	Slight irritation.
Eye Direct contact – Result:	Severe irritation. Remark: Causes corneal injury.
Inhalation – Result:	LC50 Not acutely Toxic.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: If this product as supplied becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. This product becomes a firm synthetic rubber when cured. Please allow to cure before disposal.

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION Not regulated for transport.

IATA Not regulated for transport.

IMDG Not regulated for transport.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA

311/312 HAZARD CATEGORIES: Acute Health Hazard.

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: None

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
1,3-Butadiene, homopolymer, hydroxy-terminated	69102-90-5	No	No	No	No	No	No

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS SDS: Decemver 2014

CHANGES SINCE PREVIOUS SDS: Updated GHS information.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information

for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 2063B
SDS Date: January 2018

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	M-Thane (Part B)
TRADE NAME:	Pro Pack, Seal Pack, Flash Pack, Hardener
CHEMICAL NAME / SYNONYM:	N/A
CHEMICAL FAMILY:	Polymeric Isocyanate
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARD IDENTIFICATION

NFPA and HMIS RATINGS:

	NFPA Hazard Rating		HMIS Hazard Rating
Health	*2*	**Health**	*2*
Flammable	*1*	***Flammable***	*1*
Reactive	*1*	**Reactive**	*1*
Special Hazards	-	**Personal Protection**	X

GHS LABEL ELEMENTS:

GHS CLASSIFICATION:

Eye Irritant - Category 2
Skin Irritant - Category 2
Skin Sensitizer - Category 1
Respiratory Irritant
Target Organ (SE) - Category 3
Target Organ (RE) - Category 2
Carcinogen - Category 2
Acute Toxicity Inhalation - Category 2

GHS PICTOGRAMS: 

SIGNAL WORD: Danger

HAZARD STATEMENTS:
Causes skin irritation.
May cause an allergic skin reaction.
Causes eye irritation.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure.

PRECAUTIONARY STATEMENTS
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
Avoid breathing mist.
Wash with plenty of water and soap thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
In case of inadequate ventilation] wear respiratory protection.
In case of inadequate ventilation wear respiratory protection.
IF ON SKIN (or hair): Wash with plenty of soap and water.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Call a POISON CENTER or doctor/physician.
Get medical advice/attention if you feel unwell.
If skin irritation or rash occurs: Call a POISON CENTER or doctor/physician.
Take off contaminated clothing and wash before reuse.

Labeling of special preparations (GHS):

CONTAINS ISOCYANATES. INHALATION OF ISOCYANATE MISTS OR VAPORS MAY CAUSE RESPIRATORY IRRITATION, BREATHLESSNESS, CHEST DISCOMFORT AND REDUCED PULMONARY FUNCTION. OVEREXPOSURE WELL ABOVE THE PEL MAY RESULT IN BRONCHITIS, BRONCHIAL SPASMS AND PULMONARY EDEMA. LONG-TERM EXPOSURE TO ISOCYANATES HAS BEEN REPORTED TO CAUSE LUNG DAMAGE, INCLUDING REDUCED LUNG FUNCTION WHICH MAY BE PERMANENT. ACUTE OR CHRONIC OVEREXPOSURE TO ISOCYANATES MAY CAUSE SENSITIZATION IN SOME INDIVIDUALS, RESULTING IN ALLERGIC RESPIRATORY REACTIONS INCLUDING WHEEZING, SHORTNESS OF BREATH AND DIFFICULTY BREATHING. ANIMAL TESTS INDICATE THAT SKIN CONTACT MAY PLAY A ROLE IN CAUSING RESPIRATORY SENSITIZATION. ANIMAL TESTS AND OTHER RESEARCH INDICATE THAT SKIN CONTACT WITH MDI MAY PLAY A ROLE IN CAUSING RESPIRATORY SENSITIZATION.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Dermal contact, Skin absorption, Eye contact, Inhalation and Ingestion.

SIGNS & SYMPTOMS OF EXPOSURE

EYES: Liquid, aerosols or vapors are irritating and can cause tearing, reddening and swelling. If left untreated, corneal damage can occur and injury is slow to heal.

SKIN: Isocyanates react with skin protein and moisture and can cause irritation, which may include reddening, rash or blistering.

INGESTION: Can result in irritation and corrosive action in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pains, nausea, vomiting and diarrhea.

INHALATION: Certain operations such as material heating may generate vapor or aerosol concentrations sufficient to cause irritation. Excessive exposure may irritate upper respiratory tract, causing sensitization in susceptible individuals. MDI concentrations below the exposure guidelines may cause allergic reactions to such persons. Symptoms include coughing, difficulty in breathing and a feeling of tightness in the chest. Such effects may be delayed.

ACUTE HEALTH HAZARDS: See signs and symptoms above.

CHRONIC HEALTH HAZARDS: Prolonged contact may cause skin and or respiratory sensitization.

CARCINOGENICITY: N/A

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Diphenylmethane Diisocyanate (MDI)	9016-87-9	20-45	NE	NE	NW
4,4' Methylene Diphenyl Isocyanate (MDI)	101-68-8	10-30	0.2 mg/m3 Ceil	.05 mg/m3	.05 mg/m3
1,3-Diazetidine-2,4-dione, 1,3-bis[4-[(4-isocyanatophenyl)methyl]phenyl] Methylenediphenyl diisocyanate	17589-24-1	0-1	NE	NE	NE
Methylenediphenyl diisocyanate	26447-40-5	0.5-5	NE	NE	NE
Isocyanic acid, polymethylenepolyphenylene ester, polymer with.alpha.-hydro-.omega.-hydroxypoly (oxy-1,2-ethanediyl)	57636-09-6	0-1	NE	TWA value 0.005 ppm	NE

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available. Materials containing MDI may react with the moisture of the eye, forming a thick substance which may be difficult to wash from the eye.

SKIN: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. An MDI skin decontamination study demonstrated that cleaning very soon after exposure is important, and that a polyglycol-based skin cleanser or corn oil may be more effective than soap and water. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be available in work area.

INHALATION: Remove to fresh air. Give mouth-to-mouth resuscitation if not breathing.

	Administer oxygen for difficulty in breathing.
INGESTION:	Do not induce vomiting. Consult a physician.
NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:	Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. If you are sensitized to diisocyanates, consult your physician regarding working with other respiratory irritants or sensitizers. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Excessive exposure may aggravate preexisting asthma and

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water fog, foam, CO2, and dry chemical. Do not use direct water stream. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.
HAZARDOUS COMBUSTION PRODUCTS:	Combustion products may include and are not limited to: Nitrogen oxides. Isocyanates. Hydrogen cyanide. Carbon monoxide. Carbon dioxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	Wear full protective clothing and NOISH approved self-contained breathing apparatus with full face piece, operated in positive pressure. Product reacts with water. Reaction may produce heat and/or gases. This reaction may be violent. Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Dense smoke is produced when product burns.
UNUSUAL FIRE & EXPLOSION HAZARDS:	At temperatures greater than 400^{o}F, polymeric MDI can polymerize and decompose which can cause pressure build-up in closed containers. Explosive rupture is possible. Therefore, use cold water to cool fire-exposed containers.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Ventilate the area and remove all ignition sources. Contain the spill by building a dike using absorbent materials. Contain spilled material if possible. Absorb with materials such as: Dirt. Vermiculite. Sand. Clay. Do NOT use absorbent materials such as: Cement powder (Note: may generate heat). Collect in suitable and properly labeled open containers. Do not place in sealed containers. Suitable containers include: Metal drums.

	Plastic drums. Polylined fiber pacs. Wash the spill site with large quantities of water. Attempt to neutralize by adding suitable decontaminant solution: Formulation 1: sodium carbonate 5 - 10%; liquid detergent 0.2 - 2%; water to make up to 100%, OR Formulation 2: concentrated ammonia solution 3 -8%; liquid detergent 0.2 - 2%; water to make up to 100%. If ammonia is used, use good ventilation to prevent vapor exposure. Contact Dow for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Minimize vaporization by sealing in tightly closed container. Store in a cool, well ventilated area. Avoid eye and skin contact when transferring from containers.
OTHER PRECAUTIONS:	Empty plastic or steel drums should be decontaminated by filling with water and allowed to stand for 48 hours. Drain, triple rinse and hole drums to prevent re-use. The undamaged, empty decontaminated container may also be offered for reconditioning and recycling. Follow all local, state and federal laws.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	Use only with adequate ventilation. Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.
RESPIRATORY PROTECTION:	When workers are facing concentrations above the occupational exposure limits they must use appropriate certified respirators. When atmospheric levels may exceed the occupational exposure limit (PEL or TLV) NIOSH-certified air-purifying respirators equipped with an organic vapor sorbent and particulate filter can be used as long as appropriate precautions and change out schedules are in place.
EYE PROTECTION:	Wear safety glasses or splash proof goggles.
SKIN PROTECTION:	Wear impervious body covering, gloves and boots where splashing may occur. Use Viton. Neoprene, Polyvinyl chloride ("PVC" or "vinyl"). Nitrile/butadiene rubber ("nitrile" or "NBR") gloves.
OTHER PROTECTIVE EQUIPMENT:	Not Applicable.
WORK HYGIENIC PRACTICES:	Avoid contact with eyes and skin. Wash thoroughly after handling and before eating or drinking.
EXPOSURE GUIDELINES:	Not Applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Paste, mild mint scent.		
FLASH POINT:	No data	**LOWER EXPLOSIVE LIMIT:**	No data
METHOD USED:	No data	**UPPER EXPLOSIVE LIMIT:**	No data
EVAPORATION RATE:	No data	**BOILING POINT:**	No data
pH (undiluted product):	No data	**MELTING POINT:**	No data
SOLUBILITY IN WATER:	No data	**SPECIFIC GRAVITY:**	No data
VAPOR DENSITY:	>1	**PERCENT VOLATILE:**	No data
VAPOR PRESSURE:	No data	**DENSITY:**	9.01lbs/gal
VOC (g/l):	15.8	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): None known.

INCOMPATIBILITY (MATERIAL TO AVOID): Avoid contact with: Acids. Alcohols. Amines. Water. Ammonia. Bases. Metal compounds. Moist air. Strong oxidizers. Diisocyanates react with many materials and the rate of reaction increases with temperature as well as increased contact; these reactions can become violent. Contact is increased by stirring or if the other material mixes with the diisocyanate. Diisocyanates are not soluble in water and sink to the bottom, but react lowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea. Reaction with water will generate carbon dioxide and heat. Avoid contact with metals such as: Aluminum. Zinc. Brass. Tin. Copper. Galvanized metals. Avoid contact with absorbent materials such as: Moist organic absorbents. Avoid unintended contact with polyols. The reaction of polyols and isocyanates generate heat

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: None known.

HAZARDOUS POLYMERIZATION:	Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Pressure build-up can be rapid. Avoid moisture. Material reacts slowly with water, releasing carbon dioxide which can cause pressure buildup and rupture of closed containers. Elevated temperatures accelerate this reaction. Thermal decomposition may produce toxic fumes of CO and /or CO2.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases**.**

Acute Toxicity / Effects

Ingestion: Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Typical for this family of materials. LD50, Rat > 10,000 mg/kg

Aspiration hazard: Based on physical properties, not likely to be an aspiration hazard.

Dermal: Prolonged skin contact is unlikely to result in absorption of harmful amounts. Typical for this family of materials. LD50, Rabbit > 2,000 mg/kg.

Inhalation: At room temperature, vapors are minimal due to low volatility. However, certain operations may generate vapor or mist concentrations sufficient to cause respiratory irritation and other adverse effects. Such operations include those in which the material is heated, sprayed or otherwise mechanically dispersed such as drumming, venting or pumping. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. May cause pulmonary edema (fluid in the lungs.) Effects may be delayed. Decreased lung function has been associated with overexposure to isocyanates. Based on the available data, narcotic effects were not observed. LC50, Aerosol, Rat 490 mg/m3.

Eye damage/eye irritation: May cause moderate eye irritation. May cause slight temporary corneal injury.

Skin corrosion/irritation: Prolonged contact may cause slight skin irritation with local redness. May stain skin.

Sensitization

Skin

Skin contact may cause an allergic skin reaction. Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization.

Respiratory

May cause allergic respiratory response. MDI concentrations below the exposure guidelines may cause allergic respiratory reactions in individuals already sensitized. Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening.

Repeated Dose Toxicity
Tissue injury in the upper respiratory tract and lungs has been observed in laboratory animals after repeated excessive exposures to MDI/polymeric MDI aerosols.
Chronic Toxicity and Carcinogenicity
Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/Polymeric MDI (6 mg/m3) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects reported for MDI.
Developmental Toxicity
In laboratory animals, MDI/polymeric MDI did not cause birth defects; other fetal effects occurred only
at high doses which were toxic to the mother.
Reproductive Toxicity
No specific, relevant data available for assessment.
Genetic Toxicology
Genetic toxicity data on MDI are inconclusive. MDI was weakly positive in some in vitro studies; other in vitro studies were negative. Animal mutagenicity studies were predominantly negative.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION:

Toxicity
The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species. Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).
Toxicity to Soil Dwelling Organisms
LC50, Earthworm Eisenia foetida, adult, 14 d: > 1,000 mg/kg
Persistence and Degradability
In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble
polyureas which appear to be stable. In the atmospheric environment, material is expected to have a
short tropospheric half-life, based on calculations and by analogy with related diisocyanates.
Bioaccumulative potential
Bioaccumulation: In the aquatic and terrestrial environment, movement is expected to be limited by
its reaction with water forming predominantly insoluble polyureas.
Mobility in soil
Mobility in soil: No data available for assessment due to technical difficulties with testing.
Results of PBT and vPvB assessment
This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).
Other adverse effects
No specific, relevant data available for assessment.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.
For used, contaminated and residual materials additional evaluations may

be required. Do not dump into any sewers, on the ground, or into any body of water. Incineration under approved, controlled conditions using incinerators suitable or designed for the disposal of hazardous chemical wastes, is the preferred method for disposal. Small quantities of waste may be pretreated for example with polyol, to neutralise prior to disposal. Empty drums should be decontaminated (see Section 6) and either punctured and scrapped or given to an approved drum reconditioner.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION Not regulated for transport.

IATA Not regulated for transport.

IMDG Not regulated for transport.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: Reportable Quantity:
4,4' Methylene Diphenyl Isocyanate (MDI) 101-68-8 5,000 lbs

SARA

311/312 HAZARD CATEGORIES: Acute Health Hazard (Immediate), Chronic Health Hazard (Delayed)

313 REPORTABLE INGREDIENTS: 4,4' Methylene Diphenyl Isocyanate (MDI) 101-68-8
Polymeric Diphenylmethane Diisocyanate (MDI) 9016-87-9

CALIFORNIA PROPOSITION 65: N/A

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
4,4' Methylene Diphenyl Isocyanate (MDI)	101-68-8	Yes	No	No	Yes	No	Yes
Polymeric Diphenylmethane Diisocyanate (MDI)	9016-87-9	No	No	No	No	No	No

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS:	None
DATE OF PREVIOUS SDS:	December 2014
CHANGES SINCE PREVIOUS SDS:	Updated GHS information, product ingredients.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS #2221
SDS Date: January 2018

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Matrix™ 201 Premium SBS Flashing Cement
TRADE NAME:	N/A
CHEMICAL NAME / SYNONYM:	N/A
CHEMICAL FAMILY:	N/A
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

NFPA and HMIS RATINGS:

	NFPA Hazard Rating		HMIS Hazard Rating
Health	*2*	**Health**	*2*
Flammable	*2*	***Flammable***	*2*
Reactive	*0*	**Reactive**	*0*
Special Hazards	-	**Personal Protection**	X

GHS LABEL ELEMENTS:

GHS CLASSIFICATION: Flammable Liquid - Category 3
Carcinogenicity - Category 1B
Mutagenicity - Category 1B
STOT RE – Category 1

GHS PICTOGRAMS:

SIGNAL WORD: Warning

HAZARD STATEMENTS:
Flammable liquid and vapor
May cause genetic defects.
May cause cancer.
Causes damage to organs (central nervous system, eye, skin, lung, liver) through prolonged or repeated exposure.

PREVENTION:
Keep away from heat / sparks / open flames / hot surfaces - No smoking.
Keep cool.
Ground / bond container and receiving equipment.
Use explosion-proof electrical / ventilating / light / equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe mist / vapors / spray.
Do not get in eyes, on skin, or on clothing.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves / eye protection / face protection.

ADDITONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Inhalation, Skin Absorption, Ingestion, Eye

SIGNS & SYMPTOMS OF EXPOSURE

EYES: May cause irritation, blurred vision.

SKIN: Prolonged contact may cause irritation and/or dermatitis.

INGESTION: Can cause gastrointestinal irritation.

INHALATION: Use with adequate ventilation. Inhalation of high vapor concentration may cause headaches and/or dizziness.

ACUTE HEALTH HAZARDS: See above.

CHRONIC HEALTH HAZARDS: See below.

CARCINOGENICITY: IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A). IARC concluded that available data from cancer studies in humans points to an association between exposures to oxidized asphalts during roofing and lung cancer and tumors in the upper aero-digestive tract. In addition, IARC found sufficient evidence of carcinogenicity in experimental animals for extracts and fume condensates of oxidized asphalts.

NIOSH has concluded that the collective data from human, animal, genotoxicity and exposure studies provide sufficient evidence that

roofing asphalt fumes are a potential occupational carcinogen.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Asphalt Bitumen	8052-42-4	60-80	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	5 mg/m3 – ceiling (15 min. fumes)
Kaolin	1332-58-7	15-30	NE	NE	NE
Stoddard Solvent	8052-41-3	20-25	500 ppm	100 ppm	NE
Attapulgite	12174-11-7	5-10	NE	NE	NE
Cellulose	9004-34-6	3-7	15 mg/m3	10 mg/m3	NE

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Flush with large amounts of water. Consult a physician.

SKIN: Clean affected area with a waterless hand cleaner, then wash area thoroughly with soap and water. If redness, etc. persists, consult a physician.

INHALATION: Remove person from area. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration. Seek immediate medical aid.

INGESTION: Do not induce vomiting. Consult a physician immediately.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: None.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Foam, Dry Chemical, CO_2 – **DO NOT USE WATER**
HAZARDOUS COMBUSTION PRODUCTS:	N/A
RECOMMENDED FIRE FIGHTING PROCEDURES:	Treat as fuel oil fire. Self-contained breathing apparatus recommended.
UNUSUAL FIRE & EXPLOSION HAZARDS:	OSHA Combustible/DOT Flammable. Keep away from open flame and sources and heat.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Dike spill area; add absorbent to liquid. Keep out of sewers and waterways. Remove any sources of ignition. Ventilate area if necessary.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Keep away from sources of ignition; open flame. This material is for exterior use only. Store at less than 110 deg F.
OTHER PRECAUTIONS:	Practice good personal hygiene. Launder contaminated clothing before reuse. Use control protection such as chemical splash proof goggles, oil resistant gloves, barrier cream. Clean tools and equipment with kerosene. DO NOT USE GASOLINE.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	Local exhaust.
RESPIRATORY PROTECTION:	Normally not needed. If TLV is exceeded, use NIOSH approved respirator.
EYE PROTECTION:	Chemical splash goggles.
SKIN PROTECTION:	Impervious work clothing is recommended.
OTHER PROTECTIVE EQUIPMENT:	Oil resistant gloves recommended.
WORK HYGIENIC PRACTICES:	Local exhaust ventilation
EXPOSURE GUIDELINES:	Wash hands after use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Black Paste, Solvent Odor		
FLASH POINT:	106 °F	**LOWER EXPLOSIVE LIMIT:**	No Data
METHOD USED:	TCC	**UPPER EXPLOSIVE LIMIT:**	No Data
EVAPORATION RATE:	<1	**BOILING POINT:**	>300 °F
pH (undiluted product):	No Data	**MELTING POINT:**	No Data
SOLUBILITY IN WATER:	Almost zero	**SPECIFIC GRAVITY:**	1
VAPOR DENSITY:	>1	**PERCENT VOLATILE:**	No Data
VAPOR PRESSURE:	2 mm (Solvent)	**MOLECULAR WEIGHT:**	No Data
VOC WITH WATER (LBS/GAL):	No Data	**WITHOUT WATER (LBS/GAL):**	No Data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE** ☒ **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): Open flames, all sources of ignition. Do not heat or thin this material.

INCOMPATIBILITY (MATERIAL TO AVOID): May react with strong oxidizing agents, reducing agents, strong acids and alkalies.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon monoxide and Carbon dioxide.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : Not classified
Specific target organ toxicity (repeated exposure): Causes damage to organs (central nervous system, eye, skin, lung, liver) through prolonged or repeated exposure (Dermal, Inhalation).
Aspiration hazard : Not classified
Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: This material is a water pollutant and should be prevent from contaminating soil or from entering sewage and drainage systems and other bodies of water. Notify authorities.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. If discarded in its purchased form, this product is a RCRA hazardous waste. It is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or residue of the product remains classified a hazardous waste as per 40 CFR 261, Subpart C. State or local regulations may also apply if they differ from the federal regulation.

RCRA HAZARD CLASS: D001, Ignitable Hazardous Waste

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION

PROPER SHIPPING NAME: Combustible Liquid - DOT 49 CFR 173.150 Sub Part F. Unregulated, III

HAZARD CLASS: NA

ID NUMBER: NA

PACKING GROUP: III

LABEL STATEMENT: N/A

OTHER: N/A

IMO/IMDG	**UN NUMBER:**	1999
	UN SHIPPING NAME:	Tars, liquid including road oils and cutback bitumens.
	TRANSPORT CLASS:	IMDG 3
	PACKING GROUP:	III EmS No. F-E, S-E
	OTHER:	Marine Pollutant: No

IATA	**UN NUMBER:**	1999
	UN SHIPPING NAME:	Tars, liquid including road oils and cutback bitumens.
	TRANSPORT CLASS:	Air Class 3
	PACKING GROUP:	III
	OTHER:	None

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: Asphaltic bitumen, cellulose, kaolin, Stoddard solvent

CERCLA: N/A

SARA

311/312 HAZARD CATEGORIES: Fire Hazard, Acute Health Hazard, Chronic Health Hazard

313 REPORTABLE INGREDIENTS: N/A

CALIFORNIA PROPOSITION 65: No.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Asphalt	8052-42-4	No	No	No	Yes	Yes	Yes
Kaolin	1332-58-7	No	No	No	Yes	Yes	Yes
Stoddard Solvent	8052-41-3	Yes	No	Yes	Yes	Yes	Yes
Attapulgite	12174-11-7	No	No	No	No	No	No
Cellulose	9004-34-6	No	No	Yes	Yes	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS SDS: August 2015

CHANGES SINCE PREVIOUS SDS: GHS Update

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS #2225
SDS Date: August 2019

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Matrix™ 307 Premium Asphalt Primer
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

NFPA and HMIS RATINGS:

	NFPA Hazard Rating		HMIS Hazard Rating
Health	*2*	**Health**	*2*
Flammable	*2*	***Flammable***	*2*
Reactive	*0*	**Reactive**	*0*
Special Hazards	-	**Personal Protection**	X

GHS LABEL ELEMENTS:

GHS CLASSIFICATION: Flammable Liquid - Category 2

Carcinogenicity - Category 1B
Mutagenicity - Category 1B
Specific Target Organ Toxicity RE – Category 1

GHS PICTOGRAMS:


SIGNAL WORD: Warning

HAZARD STATEMENTS:
Flammable liquid and vapor.
May cause genetic defects. (Dermal, Inhalation)
May cause cancer. (Inhalation, Dermal)
Causes damage to organs (central nervous system, eye, skin, and lung, liver) through prolonged or repeated exposure. (Dermal, Inhalation)

PRECAUTIONARY STATEMENTS
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from open flames. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/… equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe fume, gas, vapors. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves, protective clothing. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

ADDITONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Inhalation, Skin Absorption, Ingestion, Eye

SIGNS & SYMPTOMS OF EXPOSURE

EYES: May cause irritation, blurred vision.

SKIN: Prolonged contact may cause irritation and/or dermatitis.

INGESTION: Can cause gastrointestinal irritation.

INHALATION: Use with adequate ventilation. Inhalation of high vapor concentration may cause headaches and/or dizziness.

ACUTE HEALTH HAZARDS: See above.

CHRONIC HEALTH HAZARDS: See below.

CARCINOGENICITY: IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A). IARC concluded that available data from cancer studies in humans points to an association between exposures to oxidized asphalts during roofing and lung cancer and tumors in the upper aero-digestive tract. In addition, IARC found sufficient

evidence of carcinogenicity in experimental animals for extracts and fume condensates of oxidized asphalts.

NIOSH has concluded that the collective data from human, animal, genotoxicity and exposure studies provide sufficient evidence that roofing asphalt fumes are a potential occupational carcinogen.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Asphalt Bitumen, not cut back.	8052-42-4	60-80	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	5 mg/m3 – ceiling (15 min. fumes)
Stoddard Solvent	8052-41-3	20-25	500 ppm	100 ppm	NE
Solvent Naphtha	64742-95-6	5-10	100 ppm	400 ppm	NE

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Flush with large amounts of water. Consult a physician.

SKIN: Clean affected area with a waterless hand cleaner, then wash area thoroughly with soap and water. If redness, etc. persists, consult a physician.

INHALATION: Remove person from area. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration. Seek immediate medical aid.

INGESTION: Do not induce vomiting. Consult a physician immediately.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: Treat systematically.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA: Foam, Dry chemical, CO_2 – Do not use a direct water stream.

HAZARDOUS COMBUSTION PRODUCTS: CO and CO2.

RECOMMENDED FIRE FIGHTING PROCEDURES:	Treat as fuel oil fire. Self-contained breathing apparatus recommended with full turn-out gear. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent firefighting water from entering the environment.
UNUSUAL FIRE & EXPLOSION HAZARDS:	COMBUSTIBLE. Keep away from open flame and sources and heat.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Dike spill area; add absorbent to liquid. Keep out of sewers and waterways. No flames, no sparks. Eliminate all sources of ignition. Ventilate area if necessary.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Keep away from sources of ignition; open flame. This material is for exterior use only. Store at less than 110 deg F. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Eliminate all ignition sources if safe to do so. Do not breathe fume, spray, and vapors.
OTHER PRECAUTIONS:	Practice good personal hygiene. Launder contaminated clothing before reuse. Use control protection such as chemical splash proof goggles, oil resistant gloves, barrier cream. Clean tools and equipment with kerosene.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	Local exhaust.
RESPIRATORY PROTECTION:	Normally not needed. If TLV is exceeded, use NIOSH approved respirator.
EYE PROTECTION:	Chemical splash goggles or safety glasses and face shield.
SKIN PROTECTION:	Impervious work clothing is recommended.
OTHER PROTECTIVE EQUIPMENT:	Oil resistant gloves recommended.

WORK HYGIENIC PRACTICES: Local exhaust ventilation

EXPOSURE GUIDELINES: Wash hands after use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Black Fibered Mastic, Petroleum Odor		
FLASH POINT:	106 °F	**LOWER EXPLOSIVE LIMIT:**	No Data
METHOD USED:	TCC	**UPPER EXPLOSIVE LIMIT:**	No Data
EVAPORATION RATE:	<1	**BOILING POINT:**	>300 °F
pH (undiluted product):	No Data	**MELTING POINT:**	No Data
SOLUBILITY IN WATER:	Almost zero	**SPECIFIC GRAVITY:**	1
VAPOR DENSITY:	>1	**PERCENT VOLATILE:**	No Data
VAPOR PRESSURE:	2 mm (Solvent)	**MOLECULAR WEIGHT:**	No Data
VOC (g/L):	<350	**DENSITY (LBS/GAL):**	8-9

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE** ☒ **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): Open flames, all sources of ignition. Do not heat or thin this material.

INCOMPATIBILITY (MATERIAL TO AVOID): May react with strong oxidizing agents, reducing agents, strong acids and alkalis.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon Monoxide and Carbon Dioxide.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

asphaltic bitumen, not cut back (8052-42-4)

LD50 oral rat	> 2000 mg/kg (Rat)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit)
Skin corrosion/irritation:	Not classified
Serious eye damage/irritation:	Not classified
Respiratory or skin sensitization:	Not classified
Germ cell mutagenicity:	May cause genetic defects (Dermal, Inhalation).
Carcinogenicity:	May cause cancer (Inhalation, Dermal).

Specific target organ toxicity (repeated exposure):	Causes damage to organs (central nervous system, eye, Skin, lung, liver) through prolonged or repeated exposure (Dermal, Inhalation).
Aspiration hazard:	Not classified
Potential adverse human health effects and Symptoms:	Based on available data, the classification criteria are not met.
Symptoms/injuries after inhalation:	May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. May cause an allergic skin reaction.
Symptoms/injuries after skin contact:	May cause an allergic skin reaction. May cause moderate irritation.
Symptoms/injuries after eye contact:	Eye irritation.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: This material is a water pollutant and should be prevent from contaminating soil or from entering sewage and drainage systems and other bodies of water. Notify authorities.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. If discarded in its purchased form, this product is a RCRA hazardous waste. It is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or residue of the product remains classified a hazardous waste as per 40 CFR 261, Subpart C. State or local regulations may also apply if they differ from the federal regulation.

RCRA HAZARD CLASS: D001, Ignitable Hazardous Waste

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION

If shipped by ground in quantities less than 119 gallons (450 liters): Not regulated as a hazardous material.
DOT 49 CFR 173.150 SUB.PAR.F

PROPER SHIPPING NAME:	Tars, liquid
HAZARD CLASS:	3 Combustible Liquid
ID NUMBER:	UN 1999
PACKING GROUP:	III
LABEL STATEMENT:	Not Applicable

IATA

PROPER SHIPPING NAME:	Tars, liquid including road oils and cutback bitumens
AIR CLASS:	3
ID NUMBER:	UN1999
PACKING GROUP:	III
LABEL STATEMENT:	Not Applicable
OTHER:	ERG Guide 130

IMO/IMDG

PROPER SHIPPING NAME:	Tars, liquid including road oils and cutback bitumens
IMDG:	3
ID NUMBER:	UN1999
PACKING GROUP:	III EmS No. F-E, S-E
LABEL STATEMENT:	Not Applicable
OTHER:	IMDG: Marine Pollutant: No ERG Guide 130

OTHER:
If shipped by vessel in individual containers that are less than 7.9 gallons (30 liters) each, then IMDG 2.3.2.5 exception applies: Not regulated as a hazardous material.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: Asphaltic bitumen, Stoddard solvent

CERCLA: Not Applicable

SARA

311/312 HAZARD CATEGORIES: Fire Hazard, Chronic Health Hazard

313 REPORTABLE INGREDIENTS: Not Applicable

CALIFORNIA PROPOSITION 65: Yes - This product contains a chemical known to the state of California to cause cancer and birth defects or other reproductive harm.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Asphalt	8052-42-4	No	No	No	Yes	Yes	Yes
Stoddard Solvent	8052-41-3	Yes	No	Yes	Yes	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS SDS: January 2018

CHANGES SINCE PREVIOUS SDS: Update to VOC content.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Material Safety Data Sheet
MSDS # 2185
MSDS Date: February 2012

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Monaco™ Shingles
TRADE NAME:	Asphalt / Fiberglass Shingles
CHEMICAL NAME / SYNONYM:	N/A
CHEMICAL FAMILY:	N/A
MANUFACTURER:	GAF
ADDRESS:	1361 Alps Road, Wayne, NJ 07470
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

	NFPA Hazard Rating		HMIS Hazard Rating
Health	1	**Health**	1
Flammable	1	**Flammable**	1
Reactive	0	**Reactive**	0
Special Hazards	-	**Personal Protection**	B

OSHA HAZARDOUS: **Yes** ☐ **No** **X**

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**%**	**OSHA**	**ACGIH**	**OTHER**
Granules	-	20 – 45	NE	NE	NE

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**%**	**OSHA**	**ACGIH**	**OTHER**
Limestone	1317-65-3	25 – 45	5 mg/m3 – resp. 15 mg/m3 – total	3 mg/m3 – resp. 10 mg/m3 – total	REL: 5 mg/m3 – resp. 10 mg/m3 – total
Oxidized Asphalt	64742-93-4	10 – 30	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	5 mg/m3 – ceiling (15 min. fumes)
Crystalline Silica	14808-60-7	0 – 10	10 mg/m3 / (% SiO2 + 2) – resp.	0.025 mg/m3	REL: 0.05 mg/m3 – resp.
Fiberglass Mat	65997-17-3	1 – 3	1 f/cc – resp.	1 f/cc – resp.	REL: 5 mg/m3 – total fibers
Titanium Dioxide	13463-67-7	0 – 4	15 mg/m3 – total	10 mg/m3 – total	REL: lowest feasible concentration

NE = Not Established

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products above are considered articles and do not require an MSDS. All components listed for this product are bound within the shingle. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

SECTION 3: HAZARDS IDENTIFICATION

PRIMARY ROUTE OF EXPOSURE: Occasional nuisance dust, Inhalation

SIGNS & SYMPTOMS OF EXPOSURE

Eyes: May cause irritation to the eyes.

Skin: May cause irritation to the skin.

Ingestion: This product is not intended to be ingested. If ingested, it may cause temporary irritation to the gastrointestinal (digestive) tract.

Inhalation: May cause irritation to the respiratory tract.

ACUTE HEALTH HAZARDS: NIOSH has found that studies of workers exposed to asphalt fumes

have repeatedly found irritation of the serous membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation).

CHRONIC HEALTH HAZARDS: Studies in humans have found that exposure to respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is a serious and irreversible disease; it may be progressive even after exposure has ceased; it can lead to disability and death. Human studies also have found that silicosis is a risk factor for tuberculosis, and that occupational exposure to respirable crystalline silica is associated with chronic obstructive pulmonary disease, including bronchitis and emphysema. Some studies show excess numbers of cases of scleroderma, connective tissue disorders, lupus, rheumatoid arthritis, chronic kidney diseases and end-stage kidney disease in workers exposed to respirable crystalline silica.

CARCINOGENICITY: IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A). IARC concluded that available data from cancer studies in humans points to an association between exposures to oxidized asphalts during roofing and lung cancer and tumors in the upper aero-digestive tract. In addition, IARC found sufficient evidence of carcinogenicity in experimental animals for extracts and fume condensates of oxidized asphalts.

NIOSH has concluded that the collective data from human, animal, genotoxicity and exposure studies provide sufficient evidence that roofing asphalt fumes are a potential occupational carcinogen.

Occupational exposure to respirable crystalline silica is classified as a known carcinogen in humans. IARC has determined that respirable crystalline silica is carcinogenic to humans (Group 1), based on findings of sufficient evidence of carcinogenicity in both humans and experimental animals. NTP has classified respirable crystalline silica as a known human carcinogen based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between exposure to respirable crystalline silica and increased lung cancer rates in workers exposed to crystalline silica dust. NIOSH has determined that respirable crystalline silica is a potential occupational carcinogen.

IARC has determined that occupational exposure to Titanium Dioxide is possibly carcinogenic to humans (Group 2B). IARC concluded lung tumors were observed in rats following high dose exposure by inhalation and in female rats exposed by intra-tracheal instillation. Other studies have shown no tumors in rats following inhalation exposure and no tumors in mice or rats following oral exposure.

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Hold eyelids open and wash with gentle stream of water for at least 15

	minutes preferably at eyewash fountain.
SKIN:	Wash affected area thoroughly with soap and water.
INHALATION:	Remove to fresh uncontaminated air.
INGESTION:	Not expected to be ingested.
NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:	No information available

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water spray, Alcohol foam, Carbon Dioxide, or Dry chemical.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	NIOSH-approved self contained breathing apparatus is recommended for smoke protection.
UNUSUAL FIRE & EXPLOSION HAZARDS:	N/A

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Pick up large pieces. Avoid creating dusts during clean up.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	No specific handling or storage requirements.
OTHER PRECAUTIONS:	None

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	N/A
RESPIRATORY PROTECTION:	N/A under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable exposure levels, appropriate NIOSH approved respiratory protection is recommended.
EYE PROTECTION:	Safety glasses with side shields

SKIN PROTECTION: Cotton or leather gloves are recommended when handling.

OTHER PROTECTIVE EQUIPMENT: None

WORK HYGIENIC PRACTICES: Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Granule coated shingle; no appreciable odor.		
FLASH POINT:	> 550 °F	**LOWER EXPLOSIVE LIMIT:**	No data
METHOD USED:	No data	**UPPER EXPLOSIVE LIMIT:**	No data
EVAPORATION RATE:	No data	**BOILING POINT:**	No data
pH (undiluted product):	No data	**MELTING POINT:**	No data
SOLUBILITY IN WATER:	No data	**SPECIFIC GRAVITY:**	No data
VAPOR DENSITY:	No data	**PERCENT VOLATILE:**	No data
VAPOR PRESSURE:	No data	**MOLECULAR WEIGHT:**	No data
VOC WITH WATER (LBS/GAL):	No data	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): None known.

INCOMPATIBILITY (MATERIAL TO AVOID): None known.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon Dioxide and Carbon Monoxide

HAZARDOUS POLYMERIZATION: Will Not Occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: None available for the product. See section 3.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION

PROPER SHIPPING NAME:	This product is not classified as a hazardous material for transport.
HAZARD CLASS:	N/A
ID NUMBER:	N/A
PACKING GROUP:	N/A
LABEL STATEMENT:	N/A
OTHER:	N/A

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA:	This product and its components are listed on the TSCA 8(b) inventory.
CERCLA:	None
SARA	None

311 / 312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains a chemical known to the state of California to cause cancer and birth defects, or other reproductive harm. Cancer: Oxidized Asphalt, Crystalline Silica and Titanium Dioxide.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Limestone	1317-65-3	No	Yes	Yes	No	Yes	Yes
Oxidized Asphalt	64742-93-4	No	No	No	No	No	No
Crystalline Silica	14808-60-7	Yes	Yes	Yes	Yes	Yes	Yes
Fiberglass Mat	65997-17-3	Yes	No	Yes	Yes	No	Yes
Titanium Dioxide	13463-67-7	No	Yes	Yes	Yes	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None.

DATE OF PREVIOUS MSDS: New MSDS

CHANGES SINCE PREVIOUS MSDS: N/A

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Material Safety Data Sheet
MSDS # 2202
MSDS Date: March 2013

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Sienna
TRADE NAME:	Asphalt / Fiberglass Shingles
CHEMICAL NAME / SYNONYM:	N/A
CHEMICAL FAMILY:	N/A
MANUFACTURER:	GAF
ADDRESS:	1361 Alps Road, Wayne, NJ 07470
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

	NFPA Hazard Rating		HMIS Hazard Rating
Health	1	**Health**	1
Flammable	1	**Flammable**	1
Reactive	0	**Reactive**	0
Special Hazards	-	**Personal Protection**	B

OSHA HAZARDOUS: **Yes** ☐ **No** **X**

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**%**	**OSHA**	**ACGIH**	**OTHER**
Granules	-	20 – 45	NE	NE	NE

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**%**	**OSHA**	**ACGIH**	**OTHER**
Limestone	1317-65-3	25 – 45	5 mg/m3 – resp. 15 mg/m3 – total	3 mg/m3 – resp. 10 mg/m3 – total	REL: 5 mg/m3 – resp. 10 mg/m3 – total
Oxidized Asphalt	64742-93-4	10 – 30	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	5 mg/m3 – ceiling (15 min. fumes)
Crystalline Silica	14808-60-7	0 – 10	10 mg/m3 / (% SiO2 + 2) – resp.	0.025 mg/m3	REL: 0.05 mg/m3 – resp.
Fiberglass Mat	65997-17-3	1 – 3	1 f/cc – resp.	1 f/cc – resp.	REL: 5 mg/m3 – total fibers
Titanium Dioxide	13463-67-7	0 – 4	15 mg/m3 – total	10 mg/m3 – total	REL: lowest feasible concentration

NE = Not Established

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products above are considered articles and do not require an MSDS. All components listed for this product are bound within the shingle. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

SECTION 3: HAZARDS IDENTIFICATION

PRIMARY ROUTE OF EXPOSURE: Occasional nuisance dust, Inhalation

SIGNS & SYMPTOMS OF EXPOSURE

Eyes: May cause irritation to the eyes.

Skin: May cause irritation to the skin.

Ingestion: This product is not intended to be ingested. If ingested, it may cause temporary irritation to the gastrointestinal (digestive) tract.

Inhalation: May cause irritation to the respiratory tract.

ACUTE HEALTH HAZARDS: NIOSH has found that studies of workers exposed to asphalt fumes

have repeatedly found irritation of the serous membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation).

CHRONIC HEALTH HAZARDS: Studies in humans have found that exposure to respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is a serious and irreversible disease; it may be progressive even after exposure has ceased; it can lead to disability and death. Human studies also have found that silicosis is a risk factor for tuberculosis, and that occupational exposure to respirable crystalline silica is associated with chronic obstructive pulmonary disease, including bronchitis and emphysema. Some studies show excess numbers of cases of scleroderma, connective tissue disorders, lupus, rheumatoid arthritis, chronic kidney diseases and end-stage kidney disease in workers exposed to respirable crystalline silica.

CARCINOGENICITY: IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A). IARC concluded that available data from cancer studies in humans points to an association between exposures to oxidized asphalts during roofing and lung cancer and tumors in the upper aero-digestive tract. In addition, IARC found sufficient evidence of carcinogenicity in experimental animals for extracts and fume condensates of oxidized asphalts.

NIOSH has concluded that the collective data from human, animal, genotoxicity and exposure studies provide sufficient evidence that roofing asphalt fumes are a potential occupational carcinogen.

Occupational exposure to respirable crystalline silica is classified as a known carcinogen in humans. IARC has determined that respirable crystalline silica is carcinogenic to humans (Group 1), based on findings of sufficient evidence of carcinogenicity in both humans and experimental animals. NTP has classified respirable crystalline silica as a known human carcinogen based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between exposure to respirable crystalline silica and increased lung cancer rates in workers exposed to crystalline silica dust. NIOSH has determined that respirable crystalline silica is a potential occupational carcinogen.

IARC has determined that occupational exposure to Titanium Dioxide is possibly carcinogenic to humans (Group 2B). IARC concluded lung tumors were observed in rats following high dose exposure by inhalation and in female rats exposed by intra-tracheal instillation. Other studies have shown no tumors in rats following inhalation exposure and no tumors in mice or rats following oral exposure.

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Hold eyelids open and wash with gentle stream of water for at least 15

	minutes preferably at eyewash fountain.
SKIN:	Wash affected area thoroughly with soap and water.
INHALATION:	Remove to fresh uncontaminated air.
INGESTION:	Not expected to be ingested.
NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:	No information available

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water spray, Alcohol foam, Carbon Dioxide, or Dry chemical.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	NIOSH-approved self contained breathing apparatus is recommended for smoke protection.
UNUSUAL FIRE & EXPLOSION HAZARDS:	N/A

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Pick up large pieces. Avoid creating dusts during clean up.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	No specific handling or storage requirements.
OTHER PRECAUTIONS:	None

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	N/A
RESPIRATORY PROTECTION:	N/A under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable exposure levels, appropriate NIOSH approved respiratory protection is recommended.
EYE PROTECTION:	Safety glasses with side shields

SKIN PROTECTION:	Cotton or leather gloves are recommended when handling.
OTHER PROTECTIVE EQUIPMENT:	None
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Granule coated shingle; no appreciable odor.		
FLASH POINT:	> 550 °F	**LOWER EXPLOSIVE LIMIT:**	No data
METHOD USED:	No data	**UPPER EXPLOSIVE LIMIT:**	No data
EVAPORATION RATE:	No data	**BOILING POINT:**	No data
pH (undiluted product):	No data	**MELTING POINT:**	No data
SOLUBILITY IN WATER:	No data	**SPECIFIC GRAVITY:**	No data
VAPOR DENSITY:	No data	**PERCENT VOLATILE:**	No data
VAPOR PRESSURE:	No data	**MOLECULAR WEIGHT:**	No data
VOC WITH WATER (LBS/GAL):	No data	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY):	None known.
INCOMPATIBILITY (MATERIAL TO AVOID):	None known.
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:	Carbon Dioxide and Carbon Monoxide
HAZARDOUS POLYMERIZATION:	Will Not Occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: None available for the product. See section 3.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION

PROPER SHIPPING NAME:	This product is not classified as a hazardous material for transport.
HAZARD CLASS:	N/A
ID NUMBER:	N/A
PACKING GROUP:	N/A
LABEL STATEMENT:	N/A
OTHER:	N/A

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA:	This product and its components are listed on the TSCA 8(b) inventory.
CERCLA:	None
SARA	None

311 / 312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains a chemical known to the state of California to cause cancer and birth defects, or other reproductive harm. Cancer: Oxidized Asphalt, Crystalline Silica and Titanium Dioxide.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Limestone	1317-65-3	No	Yes	Yes	No	Yes	Yes
Oxidized Asphalt	64742-93-4	No	No	No	No	No	No
Crystalline Silica	14808-60-7	Yes	Yes	Yes	Yes	Yes	Yes
Fiberglass Mat	65997-17-3	Yes	No	Yes	Yes	No	Yes
Titanium Dioxide	13463-67-7	No	Yes	Yes	Yes	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None.

DATE OF PREVIOUS MSDS: New MSDS

CHANGES SINCE PREVIOUS MSDS: N/A

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 1003A
SDS Date: July 2018

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Pro-Start™ Starter Strips WeatherBlocker™ Starter Strips QuickStart™ Peel & Stick Starter Roll Startermatch™ Starter Strip
TRADE NAME:	Asphalt / Fiberglass Shingles
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Occasional nuisance dust, Inhalation

SIGNS & SYMPTOMS OF EXPOSURE

Eyes:	May cause irritation to the eyes.
Skin:	May cause irritation to the skin.
Ingestion:	This product is not intended to be ingested. If ingested, it may cause temporary irritation to the gastrointestinal (digestive) tract.

Inhalation:	May cause irritation to the respiratory tract.
ACUTE HEALTH HAZARDS:	NIOSH has found that studies of workers exposed to asphalt fumes have repeatedly found irritation of the serous membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation).
CHRONIC HEALTH HAZARDS:	Studies in humans have found that exposure to respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is a serious and irreversible disease; it may be progressive even after exposure has ceased; it can lead to disability and death. Human studies also have found that silicosis is a risk factor for tuberculosis, and that occupational exposure to respirable crystalline silica is associated with chronic obstructive pulmonary disease, including bronchitis and emphysema. Some studies show excess numbers of cases of scleroderma, connective tissue disorders, lupus, rheumatoid arthritis, chronic kidney diseases and end-stage kidney disease in workers exposed to respirable crystalline silica.
CARCINOGENICITY:	IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A). IARC concluded that available data from cancer studies in humans points to an association between exposures to oxidized asphalts during roofing and lung cancer and tumors in the upper aero-digestive tract. In addition, IARC found sufficient evidence of carcinogenicity in experimental animals for extracts and fume condensates of oxidized asphalts. NIOSH has concluded that the collective data from human, animal, genotoxicity and exposure studies provide sufficient evidence that roofing asphalt fumes are a potential occupational carcinogen. Occupational exposure to respirable crystalline silica is classified as a known carcinogen in humans. IARC has determined that respirable crystalline silica is carcinogenic to humans (Group 1), based on findings of sufficient evidence of carcinogenicity in both humans and experimental animals. NTP has classified respirable crystalline silica as a known human carcinogen based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between exposure to respirable crystalline silica and increased lung cancer rates in workers exposed to crystalline silica dust. NIOSH has determined that respirable crystalline silica is a potential occupational carcinogen. IARC has determined that occupational exposure to Titanium Dioxide is possibly carcinogenic to humans (Group 2B). IARC concluded lung tumors were observed in rats following high dose exposure by inhalation and in female rats exposed by intra-tracheal instillation. Other studies have shown no tumors in rats following inhalation exposure and no tumors in mice or rats following oral exposure.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**%**	**OSHA**	**ACGIH**	**OTHER**
Granules	-	20 – 45	NE	NE	NE
Limestone	1317-65-3	25 – 45	5 mg/m3 – resp. 15 mg/m3 – total	3 mg/m3 – resp. 10 mg/m3 – total	REL: 5 mg/m3 – resp. 10 mg/m3 – total
Oxidized Asphalt	64742-93-4	10 – 30	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	5 mg/m3 – ceiling (15 min. fumes)
Crystalline Silica	14808-60-7	0 – 10	50 µg/m³.	0.025 mg/m3	REL: 0.05 mg/m3 – resp.
Fiberglass Mat	65997-17-3	1 – 3	1 f/cc – resp.	1 f/cc – resp.	REL: 5 mg/m3 – total fibers
Titanium Dioxide	13463-67-7	0 – 4	15 mg/m3 – total	10 mg/m3 – total	REL: lowest feasible concentration

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.

SKIN: Wash affected area thoroughly with soap and water.

INHALATION: Remove to fresh uncontaminated air.

INGESTION: Not expected to be ingested.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: No information available

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA: Water spray, Alcohol foam, Carbon Dioxide, or Dry chemical.

HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	NIOSH-approved self contained breathing apparatus is recommended for smoke protection.
UNUSUAL FIRE & EXPLOSION HAZARDS:	N/A

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Pick up large pieces. Avoid creating dusts during clean up.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	No specific handling or storage requirements.
OTHER PRECAUTIONS:	None

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	N/A
RESPIRATORY PROTECTION:	N/A under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable exposure levels, appropriate NIOSH approved respiratory protection is recommended.
EYE PROTECTION:	Safety glasses with side shields
SKIN PROTECTION:	Cotton or leather gloves are recommended when handling.
OTHER PROTECTIVE EQUIPMENT:	None
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Granule coated shingle; no appreciable odor.		
FLASH POINT:	> 550 °F	**LOWER EXPLOSIVE LIMIT:**	No data
METHOD USED:	No data	**UPPER EXPLOSIVE LIMIT:**	No data

EVAPORATION RATE:	No data	**BOILING POINT:**	No data
pH (undiluted product):	No data	**MELTING POINT:**	No data
SOLUBILITY IN WATER:	No data	**SPECIFIC GRAVITY:**	No data
VAPOR DENSITY:	No data	**PERCENT VOLATILE:**	No data
VAPOR PRESSURE:	No data	**MOLECULAR WEIGHT:**	No data
VOC WITH WATER (LBS/GAL):	No data	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): None known.

INCOMPATIBILITY (MATERIAL TO AVOID): None known.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon Dioxide and Carbon Monoxide

HAZARDOUS POLYMERIZATION: Will Not Occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: None available for the product. See section 3.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA None

311 / 312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains silica and titanium dioxide, chemicals known to the State of California to cause cancer.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Limestone	1317-65-3	No	Yes	Yes	No	Yes	Yes
Oxidized Asphalt	64742-93-4	No	No	No	No	No	No
Crystalline Silica	14808-60-7	Yes	Yes	Yes	Yes	Yes	Yes
Fiberglass Mat	65997-17-3	Yes	No	Yes	Yes	No	Yes
Titanium Dioxide	13463-67-7	No	Yes	Yes	Yes	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS:	None.
DATE OF PREVIOUS SDS:	January 2015
CHANGES SINCE PREVIOUS SDS:	Update to OSHA silica PEL.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 2085
SDS Date: December 2014

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	StormSafe™
TRADE NAME:	N/A
CHEMICAL NAME / SYNONYM:	N/A
CHEMICAL FAMILY:	N/A
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

ADDITIONAL HAZARD IDENTIFICAITON INFORMATION:

PRIMARY ROUTE OF EXPOSURE: N/A

SIGNS & SYMPTOMS OF EXPOSURE

EYES: N/A

SKIN: N/A

INGESTION: N/A

INHALATION: N/A

ACUTE HEALTH HAZARDS: N/A

CHRONIC HEALTH HAZARDS: N/A

CARCINOGENICITY: N/A

NOTE: All ingredients in StormSafe fabrics are bound within the polyolefin. StormSafe fabrics are not hazardous under normal conditions

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Proprietary Information	N/A	N/A	N/A	N/A	N/A

.

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: N/A

SKIN: N/A

INHALATION: N/A

INGESTION: N/A

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: For minor burns caused by molten plastic material, treat with cool running water immediately.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA: Water, dry chemical, carbon dioxide.

HAZARDOUS COMBUSTION PRODUCTS: N/A

RECOMMENDED FIRE FIGHTING PROCEDURES: This product is a combustable material. Avoid contact with dripping molten plastic. Use self-contained breathing

apparatus.

UNUSUAL FIRE & EXPLOSION HAZARDS: None

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Clean up material and properly dispose of.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Adequately restrain rolls to prevent shifting during handling and storage.

OTHER PRECAUTIONS: Avoid contact with dripping molten plastic.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION: N/A

RESPIRATORY PROTECTION: N/A

EYE PROTECTION: N/A

SKIN PROTECTION: N/A

OTHER PROTECTIVE EQUIPMENT: N/A

WORK HYGIENIC PRACTICES: N/A

EXPOSURE GUIDELINES: N/A

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Odorless pigmented woven fabric.		
FLASH POINT:	670-850^{o} F	**LOWER EXPLOSIVE LIMIT:**	No Data
METHOD USED:	No Data	**UPPER EXPLOSIVE LIMIT:**	No Data

EVAPORATION RATE:	No Data	**BOILING POINT:**	No Data
pH (undiluted product):	No Data	**MELTING POINT:**	300-350^{o} F
SOLUBILITY IN WATER:	Insoluble	**SPECIFIC GRAVITY:**	55-60 lb/ft^{3} (H_2O=63)
VAPOR DENSITY:	No Data	**PERCENT VOLATILE:**	No Data
VAPOR PRESSURE:	No Data	**MOLECULAR WEIGHT:**	No Data
VOC WITH WATER (LBS/GAL):	No Data	**WITHOUT WATER (LBS/GAL):**	No Data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): Contact with strong oxidants, acids; temperatures above 500^{o} F.

INCOMPATIBILITY (MATERIAL TO AVOID): N/A

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon monoxide, carbon dioxide, oxides of nitrogen, aldehydes and unidentified organic compounds may be formed upon combustion. The nature and quantity of by-products formed upon combustion will vary under various conditions – temperature, available oxygen, the presence of other materials, and the nature of combustion (flame or carbonization).

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: No information available.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION

PROPER SHIPPING NAME: This product is not classified as a hazardous material for transport.

HAZARD CLASS: N/A

ID NUMBER: N/A

PACKING GROUP: N/A

LABEL STATEMENT: N/A

OTHER: N/A

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: N/A

CERCLA: N/A

SARA

311/312 HAZARD CATEGORIES: N/A

313 REPORTABLE INGREDIENTS: N/A

CALIFORNIA PROPOSITION 65: N/A

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS:	N/A
DATE OF PREVIOUS SDS:	October 2013
CHANGES SINCE PREVIOUS SDS:	Headquarters Address Change.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 2093
SDS Date: October 2019

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Timberline® HDZ Timberline® HD™ Lifetime Shingles Timberline® Ultra HD™ Lifetime Shingles Timberline® American Harvest™ Shingles Timberline® Natural Shadow™ Shingles Timberline® ArmorShield™ II Shingles Timberline® Cool Series Shingles Timberline® HD Reflector Series Shingles Timberline® HD Reflector Series Plus Shingles Timberline® Ultra HD Reflector Series Shingles Fortitude
TRADE NAME:	Asphalt / Fiberglass Shingles
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Occasional nuisance dust, Inhalation if dust is generated.

SIGNS & SYMPTOMS OF EXPOSURE

Eyes:	May cause irritation to the eyes if dust is generated.
Skin:	May cause irritation to the skin if dust is generated.
Ingestion:	This product is not intended to be ingested. If ingested, it may cause temporary irritation to the gastrointestinal (digestive) tract.
Inhalation:	May cause irritation to the respiratory tract.
ACUTE HEALTH HAZARDS:	NIOSH has found that studies of workers exposed to asphalt fumes have repeatedly found irritation of the serous membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation).
CHRONIC HEALTH HAZARDS:	Studies in humans have found that exposure to respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is a serious and irreversible disease; it may be progressive even after exposure has ceased; it can lead to disability and death. Human studies also have found that silicosis is a risk factor for tuberculosis, and that occupational exposure to respirable crystalline silica is associated with chronic obstructive pulmonary disease, including bronchitis and emphysema. Some studies show excess numbers of cases of scleroderma, connective tissue disorders, lupus, rheumatoid arthritis, chronic kidney diseases and end-stage kidney disease in workers exposed to respirable crystalline silica.
CARCINOGENICITY:	IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A). IARC concluded that available data from cancer studies in humans points to an association between exposures to oxidized asphalts during roofing and lung cancer and tumors in the upper aero-digestive tract. In addition, IARC found sufficient evidence of carcinogenicity in experimental animals for extracts and fume condensates of oxidized asphalts. NIOSH has concluded that the collective data from human, animal, genotoxicity and exposure studies provide sufficient evidence that roofing asphalt fumes are a potential occupational carcinogen. Occupational exposure to respirable crystalline silica is classified as a known carcinogen in humans. IARC has determined that respirable crystalline silica is carcinogenic to humans (Group 1), based on findings of sufficient evidence of carcinogenicity in both humans and experimental animals. NTP has classified respirable crystalline silica as a known human carcinogen based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between exposure to respirable crystalline silica and increased lung cancer rates in workers exposed to crystalline silica dust. NIOSH has determined that respirable crystalline silica is a potential occupational carcinogen. IARC has determined that occupational exposure to Titanium Dioxide is possibly carcinogenic to humans (Group 2B). IARC concluded lung tumors were observed in rats following high dose exposure by inhalation and in female rats exposed by intra-

tracheal instillation. Other studies have shown no tumors in rats following inhalation exposure and no tumors in mice or rats following oral exposure.

SECTION 3: HAZARDS IDENTIFICATION

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**%**	**OSHA**	**ACGIH**	**OTHER**
Granules	-	20 – 45	NE	NE	NE
Limestone	1317-65-3	25 – 45	5 mg/m3 – resp. 15 mg/m3 – total	3 mg/m3 – resp. 10 mg/m3 – total	REL: 5 mg/m3 – resp. 10 mg/m3 – total
Oxidized Asphalt	64742-93-4	10 – 30	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	5 mg/m3 – ceiling (15 min. fumes)
Crystalline Silica	14808-60-7	0 – 10	50 µg/m³	0.025 mg/m3	REL: 0.05 mg/m3 – resp.
Fiberglass Mat	65997-17-3	1 – 3	1 f/cc – resp.	1 f/cc – resp.	REL: 5 mg/m3 – total fibers
Titanium Dioxide	13463-67-7	0 – 4	15 mg/m3 – total	10 mg/m3 – total	REL: lowest feasible concentration

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.

SKIN: Wash affected area thoroughly with soap and water.

INHALATION: Remove to fresh uncontaminated air.

INGESTION: Not expected to be ingested.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: No information available

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water spray, Alcohol foam, Carbon Dioxide, or Dry chemical.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	NIOSH-approved self-contained breathing apparatus is recommended for smoke protection.
UNUSUAL FIRE & EXPLOSION HAZARDS:	N/A

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Pick up large pieces. Avoid creating dusts during clean up.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	No specific handling or storage requirements.
OTHER PRECAUTIONS:	None

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	N/A
RESPIRATORY PROTECTION:	N/A under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable exposure levels, appropriate NIOSH approved respiratory protection is recommended.
EYE PROTECTION:	Safety glasses with side shields
SKIN PROTECTION:	Cotton or leather gloves are recommended when handling.
OTHER PROTECTIVE EQUIPMENT:	None
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Granule coated shingle; no appreciable odor.		
FLASH POINT:	> 550 °F	**LOWER EXPLOSIVE LIMIT:**	No data
METHOD USED:	No data	**UPPER EXPLOSIVE LIMIT:**	No data
EVAPORATION RATE:	No data	**BOILING POINT:**	No data
pH (undiluted product):	No data	**MELTING POINT:**	No data
SOLUBILITY IN WATER:	No data	**SPECIFIC GRAVITY:**	No data
VAPOR DENSITY:	No data	**PERCENT VOLATILE:**	No data
VAPOR PRESSURE:	No data	**MOLECULAR WEIGHT:**	No data
VOC WITH WATER (LBS/GAL):	No data	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): None known.

INCOMPATIBILITY (MATERIAL TO AVOID): None known.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon Dioxide and Carbon Monoxide

HAZARDOUS POLYMERIZATION: Will Not Occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: None available for the product. See section 3.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA None

311 / 312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains silica and titanium dioxide, chemicals known to the State of California to cause cancer.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Limestone	1317-65-3	No	Yes	Yes	No	Yes	Yes

Oxidized Asphalt	64742-93-4	No	No	No	No	No	No
Crystalline Silica	14808-60-7	Yes	Yes	Yes	Yes	Yes	Yes
Fiberglass Mat	65997-17-3	Yes	No	Yes	Yes	No	Yes
Titanium Dioxide	13463-67-7	No	Yes	Yes	Yes	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None.

DATE OF PREVIOUS SDS: July 2019

CHANGES SINCE PREVIOUS SDS: Addition of HD Reflector Series

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 2093
SDS Date: October 2019

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Timberline® HDZ Timberline® HD™ Lifetime Shingles Timberline® Ultra HD™ Lifetime Shingles Timberline® American Harvest™ Shingles Timberline® Natural Shadow™ Shingles Timberline® ArmorShield™ II Shingles Timberline® Cool Series Shingles Timberline® HD Reflector Series Shingles Timberline® HD Reflector Series Plus Shingles Timberline® Ultra HD Reflector Series Shingles Fortitude
TRADE NAME:	Asphalt / Fiberglass Shingles
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Occasional nuisance dust, Inhalation if dust is generated.

SIGNS & SYMPTOMS OF EXPOSURE

Eyes:	May cause irritation to the eyes if dust is generated.
Skin:	May cause irritation to the skin if dust is generated.
Ingestion:	This product is not intended to be ingested. If ingested, it may cause temporary irritation to the gastrointestinal (digestive) tract.
Inhalation:	May cause irritation to the respiratory tract.
ACUTE HEALTH HAZARDS:	NIOSH has found that studies of workers exposed to asphalt fumes have repeatedly found irritation of the serous membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation).
CHRONIC HEALTH HAZARDS:	Studies in humans have found that exposure to respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is a serious and irreversible disease; it may be progressive even after exposure has ceased; it can lead to disability and death. Human studies also have found that silicosis is a risk factor for tuberculosis, and that occupational exposure to respirable crystalline silica is associated with chronic obstructive pulmonary disease, including bronchitis and emphysema. Some studies show excess numbers of cases of scleroderma, connective tissue disorders, lupus, rheumatoid arthritis, chronic kidney diseases and end-stage kidney disease in workers exposed to respirable crystalline silica.
CARCINOGENICITY:	IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A). IARC concluded that available data from cancer studies in humans points to an association between exposures to oxidized asphalts during roofing and lung cancer and tumors in the upper aero-digestive tract. In addition, IARC found sufficient evidence of carcinogenicity in experimental animals for extracts and fume condensates of oxidized asphalts. NIOSH has concluded that the collective data from human, animal, genotoxicity and exposure studies provide sufficient evidence that roofing asphalt fumes are a potential occupational carcinogen. Occupational exposure to respirable crystalline silica is classified as a known carcinogen in humans. IARC has determined that respirable crystalline silica is carcinogenic to humans (Group 1), based on findings of sufficient evidence of carcinogenicity in both humans and experimental animals. NTP has classified respirable crystalline silica as a known human carcinogen based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between exposure to respirable crystalline silica and increased lung cancer rates in workers exposed to crystalline silica dust. NIOSH has determined that respirable crystalline silica is a potential occupational carcinogen. IARC has determined that occupational exposure to Titanium Dioxide is possibly carcinogenic to humans (Group 2B). IARC concluded lung tumors were observed in rats following high dose exposure by inhalation and in female rats exposed by intra-

tracheal instillation. Other studies have shown no tumors in rats following inhalation exposure and no tumors in mice or rats following oral exposure.

SECTION 3: HAZARDS IDENTIFICATION

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**%**	**OSHA**	**ACGIH**	**OTHER**
Granules	-	20 – 45	NE	NE	NE
Limestone	1317-65-3	25 – 45	5 mg/m3 – resp. 15 mg/m3 – total	3 mg/m3 – resp. 10 mg/m3 – total	REL: 5 mg/m3 – resp. 10 mg/m3 – total
Oxidized Asphalt	64742-93-4	10 – 30	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	5 mg/m3 – ceiling (15 min. fumes)
Crystalline Silica	14808-60-7	0 – 10	50 µg/m³	0.025 mg/m3	REL: 0.05 mg/m3 – resp.
Fiberglass Mat	65997-17-3	1 – 3	1 f/cc – resp.	1 f/cc – resp.	REL: 5 mg/m3 – total fibers
Titanium Dioxide	13463-67-7	0 – 4	15 mg/m3 – total	10 mg/m3 – total	REL: lowest feasible concentration

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.

SKIN: Wash affected area thoroughly with soap and water.

INHALATION: Remove to fresh uncontaminated air.

INGESTION: Not expected to be ingested.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: No information available

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water spray, Alcohol foam, Carbon Dioxide, or Dry chemical.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	NIOSH-approved self-contained breathing apparatus is recommended for smoke protection.
UNUSUAL FIRE & EXPLOSION HAZARDS:	N/A

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Pick up large pieces. Avoid creating dusts during clean up.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	No specific handling or storage requirements.
OTHER PRECAUTIONS:	None

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	N/A
RESPIRATORY PROTECTION:	N/A under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable exposure levels, appropriate NIOSH approved respiratory protection is recommended.
EYE PROTECTION:	Safety glasses with side shields
SKIN PROTECTION:	Cotton or leather gloves are recommended when handling.
OTHER PROTECTIVE EQUIPMENT:	None
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Granule coated shingle; no appreciable odor.		
FLASH POINT:	> 550 °F	**LOWER EXPLOSIVE LIMIT:**	No data
METHOD USED:	No data	**UPPER EXPLOSIVE LIMIT:**	No data
EVAPORATION RATE:	No data	**BOILING POINT:**	No data
pH (undiluted product):	No data	**MELTING POINT:**	No data
SOLUBILITY IN WATER:	No data	**SPECIFIC GRAVITY:**	No data
VAPOR DENSITY:	No data	**PERCENT VOLATILE:**	No data
VAPOR PRESSURE:	No data	**MOLECULAR WEIGHT:**	No data
VOC WITH WATER (LBS/GAL):	No data	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): None known.

INCOMPATIBILITY (MATERIAL TO AVOID): None known.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon Dioxide and Carbon Monoxide

HAZARDOUS POLYMERIZATION: Will Not Occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: None available for the product. See section 3.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA None

311 / 312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains silica and titanium dioxide, chemicals known to the State of California to cause cancer.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Limestone	1317-65-3	No	Yes	Yes	No	Yes	Yes

Oxidized Asphalt	64742-93-4	No	No	No	No	No	No
Crystalline Silica	14808-60-7	Yes	Yes	Yes	Yes	Yes	Yes
Fiberglass Mat	65997-17-3	Yes	No	Yes	Yes	No	Yes
Titanium Dioxide	13463-67-7	No	Yes	Yes	Yes	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None.

DATE OF PREVIOUS SDS: July 2019

CHANGES SINCE PREVIOUS SDS: Addition of HD Reflector Series

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

FireShield®
EPDM

Material Safety Data Sheet

Updated: 12/08

GAF®

GAF MATERIALS CORPORATION

Quality You Can Trust Since 1886…
From North America's Largest Roofing Manufacturer™

GAF Materials Corporation
Material Safety Data Sheet
MSDS # 2072
MSDS Date: December 2008

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	FireShield® EPDM
TRADE NAME:	FireShield®
CHEMICAL NAME / SYNONYM:	N/A
CHEMICAL FAMILY:	N/A
MANUFACTURER:	GAF Materials Corporation
ADDRESS:	1361 Alps Road, Wayne, NJ 07470
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

	NFPA Hazard Rating		HMIS Hazard Rating
Health	1	**Health**	1
Flammable	1	**Flammable**	1
Reactive	0	**Reactive**	0
Special Hazards	-	**Personal Protection**	X

OSHA HAZARDOUS: **Yes X** **No** ☐

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Calcium Carbonate	1317-65-3	20 – 40	5 mg/m3 – resp. 15 mg/m3 – total	3 mg/m3 – resp. 10 mg/m3 – total	REL: 5 mg/m3 – resp., 10 mg/m3 – total
Titanium Dioxide	13463-67-7	2 – 10	15 mg/m3 – total	10 mg/m3 – total	REL: lowest feasible concentration

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Zinc Oxide	1314-13-2	2 – 10	5 mg/m3 – resp. 15 mg/m3 – total	2 mg/m3 – resp. 10 mg/m3 – resp. STEL	REL: 5 mg/m3, 15 mg/m3 – ceiling
Graphite	7782-42-5	2 – 10	15 mppcf	2 mg/m3 – resp.	REL: 2.5 mg/m3 – resp.
Propylene Glycol	107-21-1	1 – 10	NE	100 ppm – ceiling	NE
Non-hazardous ingredients	n/a	60 – 75	NE	NE	NE

NE = Not Established

SECTION 3: HAZARDS IDENTIFICATION

PRIMARY ROUTE OF EXPOSURE: Inhalation, Skin Contact, Eye Contact

SIGNS & SYMPTOMS OF EXPOSURE

EYES: Exposure to vapors can cause irritation to the eyes.

SKIN: Slight irruption of the skin. Prolonged contact can cause reddening of the skin.

INGESTION: Headaches, nausea and diarrhea.

INHALATION: Vapors or mists can cause mental sluggishness, irritation of nasal passages, throat and lungs. Can cause headaches, nausea, diarrhea, and shortness of breath.

ACUTE HEALTH HAZARDS: See signs and symptoms of exposure above.

CHRONIC HEALTH HAZARDS: None known.

CARCINOGENICITY: Titanium Dioxide is classified as a 2B carcinogen (possibly carcinogenic to humans) by the International Agency for Research on Cancer (IARC).

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Flush eyes with water for 15 minutes. If irritation persists, call a

	physician.
SKIN:	Wash contaminated skin with soap and water.
INHALATION:	Remove patient to an area that has fresh air. If breathing has stopped, administer artificial respiration. Contact physician immediately.
INGESTION:	If the patient is awake, induce vomiting by giving 2 glasses of water and pressing down at back of throat. Call physician immediately. Never give anything by mouth to an unconscious person.
NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:	Excessive exposure can cause pulmonary edema.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water spray, CO2, dry chemical or foam.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon monoxide and carbon dioxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	Self-contained breathing apparatus recommended.
UNUSUAL FIRE & EXPLOSION HAZARDS:	None known.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Dam up area to prevent spreading. Caution – area will be slippery. Use absorbent material to dry up the compound. Provide ventilation in closed areas.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Store in a well ventilated area at 50 – 80 °F.
OTHER PRECAUTIONS:	Protect from freezing.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	Local exhaust, mechanical ventilation.

RESPIRATORY PROTECTION: NIOSH approved respirator.

EYE PROTECTION: Chemical splash goggles.

SKIN PROTECTION: Impervious type gloves.

OTHER PROTECTIVE EQUIPMENT: N/A

WORK HYGIENIC PRACTICES: Wash and launder clothing after working with product.

EXPOSURE GUIDELINES: N/A

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Heavy white liquid with ammonia odor.		
FLASH POINT:	240 °F	**LOWER EXPLOSIVE LIMIT:**	No data
METHOD USED:	TCC	**UPPER EXPLOSIVE LIMIT:**	No data
EVAPORATION RATE:	No data	**BOILING POINT:**	212 °F
pH (undiluted product):	No data	**MELTING POINT:**	No data
SOLUBILITY IN WATER:	Dilutable in water	**SPECIFIC GRAVITY:**	1.48
VAPOR DENSITY:	No data	**PERCENT VOLATILE:**	No data
VAPOR PRESSURE:	No data	**MOLECULAR WEIGHT:**	No data
VOC WITH WATER (LBS/GAL):	No data	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): N/A

INCOMPATIBILITY (MATERIAL TO AVOID): N/A

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon dioxide and carbon monoxide.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: No information available.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION

PROPER SHIPPING NAME: This product is not classified as a hazardous material for transport.

HAZARD CLASS: N/A

ID NUMBER: N/A

PACKING GROUP: N/A

LABEL STATEMENT: N/A

OTHER: N/A

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA

311/312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: None

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Calcium Carbonate	1317-65-3	No	Yes	Yes	No	Yes	Yes
Titanium Dioxide	13463-67-7	No	No	Yes	Yes	Yes	Yes
Zinc Oxide	1314-13-2	Yes	No	Yes	Yes	Yes	Yes
Graphite	7782-42-5	Yes	Yes	Yes	Yes	Yes	Yes
Propylene Glycol	107-21-1	No	No	Yes	Yes	No	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS MSDS: November 2004

CHANGES SINCE PREVIOUS MSDS: General MSDS update.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 2073
SDS Date: December 2014

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	FireShield® MB
TRADE NAME:	FireShield®
CHEMICAL NAME / SYNONYM:	N/A
CHEMICAL FAMILY:	N/A
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARD IDENTIFICATION

NFPA and HMIS RATINGS:

	NFPA Hazard Rating		HMIS Hazard Rating
Health	*1*	**Health**	*1*
Flammable	*1*	***Flammable***	*1*
Reactive	*0*	**Reactive**	*0*
Special Hazards	-	**Personal Protection**	X

GHS LABEL ELEMENTS:

GHS CLASSIFICATION:

Eye Irritant - Category 2A
Eye Damage - Category 1
Acute Toxicity - Category 4
Carcinogen - Category 2
Target Organ (SE) - Category 3
Target Organ (RE) – Category 1
Hazardous to the Aquatic Environment (chronic) - Category 1

GHS PICTOGRAMS: 

SIGNAL WORD: Danger

HAZARD STATEMENTS:
May cause damage to organs through prolonged or repeated exposure
May cause respiratory irritation
Causes skin irritation
May cause eye damage or serious eye irritation
Suspected of causing cancer
May cause drossiness or dizziness
Toxic to aquatic life with long lasting effects

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Inhalation, Skin Contact, Eye Contact

SIGNS & SYMPTOMS OF EXPOSURE

EYES: Exposure to vapors can cause irritation to the eyes.

SKIN: Slight irritation of the skin. Prolonged contact can cause reddening of the skin.

INGESTION: Headaches, nausea and diarrhea.

INHALATION: Vapors or mists can cause mental sluggishness, irritation of nasal passages, throat and lungs. Can cause headaches, nausea, diarrhea, and shortness of breath.

ACUTE HEALTH HAZARDS: See signs and symptoms of exposure above.

CHRONIC HEALTH HAZARDS: None known.

CARCINOGENICITY: Titanium Dioxide is classified as a 2B carcinogen (possibly carcinogenic to humans) by the International Agency for Research on Cancer (IARC).

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Aluminum Trihydrate	21645-51-2	20 – 40	5 mg/m3 – resp. 15 mg/m3 – total	3 mg/m3 – resp. 10 mg/m3 – total	REL: 5 mg/m3 – resp., 10 mg/m3 – total
Titanium Dioxide	13463-67-7	2 – 10	15 mg/m3 – total	10 mg/m3 – total	REL: lowest

					feasible concentration
Graphite	7782-42-5	2 – 10	15 mppcf	2 mg/m3 – resp.	REL: 2.5 mg/m3 – resp.
Zinc Borate	138265-88-0	2 – 10	5 mg/m3 – resp. 15 mg/m3 – total	3 mg/m3 – resp. 10 mg/m3 – total	REL: 5 mg/m3 – resp., 10 mg/m3 – total
Non-hazardous ingredients	-	55 – 65	NE	NE	NE

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Flush eyes with water for 15 minutes. If irritation persists, call a physician.

SKIN: Wash contaminated skin with soap and water

INHALATION: Remove patient to an area that has fresh air. If breathing has stopped, administer artificial respiration. Contact physician immediately.

INGESTION: If the patient is awake, induce vomiting by giving 2 glasses of water and pressing down at back of throat. Call physician immediately. Never give anything by mouth to an unconscious person.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: N/A

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA: Water spray, CO2, dry chemical or foam.

HAZARDOUS COMBUSTION PRODUCTS: Carbon monoxide and carbon dioxide.

RECOMMENDED FIRE FIGHTING PROCEDURES: Self-contained breathing apparatus recommended.

UNUSUAL FIRE & EXPLOSION HAZARDS: None known.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Dam up area to prevent spreading. Caution – area will be slippery. Use absorbent material to dry up the compound. Provide ventilation in closed areas.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Store in a well ventilated area at 50 – 80 °F.

OTHER PRECAUTIONS: Protect from freezing.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION: Local exhaust, mechanical ventilation.

RESPIRATORY PROTECTION: NIOSH approved respirator.

EYE PROTECTION: Chemical splash goggles.

SKIN PROTECTION: Impervious type gloves.

OTHER PROTECTIVE EQUIPMENT: N/A

WORK HYGIENIC PRACTICES: Wash and launder clothing after working with product.

EXPOSURE GUIDELINES: N/A

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Heavy white liquid with ammonia odor.		
FLASH POINT:	240 °F	**LOWER EXPLOSIVE LIMIT:**	No data
METHOD USED:	TCC	**UPPER EXPLOSIVE LIMIT:**	No data
EVAPORATION RATE:	1.0	**BOILING POINT:**	212 °F
pH (undiluted product):	No data	**MELTING POINT:**	No data
SOLUBILITY IN WATER:	Dilutable in water	**SPECIFIC GRAVITY:**	1.32
VAPOR DENSITY:	No data	**PERCENT VOLATILE:**	No data
VAPOR PRESSURE:	No data	**MOLECULAR WEIGHT:**	No data

VOC WITH WATER (LBS/GAL):	No data	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): N/A

INCOMPATIBILITY (MATERIAL TO AVOID): N/A

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon dioxide and carbon monoxide.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: No information available.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION

PROPER SHIPPING NAME:	This product is not classified as a hazardous material for transport.
HAZARD CLASS:	N/A
ID NUMBER:	N/A
PACKING GROUP:	N/A
LABEL STATEMENT:	N/A
OTHER:	N/A

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA

311/312 HAZARD CATEGORIES: Acute Health Hazard

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: None

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Aluminum Trihydrate	21645-51-2	No	No	No	No	No	No
Titanium Dioxide	13463-67-7	No	No	Yes	Yes	Yes	Yes
Graphite	7782-42-5	Yes	Yes	Yes	Yes	Yes	Yes
Zinc Borate	138265-88-0	Yes	Yes	Yes	Yes	No	No

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS SDS:	October 2013
CHANGES SINCE PREVIOUS SDS:	Headquarters Address Change

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 2074
SDS Date: December 2014

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	TOPCOAT® FireShield® SB
TRADE NAME:	TOPCOAT® FireShield® SB
CHEMICAL NAME / SYNONYM:	N/A
CHEMICAL FAMILY:	N/A
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARD IDENTIFICATION

NFPA and HMIS RATINGS:

	NFPA Hazard Rating		HMIS Hazard Rating
Health	*2*	**Health**	*2*
Flammable	*2*	***Flammable***	*2*
Reactive	*0*	**Reactive**	*0*
Special Hazards	-	**Personal Protection**	X

GHS LABEL ELEMENTS:

GHS CLASSIFICATION:

Eye Irritant - Category 2A
Eye Irritant - Category 2
Respiratory Irritant
Acute Toxicity - Category 4
Carcinogen - Category 1B
Mutagenicity - Category 1B
Aspiration Toxicity – Category 1
Target Organ (SE) - Category 3
Target Organ (RE) - Category 1
Hazardous to the Aquatic Environment (acute and chronic) - Category 2

GHS PICTOGRAMS: 

SIGNAL WORD: Danger

HAZARD STATEMENTS:

Extremely flammable liquid and vapor
May cause damage to organs through prolonged or repeated exposure
May cause respiratory irritation
Causes skin irritation
May cause serious eye irritation
May cause genetic defects
Suspected of causing cancer
Suspected of damaging fertility or the unborn child
May be fatal if swallowed or enters airways
May cause drossiness or dizziness
Toxic to aquatic life with long lasting effects

ADDITONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Inhalation, Skin Contact, Ingestion

SIGNS & SYMPTOMS OF EXPOSURE

EYES: Eye irritant. Contact with the liquid or exposure to mist or vapor may cause stinging, redness and swelling.

SKIN: May cause mild skin irritation. Prolonged contact may cause redness, burning and drying or cracking of the skin. Skin absorption may produce systemic toxicity.

INGESTION: Harmful or fatal if swallowed and /or vomiting occurs. Can enter lungs and cause damage.

INHALATION: High concentrations of vapor or mist may cause irritation of the nose and throat and signs of nervous system depression. Can cause headaches, drowsiness, dizziness, and a loss of coordination. May affect liver and kidney function. Could also cause damage to the respiratory system and have myocardial effects.

ACUTE HEALTH HAZARDS: See above signs and symptoms of exposure.

CHRONIC HEALTH HAZARDS: Respiratory or cardiovascular disorders may be aggravated by exposure to this material.

CARCINOGENICITY: Titanium Dioxide is classified as a 2B carcinogen (possibly carcinogenic to humans) by the International Agency for Research on Cancer (IARC).

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Light aromatic petroleum naphtha	64742-95-6	20 – 40	NE	NE	NE
Aluminum Trihydrate	21645-51-2	20 – 40	5 mg/m3 – resp. 15 mg/m3 – total	3 mg/m3 – resp. 10 mg/m3 – total	REL: 5 mg/m3 – resp. 10 mg/m3 – total
Titanium Dioxide	13463-67-7	10 – 20	5 mg/m3 – resp. 15 mg/m3 – total	3 mg/m3 – resp. 10 mg/m3 – total	REL: 5 mg/m3 – resp. 10 mg/m3 – total
Stoddard Solvent	8052-41-3	5 – 15	500 ppm	100 ppm	350 mg/m3
Graphite	7782-42-5	2 – 10	15 mppcf	2 mg/m3 – resp.	REL: 2.5 mg/m3 – resp.
Styrene-alphamethylstyrene resin	9011-11-4	2 – 10	NE	NE	NE
Non-hazardous ingredients	n/a	20 – 30	NE	NE	NE

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Flush eyes with water for 15 minutes. If irritation persists, call a physician.

SKIN: Wash contaminated skin with soap and water.

INHALATION: Remove patient to an area that has fresh air. If breathing has stopped, administer artificial respiration. Contact physician immediately.

INGESTION: If the patient is awake, induce vomiting by giving 2 glasses of water and pressing down at back of throat. Call physician immediately. Never give anything by mouth to an unconscious person.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: N/A

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water spray, CO2 and foam.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide or carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	Self-contained breathing apparatus recommended.
UNUSUAL FIRE & EXPLOSION HAZARDS:	Material is flammable and may be ignited by flames, sparks, heat or other sources of ignition.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Dam up area to prevent spreading of material. Use absorbent material to dry up liquid. Shut off all sources of open flames, electrical sparks or static electricity.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Store in a well-ventilated area between 50 – 80 °F. Avoid open flames, electrical sparks, or static.
OTHER PRECAUTIONS:	The container is hazardous when empty. Partially full or emptied container may contain explosive vapors. Do not cut, weld or solder on or near the container. Do not reuse empty container without commercial cleaning or reconditioning.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	Local exhaust, mechanical ventilation.
RESPIRATORY PROTECTION:	NIOSH approved respirator.
EYE PROTECTION:	Chemical safety goggles.
SKIN PROTECTION:	Impervious gloves.
OTHER PROTECTIVE EQUIPMENT:	N/A
WORK HYGIENIC PRACTICES:	Wash and launder clothing after working with product.

EXPOSURE GUIDELINES: N/A

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Heavy white paste, paint thinner odor (may be colored)		
FLASH POINT:	105 °F	**LOWER EXPLOSIVE LIMIT:**	0.5%
METHOD USED:	MCC	**UPPER EXPLOSIVE LIMIT:**	6.0%
EVAPORATION RATE:	.37	**BOILING POINT:**	310 – 355 °F
pH (undiluted product):	N/A	**MELTING POINT:**	No data
SOLUBILITY IN WATER:	Not water soluble	**SPECIFIC GRAVITY:**	1.21
VAPOR DENSITY:	4.2	**PERCENT VOLATILE:**	No data
VAPOR PRESSURE:	2.9 @ 20 °C	**MOLECULAR WEIGHT:**	No data
VOC WITH WATER (LBS/GAL):	No data	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): N/A

INCOMPATIBILITY (MATERIAL TO AVOID): Strong oxidizing agents.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon dioxide or carbon monoxide.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: No information available.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. If discarded in its purchased form, this product is a RCRA hazardous waste. It is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or residue of the product remains classified a hazardous waste as per 40 CFR 261, Subpart C. State or local regulations may also apply if they differ from the federal regulation.

RCRA HAZARD CLASS: D001, Ignitable hazardous waste

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION

PROPER SHIPPING NAME:	Flammable Liquid N.O.S.
HAZARD CLASS:	3
ID NUMBER:	UN 1993
PACKING GROUP:	III
LABEL STATEMENT:	Class 3 Flammable Liquid Label
OTHER:	N/A

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA

311/312 HAZARD CATEGORIES: Acute Health Hazard, Chronic Health Hazard, Fire Hazard

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: None

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Light aromatic petroleum naphtha	64742-95-6	No	No	No	No	No	No
Aluminum Trihydrate	21645-51-2	No	No	No	No	No	No
Titanium Dioxide	13463-67-7	No	No	Yes	Yes	Yes	Yes
Stoddard Solvent	8052-41-3	Yes	Yes	Yes	Yes	Yes	Yes
Graphite	7782-42-5	Yes	Yes	Yes	Yes	Yes	Yes
Styrene-alphamethylstyrene resin	9011-11-4	No	No	No	No	No	No

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS SDS: December 2013

CHANGES SINCE PREVIOUS SDS: Headquarters Address Change

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 2128
SDS Date: July 2019

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	TOPCOAT® FlexSeal Caulk Grade
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

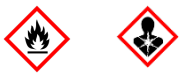
NFPA and HMIS RATINGS:

	NFPA Hazard Rating		HMIS Hazard Rating
Health	*2*	**Health**	*2*
Flammable	*2*	***Flammable***	*2*
Reactive	*0*	**Reactive**	*0*
Special Hazards	-	**Personal Protection**	X

GHS LABEL ELEMENTS:

GHS CLASSIFICATION:

Flammable Liquid - Category 2
Acute Toxicity - Category 4
Reproductive Toxicity – Cateogry2
Skin Irritant - Category 2
Respiratory Irritant
Target Organ (SE) - Category 3
Target Organ (RE) - Category 2
Eye damage - Category 1
Carcinogenicity - Category 2
Mutagenicity - Category 2
Hazardous to the Aquatic Environment (chronic) - Category 2

GHS PICTOGRAMS: 

SIGNAL WORD: Danger

HAZARD STATEMENTS:
Highly flammable liquid and vapor.
Causes serious eye irritation or damage.
May cause respiratory irritation.
Harmful if inhaled.
Harmful in contact with skin.
May be fatal if swallowed or enters airways.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure.
Suspecting of damaging fertility or the unborn child.
May cause genetic defects.
May cause drowsiness or dizziness.
Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:
Keep away from heat/sparks/open flames/hot surfaces – no smoking.
Keep out of reach of children.
Keep container tightly closed.
Read label before use.
Do not handle until all safety precautions have been read and understood.
In case of fire use a dry chemical fire extinguisher for extinction.
Wear protective rubber gloves and ANSI approved safety glasses when handling this product.
Dispose of contents and empty containers in accordance with local, state, and federal regulations.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Eye contact, Skin contact, Inhalation

SIGNS & SYMPTOMS OF EXPOSURE

EYES: This material is an eye irritant. Contact with the liquid or exposure to mist or vapor may cause stinging, redness and swelling.

SKIN: This material may cause mild skin irritation. Prolonged contact may cause redness, burning and drying or cracking of the skin. Skin absorption may produce systemic toxicity.

INGESTION: Harmful or fatal if swallowed and/or vomiting occurs. Can enter lungs and cause damage. This material can enter lungs during swallowing or vomiting and cause lung inflammation and damage.

INHALATION: High concentrations of vapor or mist may cause irritation of the nose and throat and signs of nervous system depression. Can cause headaches, drowsiness, dizziness, and loss of coordination. May affect liver, kidneys and respiratory system.

ACUTE HEALTH HAZARDS: See above.

CHRONIC HEALTH HAZARDS: None known.

CARCINOGENICITY: IARC has determined that occupational exposure to Titanium

Dioxide is possibly carcinogenic to humans (Group 2B). IARC concluded lung tumors were observed in rats following high dose exposure by inhalation and in female rats exposed by intra-tracheal instillation. Other studies have shown no tumors in rats following inhalation exposure and no tumors in mice or rats following oral exposure.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Calcium Carbonate	1317-65-3	30 – 40	5 mg/m3 – resp. 15 mg/m3 – total	3 mg/m3 – resp. 10 mg/m3 – total	REL: 5 mg/m3 – resp. 10 mg/m3 – total
Xylene	1330-20-7	10 – 20	100 ppm	100 ppm 125 ppm STEL	REL: 100 ppm 125 ppm STEL
Toluene	108-88-3	2 – 10	200 ppm 300 ppm ceiling	20 ppm	REL: 100 ppm 150 ppm STEL
Titanium Dioxide	13463-67-7	2-5	15 mg/m3 – total	10 mg/m3 – total	NE
Fumed Silica	112945-52-5	0 – 1	NE	NE	NE
Non-hazardous ingredients	n/a	24– 56	NE	NE	NE

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Flush eyes immediately with water for 15 minutes. Call a physician.

SKIN: Remove contaminated clothes. Wash exposed areas with soap and water. If redness or swelling develops, seek medical assistance.

INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. Call a physician.

INGESTION: Do not induce vomiting. Contact physician immediately.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: None.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water, fog, CO_2, and foam.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	Self contained breathing apparatus recommended.
UNUSUAL FIRE & EXPLOSION HAZARDS:	Material is flammable and may be ignited by flames, sparks, heat or other sources of ignition.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Dam up area to prevent spreading of material. Use absorbent material to dry up liquid. Shut off all sources of open flames, electrical sparks, or static electricity.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Store in a well ventilated area, 50 – 80 ^{o}F.
OTHER PRECAUTIONS:	Avoid open flames, electrical sparks or static electricity.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure limits.
RESPIRATORY PROTECTION:	Use NIOSH-approved respirator.
EYE PROTECTION:	Safety goggles or safety glasses with side shields.
SKIN PROTECTION:	Wear appropriate impermeable gloves and protective clothing as necessary to prevent skin contact.
OTHER PROTECTIVE EQUIPMENT:	N/A
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking, or smoking and at the end of each shift.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Heavy white paste with a solvent odor.		
FLASH POINT:	79 °F	**LOWER EXPLOSIVE LIMIT:**	1.1%
METHOD USED:	TCC	**UPPER EXPLOSIVE LIMIT:**	6.6%
EVAPORATION RATE:	0.8	**BOILING POINT:**	280 °F
pH (undiluted product):	No data	**MELTING POINT:**	No data
SOLUBILITY IN WATER:	No data	**SPECIFIC GRAVITY:**	1.24
VAPOR DENSITY:	3.7	**PERCENT VOLATILE:**	No data
VAPOR PRESSURE:	6.6 @ 20 °C	**MOLECULAR WEIGHT:**	No data
VOC WITH WATER (LBS/GAL):	No data	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): None known.

INCOMPATIBILITY (MATERIAL TO AVOID): Strong oxidizing agents.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon dioxide or carbon monoxide.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: No information available.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. If discarded in its purchased form, this product is a RCRA hazardous waste. It is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or residue of the product remains classified a hazardous waste as per 40 CFR 261, Subpart C. State or local regulations may also apply if they differ from the federal regulation.

SECTION 14: TRANSPORTATION INFORMATION

DOT

If individual container size is less than 5.0 liters (1.3 gallons), the proper shipping name is: Limited Quantity per DOT 173.150.

IATA

UN number	UN1307
UN proper shipping name	Xylenes
Hazard Class	3
Packing group	III
Description	UN1107, Xylenes, 3, III

IMDG

UN number	UN1307
UN proper shipping name	Xylenes
Hazard Class	3
Packing group	III
EmS-No	F-E, S-D
Description	UN1107, Xylenes, 3, III

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: CERCLA Hazardous Substances (40 CFR 302)

Reportable Quantity – Components

Xylene, 1330-20-7, 1000 lbs.
Toluene: 108-88-3, 1000 lbs.

SARA

311/312 HAZARD CATEGORIES: Acute Health Hazard, Chronic Health Hazard, Fire Hazard

313 REPORTABLE INGREDIENTS: Xylene 1330-20-7, 10 – 20%
Toluene 108-88-3, 2 – 10%

CALIFORNIA PROPOSITION 65: This product contains titanium dioxide, a chemical known to the state of California to cause cancer and toluene, a chemical known to the state of California to cause birth defects, or other reproductive harm.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Calcium Carbonate	1317-65-3	No	Yes	Yes	No	Yes	Yes
Xylene	1330-20-7	Yes	Yes	Yes	Yes	Yes	Yes
Toluene	108-88-3	Yes	Yes	Yes	Yes	Yes	Yes
Titanium Dioxide	13463-67-7	No	No	Yes	Yes	Yes	Yes
Fumed Silica	112945-52-5	No	No	No	No	No	No

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS SDS: January 2018

CHANGES SINCE PREVIOUS SDS: Updated Section 14.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 1057
SDS Date: July 2019

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	TOPCOAT® FlexSeal Sealant
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

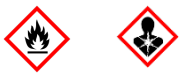
NFPA and HMIS RATINGS:

	NFPA Hazard Rating		HMIS Hazard Rating
Health	*2*	**Health**	*2*
Flammable	*2*	***Flammable***	*2*
Reactive	*0*	**Reactive**	*0*
Special Hazards	-	**Personal Protection**	X

GHS LABEL ELEMENTS:

GHS CLASSIFICATION:

Flammable Liquid - Category 2
Acute Toxicity - Category 4
Reproductive Toxicity – Cateogry2
Skin Irritant - Category 2
Respiratory Irritant
Target Organ (SE) - Category 3
Target Organ (RE) - Category 2
Eye damage - Category 1
Carcinogenicity - Category 2
Mutagenicity - Category 2
Hazardous to the Aquatic Environment (chronic) - Category 2

GHS PICTOGRAMS: 

SIGNAL WORD: Danger

HAZARD STATEMENTS:
Highly flammable liquid and vapor.
Causes serious eye irritation or damage.
May cause respiratory irritation.
Harmful if inhaled.
Harmful in contact with skin.
May be fatal if swallowed or enters airways.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure.
Suspecting of damaging fertility or the unborn child.
May cause genetic defects.
May cause drowsiness or dizziness.
Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:
Keep away from heat/sparks/open flames/hot surfaces – no smoking.
Keep out of reach of children.
Keep container tightly closed.
Read label before use.
Do not handle until all safety precautions have been read and understood.
In case of fire use a dry chemical fire extinguisher for extinction.
Wear protective rubber gloves and ANSI approved safety glasses when handling this product.
Dispose of contents and empty containers in accordance with local, state, and federal regulations.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Eye contact, Skin contact, Inhalation

SIGNS & SYMPTOMS OF EXPOSURE

EYES: This material is an eye irritant. Contact with the liquid or exposure to mist or vapor may cause stinging, redness and swelling.

SKIN: This material may cause mild skin irritation. Prolonged contact may cause redness, burning and drying or cracking of the skin. Skin absorption may produce systemic toxicity.

INGESTION: Harmful or fatal if swallowed and/or vomiting occurs. Can enter lungs and cause damage. This material can enter lungs during swallowing or vomiting and cause lung inflammation and damage.

INHALATION: High concentrations of vapor or mist may cause irritation of the nose and throat and signs of nervous system depression. Can cause headaches, drowsiness, dizziness, and loss of coordination. May affect liver, kidneys and respiratory system.

ACUTE HEALTH HAZARDS: See above.

CHRONIC HEALTH HAZARDS: None known.

CARCINOGENICITY: IARC has determined that occupational exposure to Titanium

Dioxide is possibly carcinogenic to humans (Group 2B). IARC concluded lung tumors were observed in rats following high dose exposure by inhalation and in female rats exposed by intra-tracheal instillation. Other studies have shown no tumors in rats following inhalation exposure and no tumors in mice or rats following oral exposure.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Calcium Carbonate	1317-65-3	30 – 40	5 mg/m3 – resp. 15 mg/m3 – total	3 mg/m3 – resp. 10 mg/m3 – total	REL: 5 mg/m3 – resp. 10 mg/m3 – total
Xylene	1330-20-7	10 – 20	100 ppm	100 ppm 125 ppm STEL	REL: 100 ppm 125 ppm STEL
Toluene	108-88-3	2 – 10	200 ppm 300 ppm ceiling	20 ppm	REL: 100 ppm 150 ppm STEL
Titanium Dioxide	13463-67-7	2-5	15 mg/m3 – total	10 mg/m3 – total	NE
Fumed Silica	112945-52-5	0 – 1	NE	NE	NE
Non-hazardous ingredients	n/a	24– 56	NE	NE	NE

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Flush eyes immediately with water for 15 minutes. Call a physician.

SKIN: Remove contaminated clothes. Wash exposed areas with soap and water. If redness or swelling develops, seek medical assistance.

INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. Call a physician.

INGESTION: Do not induce vomiting. Contact physician immediately.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: None.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water, fog, CO_2, and foam.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	Self contained breathing apparatus recommended.
UNUSUAL FIRE & EXPLOSION HAZARDS:	Material is flammable and may be ignited by flames, sparks, heat or other sources of ignition.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Dam up area to prevent spreading of material. Use absorbent material to dry up liquid. Shut off all sources of open flames, electrical sparks, or static electricity.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Store in a well ventilated area, 50 – 80 ^{o}F.
OTHER PRECAUTIONS:	Avoid open flames, electrical sparks or static electricity.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure limits.
RESPIRATORY PROTECTION:	Use NIOSH-approved respirator.
EYE PROTECTION:	Safety goggles or safety glasses with side shields.
SKIN PROTECTION:	Wear appropriate impermeable gloves and protective clothing as necessary to prevent skin contact.
OTHER PROTECTIVE EQUIPMENT:	N/A
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking, or smoking and at the end of each shift.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Heavy white paste with a solvent odor.		
FLASH POINT:	79 °F	**LOWER EXPLOSIVE LIMIT:**	1.1%
METHOD USED:	TCC	**UPPER EXPLOSIVE LIMIT:**	6.6%
EVAPORATION RATE:	0.8	**BOILING POINT:**	280 °F
pH (undiluted product):	No data	**MELTING POINT:**	No data
SOLUBILITY IN WATER:	No data	**SPECIFIC GRAVITY:**	1.24
VAPOR DENSITY:	3.7	**PERCENT VOLATILE:**	No data
VAPOR PRESSURE:	6.6 @ 20 °C	**MOLECULAR WEIGHT:**	No data
VOC WITH WATER (LBS/GAL):	No data	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): None known.

INCOMPATIBILITY (MATERIAL TO AVOID): Strong oxidizing agents.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon dioxide or carbon monoxide.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: No information available.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. If discarded in its purchased form, this product is a RCRA hazardous waste. It is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or residue of the product remains classified a hazardous waste as per 40 CFR 261, Subpart C. State or local regulations may also apply if they differ from the federal regulation.

SECTION 14: TRANSPORTATION INFORMATION

DOT

If individual container size is less than 5.0 liters (1.3 gallons), the proper shipping name is: Limited Quantity per DOT 173.150.

IATA

UN number	UN1307
UN proper shipping name	Xylenes
Hazard Class	3
Packing group	III
Description	UN1107, Xylenes, 3, III

IMDG

UN number	UN1307
UN proper shipping name	Xylenes
Hazard Class	3
Packing group	III
EmS-No	F-E, S-D
Description	UN1107, Xylenes, 3, III

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: CERCLA Hazardous Substances (40 CFR 302)

Reportable Quantity – Components

Xylene, 1330-20-7, 1000 lbs.
Toluene: 108-88-3, 1000 lbs.

SARA

311/312 HAZARD CATEGORIES: Acute Health Hazard, Chronic Health Hazard, Fire Hazard

313 REPORTABLE INGREDIENTS: Xylene 1330-20-7, 10 – 20%
Toluene 108-88-3, 2 – 10%

CALIFORNIA PROPOSITION 65: This product contains titanium dioxide, a chemical known to the state of California to cause cancer and toluene, a chemical known to the state of California to cause birth defects, or other reproductive harm.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Calcium Carbonate	1317-65-3	No	Yes	Yes	No	Yes	Yes
Xylene	1330-20-7	Yes	Yes	Yes	Yes	Yes	Yes
Toluene	108-88-3	Yes	Yes	Yes	Yes	Yes	Yes
Titanium Dioxide	13463-67-7	No	No	Yes	Yes	Yes	Yes
Fumed Silica	112945-52-5	No	No	No	No	No	No

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS SDS: January 2018

CHANGES SINCE PREVIOUS SDS: Updated Section 14.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 2201
SDS Date: December 2014

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	TOPCOAT® PVDF Coating
TRADE NAME:	N/A
CHEMICAL NAME / SYNONYM:	N/A
CHEMICAL FAMILY:	N/A
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARD IDENTIFICATION

NFPA and HMIS RATINGS:

	NFPA Hazard Rating		HMIS Hazard Rating
Health	*2*	**Health**	*2*
Flammable	*0*	***Flammable***	*0*
Reactive	*0*	**Reactive**	*0*
Special Hazards	-	**Personal Protection**	X

GHS LABEL ELEMENTS:

GHS CLASSIFICATION:

Eye Irritant - Category 2A
Skin Irritant - Category 2
Target Organ (SE) - Category 2
Target Organ (RE) - Category 2
Acute Toxicity - Category 4
Carcinogen - Category 2
Hazardous to the Aquatic Environment (chronic) - Category 4

GHS PICTOGRAMS: 

SIGNAL WORD: Danger

HAZARD STATEMENTS:
May cause damage to organs through prolonged or repeated exposure
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation
Harmful if swallowed
Suspected of causing cancer
May be harmful to aquatic life with long lasting effects

ADDITIONAL HAZARD INDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Inhalation, Skin Contact, Eye Contact

SIGNS & SYMPTOMS OF EXPOSURE

EYES: Exposure to vapors can cause irritation to the eyes.

SKIN: Prolonged exposure can cause irritation to the skin.

INGESTION: Not expected to be ingested.

INHALATION: May cause nose throat and lung irritation. Symptoms of excessive exposure may be anesthetic effects; dizziness and drowsiness may be observed.

ACUTE HEALTH HAZARDS: Contains high molecular weight polymers. Decomposition gives toxic and corrosive products. Inhalation of fumes may cause flu-like symptoms; headache, drowsiness, nausea, weakness.

CHRONIC HEALTH HAZARDS: None known

CARCINOGENICITY: IARC has determined that occupational exposure to Titanium Dioxide is possibly carcinogenic to humans (Group 2B). IARC concluded lung tumors were observed in rats following high dose exposure by inhalation and in female rats exposed by intra-tracheal instillation. Other studies have shown no tumors in rats following inhalation exposure and no tumors in mice or rats following oral exposure.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Diproylene glycol monomethyl ether	34590-94-8	0-5	600 mg/m3 100 ppm SKIN	100 ppm –TWA 150 ppm –STEL SKIN_DES – can be absorbed through skin.	NE
Titanium Dioxide	13463-67-7	10-20	15 mg/m3- total	10mg/m3- total	NE
Water	-	35-45	NE	NE	NE
Non-Hazardous Ingredients	-	35-45	NE	NE	NE

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Flush eyes with water for 15 minutes. If irritation persists, call a physician.

SKIN: Wash area thoroughly with soap and water. If irritation persists, call a physician.

INHALATION: Remove person to fresh air. If signs/symptoms continue, get medical attention.

INGESTION: If swallowed, seek medical attention.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: Hazardous decomposition products including toxic and corrosive Hydrogen fluoride (HF) may be liberated during processing at high temperatures. If thermal decomposition of this product occurs additional first aid measures are required and treatment for HF exposure.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA: Water spray, carbon dioxide, dry chemical or foam.

HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide, carbon monoxide and hydrogen flouride.
RECOMMENDED FIRE FIGHTING PROCEDURES:	Self-contained breathing apparatus recommended.
UNUSUAL FIRE & EXPLOSION HAZARDS:	When Burned, the following hazardous product of combustion can occur: Carbon oxides and Hydrogen flouride.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Contain spill to prevent spreading. Use absorbent material to dry up the compound. Provide adequate ventilation in closed areas.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Store in a well ventilated area.
OTHER PRECAUTIONS:	None

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure limits.
RESPIRATORY PROTECTION:	Use NIOSH-approved respirator.
EYE PROTECTION:	Safety goggles or safety glasses with side shields.
SKIN PROTECTION:	Wear appropriate impermeable gloves and protective clothing as necessary to prevent skin contact.
OTHER PROTECTIVE EQUIPMENT:	N/A
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking, or smoking and at the end of each shift.
EXPOSURE GUIDELINES:	N/A

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Heavy, white liquid with ammonia odor.

FLASH POINT:	➢ 200 F	**LOWER EXPLOSIVE LIMIT:**	No data
METHOD USED:	TCC	**UPPER EXPLOSIVE LIMIT:**	No data
EVAPORATION RATE:	1	**BOILING POINT:**	No data
pH (undiluted product):	8.2	**MELTING POINT:**	No data
SOLUBILITY IN WATER:	Dilutable in water	**SPECIFIC GRAVITY:**	1.39 g/ml
VAPOR DENSITY:	No data	**PERCENT VOLATILE:**	No data
VAPOR PRESSURE:	No data	**MOLECULAR WEIGHT:**	No data
VOC WITH WATER (LBS/GAL):	No data	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE** ☒ **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): None known.

INCOMPATIBILITY (MATERIAL TO AVOID): Strong oxidizing agents.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon monoxide, carbon dioxide and hydrogen fluoride.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: No information available. See section 3.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose in accordance with all federal, state and local waste disposal regulations.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION

PROPER SHIPPING NAME: This product is not classified as a hazardous material for transport.

HAZARD CLASS: N/A

ID NUMBER: N/A

PACKING GROUP: N/A

LABEL STATEMENT: N/A

OTHER: N/A

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: The components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA

311/312 HAZARD CATEGORIES: Acute Health Hazard, Chronic Health Hazard

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains a chemical known to the state of California to cause cancer and birth defects, or other reproductive harm.
Cancer: Titanium Dioxide

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Dipropylene glycol monomethyl ether	34590-94-8	No	Yes	No	Yes	Yes	No

Titanium Dioxide	13463-67-7	No	No	Yes	Yes	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS SDS: May 2013

CHANGES SINCE PREVIOUS SDS: Headquarters Address Change

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 2202
SDS Date: March 2018

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	TPO Red Primer
TRADE NAME:	N/A
CHEMICAL NAME / SYNONYM:	Solvent
CHEMICAL FAMILY:	Mixture
MANUFACTURER:	GAF Materials Corporation
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARD IDENTIFICATION

NFPA and HMIS RATINGS:

	NFPA Hazard Rating		HMIS Hazard Rating
Health	*2*	**Health**	*2*
Flammable	*3*	***Flammable***	*3*
Reactive	*0*	**Reactive**	*0*
Special Hazards	-	**Personal Protection**	X

GHS LABEL ELEMENTS:

GHS CLASSIFICATION:

Flammable Liquid - Category 2
Eye Irritant - Category 2A
Skin Irritant - Category 2
Respiratory Irritant
Target Organ (SE) - Category 3
Hazardous to the Aquatic Environment (chronic) - Category 2

GHS PICTOGRAMS: 

SIGNAL WORD: Danger

HAZARD STATEMENTS:

Highly flammable liquid and vapor.
Causes skin irritation.
Causes serious eye irritation.
May cause respiratory irritation.
Repeated exposure may cause skin dryness and cracking.
May cause drossiness or dizziness.
Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe vapors/spray.
Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Immediately call a poison center/doctor.
If on skin (or hair): Take off immediately all contaminated clothing.
Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Get medical advice/attention if you feel unwell.
Specific treatment (see on this label).
Do NOT induce vomiting.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.

ADDITIONAL HAZARD IDENTIFICATIN INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Inhalation, Skin Contact, Eye Contact, Ingestion

SIGNS & SYMPTOMS OF EXPOSURE

EYES: May cause severe eye irritation.

SKIN: May cause drying of skin resulting in skin irritation and dermatitis.

INGESTION: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May be harmful if swallowed.

INHALATION: Inhalation may cause central nervous system effects. May cause drowsiness or dizziness. May cause irritation to the respiratory tract. May be harmful if inhaled.

ACUTE HEALTH HAZARDS: See above.

CHRONIC HEALTH HAZARDS: May cause central nervous system depression (weakness, fatigue, dizziness, drowsiness, nausea, headache, and/or unconsciousness). Experiments for acetone have shown reproductive toxicity effects on laboratory animals. May cause

adverse effects to liver or kidney.

See section 11 for additional toxicological information.

CARCINOGENICITY: Not applicable.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Parachlorobenzo-trifluoride (PCBTF)	98-56-6	70-90%	NE	NE	NE
Acetone	67-64-1	10-30%	TWA (vacated): 750 ppm STEL(vacated): 1000 ppm TWA: 1000 ppm	TWA: 500 ppm STEL: 750 ppm	NIOSH IDLH: 2500 ppm TWA: 250 ppm
Trade Secret Material	N/A	1 - 20%	NE	NE	NE

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Flush with warm water for 15 minutes and seek immediate medical attention.

SKIN: Wash with soap and water for 15 minutes. If irritation persists, contact a physician.

INHALATION: Move victim to fresh air. If breathing has stopped, give artificial respiration. Seek immediate medical attention.

INGESTION: Do not induce vomiting. Get medical attention and advise the physician of the nature of the material.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: Treat symptomatically.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA: Foam, dry chemical, carbon dioxide, water spray.

HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide, carbon monoxide, chlorine compounds, fluoride compounds and hydrocarbons.
RECOMMENDED FIRE FIGHTING PROCEDURES:	Wear self-contained breathing apparatus with pressure-demand, full face piece SCBA and full protective gear.
UNUSUAL FIRE & EXPLOSION HAZARDS:	If product is heated above its flash point it will produce vapors sufficient to support combustion. Vapors may ignite and/or cause flash fires. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. Vapors are invisible, flammable, and heavier than air, and may accumulate in low areas and spread long distances.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Stay upwind, out of low areas, and ventilate closed spaces before entering. Eliminate all ignition sources (flames, hot surfaces and sources of electrical sparks). Dike and contain spill with inert material (e.g. sand, earth). Transfer liquids to covered containers for recovery or disposal, or remove with inert absorbent. Use only non-sparking tools. Place absorbent diking materials in covered containers for disposal. Prevent contamination of sewers, streams and groundwater with spilled material or used absorbent.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Keep container closed when not in use. Store in a cool, dry, and well-ventilated place. Keep away from heat and all sources of ignition.
OTHER PRECAUTIONS:	Containers may be hazardous when empty. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Static ignition hazard can result form handling and use. Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Special precautions may be necessary to dissipate static electricity for non-conductive containers.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	Provide sufficient mechanical ventilation to maintain exposure below exposure limits.
RESPIRATORY PROTECTION:	If personal exposure concentrations cannot be maintained below the appropriate exposure limits using engineering controls, a

	NIOSH/MSHA approved organic vapor air purifying respirator may be appropriate based on employer-determined exposure levels. Air supplied or SCBA respirators may be required when the measured chemical concentration exceeds the capacity of the air purifying respirator or when personal exposure levels are unknown.
EYE PROTECTION:	Wear safety glasses with side shields or chemical goggles; face shield if there is a potential for splashing.
SKIN PROTECTION:	Wear chemical resistant gloves when handling this product to avoid prolonged skin contact.
OTHER PROTECTIVE EQUIPMENT:	Various application methods can dictate the use of additional protective safety equipment such as chemical resistant boots, impermeable aprons, etc. when handling this product to avoid prolonged skin contact.
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking or smoking and at the end of each shift. Wash contaminated clothing prior to reuse. A source of clean water should be available to flush eyes and skin.
EXPOSURE GUIDELINES:	N/A

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Light red liquid with a distinct odor.		
FLASH POINT:	5°F	**LOWER EXPLOSIVE LIMIT:**	No data
METHOD USED:	CC	**UPPER EXPLOSIVE LIMIT:**	No data
EVAPORATION RATE:	11.2 (n-Butyl Acetate = 1)	**BOILING POINT:**	161.6°F
pH (undiluted product):	No data	**MELTING POINT:**	-139°F
SOLUBILITY IN WATER:	Insoluble	**SPECIFIC GRAVITY:**	>1
VAPOR DENSITY:	2-6 Air = 1	**PERCENT VOLATILE:**	No data
VAPOR PRESSURE:	No data	**MOLECULAR WEIGHT:**	No data
VOC WITH WATER (LBS/GAL):	No data	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): Avoid heat, flames, sparks, and other sources of ignition. Avoid incompatiable materials. Avoid prolonged storage at elevated temperatures.

INCOMPATIBILITY (MATERIAL TO AVOID): Avoid contact with combustible materials strong oxidizing agents, acids, bases, peroxides.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon Monoxide, carbon dioxide, chlorine compounds, fluoride compounds, hydrocarbons, formaldehyde, methanol.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Chemical Name	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
Parachlorobenzo-trifluoride (PCBTF)	>6800 mg/kg	>2700 mg/kg	4479 ppm (4hr dose)
Acetone	5800 mg/kg	Not Listed	Not Listed

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION:

Chemical Name	Freshwater Algea	Freshwater Fish	Microtox	Water Flea
Acetone	Not listed	Leuciscus idus: LC50 = 11300 mg/L/48h Salmo gairdneri: LC50 = 6100 mg/L/24h	EC50 = 14500 mg/L/15 min	EC50 = 39 mg/L/48h EC50 = 12700 mg/L/48h EC50 = 12600 mg/L/48h

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. If discarded in its purchased form, this product is a RCRA hazardous waste. It is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or residue of the product remains classified a

hazardous waste as per 40 CFR 261, Subpart C. State or local regulations may also apply if they differ from the federal regulation.

RCRA HAZARD CLASS: D001, Ignitable Hazardous Waste

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION

PROPER SHIPPING NAME:	Flammable Liquid N.O.S. (contains Acetone, Parachlorobenzo-trifluoride)
HAZARD CLASS:	3
ID NUMBER:	UN1993
PACKING GROUP:	II
LABEL STATEMENT:	N/A
OTHER:	N/A

I.A.T.A.

PROPER SHIPPING NAME:	Flammable Liquid N.O.S. (contains Acetone, Parachlorobenzo-trifluoride)
HAZARD CLASS:	3
ID NUMBER:	UN1993
PACKING GROUP:	II
LABEL STATEMENT:	N/A
OTHER:	N/A

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are not listed on the TSCA 8(b) inventory.

CERCLA: This material, as supplied contains one or more substances regulated as a

hazardous substance under CERCLA (40 CFR 302)

Component	Hazardous Substance RQs	CERCLA EHS RQs
Acetone	5000 lb	-

SARA

311/312 HAZARD CATEGORIES: Fire Hazard, Acute Health Hazard

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: None

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Parachlorobenzo-trifluoride (PCBTF)	98-56-6	Yes	Yes	Yes	Yes	Yes	Yes
Trade Secret Material	_	No	No	No	Yes	No	No
Acetone	67-64-1	Yes	Yes	Yes	Yes	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: N/A

DATE OF PREVIOUS SDS: December 2014

CHANGES SINCE PREVIOUS SDS: Update to Sections 2 and 4.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 2269
SDS Date: April 2018

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Tri-Ply® BUR Granule Cap Sheet
TRADE NAME:	Roll Roofing
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

ADDITIONAL HAZARD IDENTIFICATIN INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Occasional nuisance dust, Inhalation

SIGNS & SYMPTOMS OF EXPOSURE

EYES: May cause irritation to the eyes.

SKIN: May cause irritation to the skin.

INGESTION: Not applicable.

INHALATION: May cause irritation to the respiratory tract.

ACUTE HEALTH HAZARDS: NIOSH has found that studies of workers exposed to asphalt

fumes have repeatedly found irritation of the serous membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation).

CHRONIC HEALTH HAZARDS: Studies in humans have found that exposure to respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is a serious and irreversible disease; it may be progressive even after exposure has ceased; it can lead to disability and death. Human studies also have found that silicosis is a risk factor for tuberculosis, and that occupational exposure to respirable crystalline silica is associated with chronic obstructive pulmonary disease, including bronchitis and emphysema. Some studies show excess numbers of cases of scleroderma, connective tissue disorders, lupus, rheumatoid arthritis, chronic kidney diseases and end-stage kidney disease in workers exposed to respirable crystalline silica.

CARCINOGENICITY: Crystalline Silica: The International Agency for Research on Cancer (IARC) Group 1 - Known Human Carcinogen (listed under Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources).

IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A).

IARC has determined that occupational exposure to Titanium Dioxide is possibly carcinogenic to humans (Group 2B).

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Granules	-	~40	NE	NE	NE
Limestone	1317-65-3	~25	5 mg/m3 resp. 15 mg/m3 total	3 mg/m3 resp. 10 mg/m3 total	REL: 5 mg/m3 resp. 15 mg/m3 total
Oxidized Asphalt	64742-93-4	~20	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	5 mg/m3 – ceiling (15 min. fumes)
Fiberglass Mat	65997-17-3	2-3	1 f/cc – resp.	1 f/cc – resp.	REL: 5 mg/m3 – total fibers
Titanium Dioxide	13463-67-7	0 – 4	15 mg/m3 total	10 mg/m3 total	NE
Silica, Crystalline Quartz	14808-60-7	0.1-1	50 ug/m^3 / (% SiO2 + 2) – resp.	0.025 mg/m3	REL: 0.05 mg/m3 – resp.

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES:	Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.
SKIN:	Wash exposed skin with soap and water. If irritation develops or persists, seek medical attention.
INHALATION:	More individual to area with fresh air and provide oxygen if breathing is difficult. Consult medical personnel.
INGESTION:	Consult medical personnel.
NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:	Dust from the product may cause mechanical irritation of the eyes, skin, and upper respiratory tract. Treat symptomatically.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water spray, Alcohol foam, Carbon Dioxide, or Dry chemical.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	NIOSH-approved self-contained breathing apparatus is recommended for smoke protection.
UNUSUAL FIRE & EXPLOSION HAZARDS:	None.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Pick up large pieces. Avoid creating dusts during clean up. Use a dust suppressant if sweeping is necessary.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Hot asphalt is used to apply many of these products; appropriate personal protective equipment should be worn handling this material.
OTHER PRECAUTIONS:	When heated, small amounts of hydrogen sulfide may be given

off. Hydrogen sulfide is a flammable, toxic gas. Avoid breathing fumes.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	Not Applicable.
RESPIRATORY PROTECTION:	Not applicable under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable exposure levels, appropriate NIOSH approved respiratory protection is recommended.
EYE PROTECTION:	Safety glasses with side shields
SKIN PROTECTION:	Cotton or leather gloves are recommended when handling.
OTHER PROTECTIVE EQUIPMENT:	Work shoes.
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.
EXPOSURE GUIDELINES:	These products should be handled using methods and techniques that minimize or eliminate dust or fume generation.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Thin black sheet in roll form, may be surfaced with granules, talc, sand or film. Slight asphalt odor.		
FLASH POINT:	>500° F	**LOWER EXPLOSIVE LIMIT:**	No Data
METHOD USED:	COC	**UPPER EXPLOSIVE LIMIT:**	No Data
EVAPORATION RATE:	No Data	**BOILING POINT:**	No Data
pH (undiluted product):	No Data	**MELTING POINT:**	No Data
SOLUBILITY IN WATER:	No Data	**SPECIFIC GRAVITY:**	No Data
VAPOR DENSITY:	No Data	**PERCENT VOLATILE:**	No Data
VAPOR PRESSURE:	No Data	**MOLECULAR WEIGHT:**	No Data
VOC WITH WATER (LBS/GAL):	No Data	**WITHOUT WATER (LBS/GAL):**	No Data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY:	**STABLE X**	**UNSTABLE ☐**
CONDITIONS TO AVOID (STABILITY):	None known.	
INCOMPATIBILITY (MATERIAL TO AVOID):	None known.	
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:	None known.	
HAZARDOUS POLYMERIZATION:	Will not occur.	

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Crystalline silica is considered a hazard by inhalation. The International Agency for Research on Cancer (IARC) has classified crystalline silica as a Group 1 substance, carcinogenic to humans. This classification is based on the findings of laboratory animal studies (inhalation and implantation) and epidemiology studies that were considered sufficient for carcinogenicity. Excessive exposure to crystalline silica can cause silicosis, a non-cancerous lung disease.

IARC has determined that occupational exposure to Titanium Dioxide is possibly carcinogenic to humans (Group 2B).

IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A).

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of waste material according to Local, State, and Federal, environmental regulations.

SECTION 14: TRANSPORTATION INFORMATION

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA

311/312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains silica and titanium dioxide, chemicals known to the State of California to cause cancer.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Oxidized Asphalt	64742-93-4	No	No	No	No	No	No
Crystalline Silica	14808-60-7	Yes	Yes	Yes	Yes	Yes	Yes
Titanium Dioxide	13463-67-7	No	Yes	Yes	Yes	Yes	Yes
Limestone	1317-65-3	No	Yes	Yes	No	Yes	Yes
Fiberglass Mat	65997-17-3	Yes	No	Yes	Yes	No	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS SDS: October 2014

CHANGES SINCE PREVIOUS SDS: Update to Sections 2, 3 and 15.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 1006A
SDS Date: June 2013

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Tri-Ply® SBS Granule Surfaced
TRADE NAME:	Roll Roofing
CHEMICAL NAME / SYNONYM:	N/A
CHEMICAL FAMILY:	N/A
MANUFACTURER:	GAF
ADDRESS:	1361 Alps Road, Wayne, NJ 07470
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Occasional nuisance dust, Inhalation

SIGNS & SYMPTOMS OF EXPOSURE

EYES: May cause irritation to the eyes.

SKIN: May cause irritation to the skin.

INGESTION: This product is not intended to be ingested. If ingested, it may

cause temporary irritation to the gastrointestinal (digestive) tract.

INHALATION: May cause irritation to the respiratory tract.

ACUTE HEALTH HAZARDS: NIOSH has found that studies of workers exposed to asphalt fumes have repeatedly found irritation of the serous membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation).

CHRONIC HEALTH HAZARDS: Studies in humans have found that exposure to respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is a serious and irreversible disease; it may be progressive even after exposure has ceased; it can lead to disability and death. Human studies also have found that silicosis is a risk factor for tuberculosis, and that occupational exposure to respirable crystalline silica is associated with chronic obstructive pulmonary disease, including bronchitis and emphysema. Some studies show excess numbers of cases of scleroderma, connective tissue disorders, lupus, rheumatoid arthritis, chronic kidney diseases and end-stage kidney disease in workers exposed to respirable crystalline silica.

CARCINOGENICITY: IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A). IARC concluded that available data from cancer studies in humans points to an association between exposures to oxidized asphalts during roofing and lung cancer and tumors in the upper aero-digestive tract. In addition, IARC found sufficient evidence of carcinogenicity in experimental animals for extracts and fume condensates of oxidized asphalts.

NIOSH has concluded that the collective data from human, animal, genotoxicity and exposure studies provide sufficient evidence that roofing asphalt fumes are a potential occupational carcinogen.

Occupational exposure to respirable crystalline silica is classified as a known carcinogen in humans. IARC has determined that respirable crystalline silica is carcinogenic to humans (Group 1), based on findings of sufficient evidence of carcinogenicity in both humans and experimental animals. NTP has classified respirable crystalline silica as a known human carcinogen based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between occupational exposure to respirable crystalline silica and increased lung cancer rates. NIOSH has determined that respirable crystalline silica is a potential occupational carcinogen.

IARC has determined that occupational exposure to Titanium Dioxide is possibly carcinogenic to humans (Group 2B). IARC concluded lung tumors were observed in rats following high dose exposure by inhalation and in female rats exposed by intra-tracheal instillation. Other studies have shown no tumors in rats following inhalation exposure and no tumors in mice or rats following oral exposure.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Oxidized Asphalt	64742-93-4	40-45	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	5 mg/m3 – ceiling (15 min. fumes)
Granules	-	~30	NE	NE	NE
Limestone	1317-65-3	~15	5 mg/m3 resp. 15 mg/m3 total	3 mg/m3 resp. 10 mg/m3 total	REL: 5 mg/m3 resp. 15 mg/m3 total
Titanium Dioxide	13463-67-7	0 – 4	15 mg/m3 total	10 mg/m3 total	
Silica, Crystalline Quartz	14808-60-7	0.1-1	10 mg/m3 / (% SiO2 + 2) – resp.	0.025 mg/m3	REL: 0.05 mg/m3 – resp.

NE = Not Established

SECTION 4: FIRST AID MEASRURES

FIRST AID PROCEDURES

EYES: Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.

SKIN: If contacted by hot asphalt. Cool with ice or water. Do not attempt to remove asphalt immediately. Consult medical personnel.

INHALATION: Remove to fresh uncontaminated air.

INGESTION: Not expected to be ingested.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: Water-Jel has been shown to be an effective agent in softening and removing asphalt.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water spray, Alcohol foam, Carbon Dioxide, or Dry chemical.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	NIOSH-approved self-contained breathing apparatus is recommended for smoke protection.
UNUSUAL FIRE & EXPLOSION HAZARDS:	N/A

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Pick up large pieces. Avoid creating dusts during clean up.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Hot asphalt is used to apply many of these products; appropriate personal protective equipment should be worn handling this material.
OTHER PRECAUTIONS:	Avoid breathing the fumes from hot asphalt.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	N/A
RESPIRATORY PROTECTION:	N/A under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable exposure levels, appropriate NIOSH approved respiratory protection is recommended.
EYE PROTECTION:	Safety glasses with side shields
SKIN PROTECTION:	Cotton or leather gloves are recommended when handling.
OTHER PROTECTIVE EQUIPMENT:	None
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.
EXPOSURE GUIDELINES:	These products should be handled using methods and techniques that minimize or eliminate dust or fume generation.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Thin black sheet in roll form, may be surfaced with granules, talc, sand or film. Slight asphalt odor.		
FLASH POINT:	>500° F	**LOWER EXPLOSIVE LIMIT:**	No Data
METHOD USED:	COC	**UPPER EXPLOSIVE LIMIT:**	No Data
EVAPORATION RATE:	No Data	**BOILING POINT:**	No Data
pH (undiluted product):	No Data	**MELTING POINT:**	No Data
SOLUBILITY IN WATER:	No Data	**SPECIFIC GRAVITY:**	No Data
VAPOR DENSITY:	No Data	**PERCENT VOLATILE:**	No Data
VAPOR PRESSURE:	No Data	**MOLECULAR WEIGHT:**	No Data
VOC WITH WATER (LBS/GAL):	No Data	**WITHOUT WATER (LBS/GAL):**	No Data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): None known.

INCOMPATIBILITY (MATERIAL TO AVOID): None known.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: None known.

HAZARDOUS POLYMERIZATION: Will Not Occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: None available for the product. See section 3.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION

PROPER SHIPPING NAME: N/A

HAZARD CLASS: N/A

ID NUMBER: N/A

PACKING GROUP: N/A

LABEL STATEMENT: N/A

OTHER: N/A

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA

311/312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains a chemical known to the state of California to cause cancer and birth defects, or other reproductive harm.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Oxidized Asphalt	64742-93-4	No	No	No	No	No	No
Crystalline Silica	14808-60-7	Yes	Yes	Yes	Yes	Yes	Yes
Titanium Dioxide	13463-67-7	No	Yes	Yes	Yes	Yes	Yes
Limestone	1317-65-3	No	Yes	Yes	No	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS SDS: March 2012

CHANGES SINCE PREVIOUS SDS: GHS formatting changes.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 2268
SDS Date: April 2018

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Tri-Ply® #75 Base Sheet Tri-Ply® Ply 4 Tri-Ply® Ply 6
TRADE NAME:	Built Up Roofing
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Occasional nuisance dust, Inhalation

SIGNS & SYMPTOMS OF EXPOSURE

EYES:	Temporary irritation (itching) or redness may occur.
SKIN:	Temporary irritation (itching) or redness may occur.
INGESTION:	Not Applicable
INHALATION:	May cause irritation to the respiratory tract.

ACUTE HEALTH HAZARDS: NIOSH has found that studies of workers exposed to asphalt fumes have repeatedly found irritation of the serous membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation).

CHRONIC HEALTH HAZARDS: Studies in humans have found that exposure to respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is a serious and irreversible disease; it may be progressive even after exposure has ceased; it can lead to disability and death.

CARCINOGENICITY: Crystalline Silica: The International Agency for Research on Cancer (IARC) Group 1 - Known Human Carcinogen (listed under Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources).

IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A).

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Oxidized Asphalt	64742-93-4	60 - 65	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	5 mg/m3 – ceiling (15 min. fumes)
Fiberglass Mat	65997-17-3	30	1 f/cc – resp.	1 f/cc – resp.	REL: 5 mg/m3 – total fibers
Silica, Crystalline Quartz	14808-60-7	0.1 - 1	50 ug/m^3 / (% SiO2 + 2) – resp.	0.025 mg/m3	REL: 0.05 mg/m3 – resp.

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.

SKIN: Wash exposed skin with soap and water. If irritation develops or persists, seek medical attention.

INHALATION: More individual to area with fresh air and provide oxygen if breathing is difficult. Consult medical personnel.

INGESTION:	Consult medical personnel.
NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:	Dust from the product may cause mechanical irritation of the eyes, skin, and upper respiratory tract. Treat symptomatically.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water spray, Alcohol foam, Carbon Dioxide, or Dry chemical.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	NIOSH-approved self contained breathing apparatus is recommended for smoke protection.
UNUSUAL FIRE & EXPLOSION HAZARDS:	None.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Pick up pieces and dispose off properly. Vacuum dust. Use a dust suppressant if sweeping is necessary.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Hot asphalt is used to apply many of these products; appropriate personal protective equipment should be worn handling this material.
OTHER PRECAUTIONS:	When heated, small amounts of hydrogen sulfide may be given off. Hydrogen sulfide is a flammable, toxic gas. Avoid breathing fumes.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	Not Applicable
RESPIRATORY PROTECTION:	Not applicable under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable exposure levels, appropriate NIOSH approved respiratory protection is recommended.
EYE PROTECTION:	Safety glasses with side shields

SKIN PROTECTION:	Long sleeve shirt and long pants. Suitable gloves should be worn to protect against mechanical abrasion.
OTHER PROTECTIVE EQUIPMENT:	Work shoes.
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.
EXPOSURE GUIDELINES:	These products should be handled using methods and techniques that minimize or eliminate dust or fume generation.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Thin black sheet in roll form, may be surfaced with granules, talc, sand or film. Slight asphalt odor.		
FLASH POINT:	>500° F	**LOWER EXPLOSIVE LIMIT:**	No Data
METHOD USED:	COC	**UPPER EXPLOSIVE LIMIT:**	No Data
EVAPORATION RATE:	No Data	**BOILING POINT:**	No Data
pH (undiluted product):	No Data	**MELTING POINT:**	No Data
SOLUBILITY IN WATER:	No Data	**SPECIFIC GRAVITY:**	No Data
VAPOR DENSITY:	No Data	**PERCENT VOLATILE:**	No Data
VAPOR PRESSURE:	No Data	**MOLECULAR WEIGHT:**	No Data
VOC WITH WATER (LBS/GAL):	No Data	**WITHOUT WATER (LBS/GAL):**	No Data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY):	None known.
INCOMPATIBILITY (MATERIAL TO AVOID):	None known.
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:	None known.
HAZARDOUS POLYMERIZATION:	Will Not Occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Crystalline silica is considered a hazard by inhalation. The International Agency for Research on Cancer (IARC) has classified crystalline silica as a Group 1 substance, carcinogenic to humans. This classification is based on the findings of laboratory animal studies (inhalation and implantation) and epidemiology studies that were considered sufficient for carcinogenicity. Excessive exposure to crystalline silica can cause silicosis, a non-cancerous lung disease.

IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A).

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of waste material according to Local, State, and Federal, environmental regulations.

SECTION 14: TRANSPORTATION INFORMATION

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA

311/312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains silica, a chemical known to the State of California to cause cancer.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Oxidized Asphalt	64742-93-4	No	No	No	No	No	No
Crystalline Silica	14808-60-7	Yes	Yes	Yes	Yes	Yes	Yes
Fiberglass Mat	65997-17-3	Yes	No	Yes	Yes	No	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS SDS: October 2016

CHANGES SINCE PREVIOUS SDS: Product Name Revisions

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 1004D
SDS Date: October 2013

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Tri-Ply® TP-4G Granule Surfaced
TRADE NAME:	Roll Roofing
CHEMICAL NAME / SYNONYM:	N/A
CHEMICAL FAMILY:	N/A
MANUFACTURER:	GAF
ADDRESS:	1361 Alps Road, Wayne, NJ 07470
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Occasional nuisance dust, Inhalation

SIGNS & SYMPTOMS OF EXPOSURE

EYES: May cause irritation to the eyes.

SKIN: May cause irritation to the skin.

INGESTION: This product is not intended to be ingested. If ingested, it may cause temporary irritation to the gastrointestinal (digestive) tract.

INHALATION: May cause irritation to the respiratory tract.

ACUTE HEALTH HAZARDS: NIOSH has found that studies of workers exposed to asphalt fumes have repeatedly found irritation of the serous membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation).

CHRONIC HEALTH HAZARDS: Studies in humans have found that exposure to respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is a serious and irreversible disease; it may be progressive even after exposure has ceased; it can lead to disability and death. Human studies also have found that silicosis is a risk factor for tuberculosis, and that occupational exposure to respirable crystalline silica is associated with chronic obstructive pulmonary disease, including bronchitis and emphysema. Some studies show excess numbers of cases of scleroderma, connective tissue disorders, lupus, rheumatoid arthritis, chronic kidney diseases and end-stage kidney disease in workers exposed to respirable crystalline silica.

CARCINOGENICITY: NIOSH has concluded that the collective data from human, animal, genotoxicity and exposure studies provide sufficient evidence that roofing asphalt fumes are a potential occupational carcinogen.

Occupational exposure to respirable crystalline silica is classified as a known carcinogen in humans. IARC has determined that respirable crystalline silica is carcinogenic to humans (Group 1), based on findings of sufficient evidence of carcinogenicity in both humans and experimental animals. NTP has classified respirable crystalline silica as a known human carcinogen based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between occupational exposure to respirable crystalline silica and increased lung cancer rates. NIOSH has determined that respirable crystalline silica is a potential occupational carcinogen.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Asphalt	8052-42-4	~35	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	REL: 5 mg/m3 – Ceiling (15 min. fumes)
Granules	-	~35	NE	NE	NE

Limestone ($CaCO_3$) or	1317-65-3	~16	5 mg/m3 resp. 15 mg/m3 total	NE	REL: 5 mg/m3 resp. 10 mg/m3 total
Talc (containing no asbestos)	14807-96-6	~16	20 mppcf (containing <1% Quartz)	2 mg/m^3	REL: 2 mg/m3 – resp.
Non-Hazardous Ingredients	-	~15	NE	NE	NE
Silica, Crystalline Quartz	14808-60-7	0.1-1	10 mg/m3 / (% SiO_2 + 2) – resp.	0.025 mg/m3	REL: 0.05 mg/m3 – resp.
Titanium Dioxide	13463-67-7	0.1-1	15 mg/m3 total	10 mg/m3 total	NE

NE = Not Established

SECTION 4: FIRST AID MEASRURES

FIRST AID PROCEDURES

EYES: Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.

SKIN: If contacted by hot asphalt. Cool with ice or water. Do not attempt to remove asphalt immediately. Consult medical personnel.

INHALATION: Remove to fresh uncontaminated air.

INGESTION: Not expected to be ingested.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: Water-Jel has been shown to be an effective agent in softening and removing asphalt.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA: Water spray, Alcohol foam, Carbon Dioxide, or Dry chemical.

HAZARDOUS COMBUSTION PRODUCTS: Carbon dioxide and carbon monoxide.

RECOMMENDED FIRE FIGHTING PROCEDURES: NIOSH-approved self-contained breathing apparatus is recommended for smoke protection.

UNUSUAL FIRE & EXPLOSION HAZARDS: N/A

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Pick up large pieces. Avoid creating dusts during clean up.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Hot asphalt is used to apply many of these products; appropriate personal protective equipment should be worn handling this material.

OTHER PRECAUTIONS: Avoid breathing the fumes from hot asphalt.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION: N/A

RESPIRATORY PROTECTION: N/A under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable exposure levels, appropriate NIOSH approved respiratory protection is recommended.

EYE PROTECTION: Safety glasses with side shields

SKIN PROTECTION: Cotton or leather gloves are recommended when handling.

OTHER PROTECTIVE EQUIPMENT: None

WORK HYGIENIC PRACTICES: Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.

EXPOSURE GUIDELINES: These products should be handled using methods and techniques that minimize or eliminate dust or fume generation.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Thin black sheet in roll form, may be surfaced with granules, talc, sand or film. Slight asphalt odor.		
FLASH POINT:	>500° F	**LOWER EXPLOSIVE LIMIT:**	No Data
METHOD USED:	COC	**UPPER EXPLOSIVE LIMIT:**	No Data
EVAPORATION RATE:	No Data	**BOILING POINT:**	No Data

pH (undiluted product):	No Data	**MELTING POINT:**	No Data
SOLUBILITY IN WATER:	No Data	**SPECIFIC GRAVITY:**	No Data
VAPOR DENSITY:	No Data	**PERCENT VOLATILE:**	No Data
VAPOR PRESSURE:	No Data	**MOLECULAR WEIGHT:**	No Data
VOC WITH WATER (LBS/GAL):	No Data	**WITHOUT WATER (LBS/GAL):**	No Data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): None known.

INCOMPATIBILITY (MATERIAL TO AVOID): None known.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: None known.

HAZARDOUS POLYMERIZATION: Will Not Occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: None available for the product. See section 3.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION

PROPER SHIPPING NAME: N/A

HAZARD CLASS: N/A

ID NUMBER: N/A

PACKING GROUP: N/A

LABEL STATEMENT: N/A

OTHER: N/A

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA

311/312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains a chemical known to the state of California to cause cancer and birth defects, or other reproductive harm.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Asphalt	8052-42-4	Yes	Yes	Yes	Yes	Yes	Yes
Limestone	1317-65-3	No	Yes	Yes	No	Yes	Yes
Talc (containing no asbestos)	14807-96-6	Yes	No	Yes	Yes	Yes	Yes
Crystalline Silica	14808-60-7	Yes	Yes	Yes	Yes	Yes	Yes

Titanium Dioxide	13463-67-7	No	Yes	Yes	Yes	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS SDS: February 2012

CHANGES SINCE PREVIOUS SDS: GHS formatting changes.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 1004C
SDS Date: August 2013

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Tri-Ply® TP-4 Smooth
TRADE NAME:	Roll Roofing
CHEMICAL NAME / SYNONYM:	N/A
CHEMICAL FAMILY:	N/A
MANUFACTURER:	GAF
ADDRESS:	1361 Alps Road, Wayne, NJ 07470
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Occasional nuisance dust, Inhalation

SIGNS & SYMPTOMS OF EXPOSURE

EYES: May cause irritation to the eyes.

SKIN: May cause irritation to the skin.

INGESTION: This product is not intended to be ingested. If ingested, it may cause temporary irritation to the gastrointestinal (digestive) tract.

INHALATION: May cause irritation to the respiratory tract.

ACUTE HEALTH HAZARDS: NIOSH has found that studies of workers exposed to asphalt fumes have repeatedly found irritation of the serous membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation).

CHRONIC HEALTH HAZARDS: See below – carcinogenicity.

CARCINOGENICITY: NIOSH has concluded that the collective data from human, animal, genotoxicity and exposure studies provide sufficient evidence that roofing asphalt fumes are a potential occupational carcinogen.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Asphalt	8052-42-4	50-55	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	REL: 5 mg/m3 – Ceiling (15 min. fumes)
Limestone ($CaCO_3$) or	1317-65-3	~25	5 mg/m3 resp. 15 mg/m3 total	NE	REL: 5 mg/m3 resp. 10 mg/m3 total
Talc (containing no asbestos)	14807-96-6	~25	20 mppcf (containing <1% Quartz)	2 mg/m^3	REL: 2 mg/m3 – resp.
Non-Hazardous Ingredients	-	~25	NE	NE	NE

NE = Not Established

SECTION 4: FIRST AID MEASRURES

FIRST AID PROCEDURES

EYES: Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.

SKIN: If contacted by hot asphalt. Cool with ice or water. Do not attempt to

	remove asphalt immediately. Consult medical personnel.
INHALATION:	Remove to fresh uncontaminated air.
INGESTION:	Not expected to be ingested.
NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:	Water-Jel has been shown to be an effective agent in softening and removing asphalt.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water spray, Alcohol foam, Carbon Dioxide, or Dry chemical.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	NIOSH-approved self-contained breathing apparatus is recommended for smoke protection.
UNUSUAL FIRE & EXPLOSION HAZARDS:	N/A

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Pick up large pieces. Avoid creating dusts during clean up.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Hot asphalt is used to apply many of these products; appropriate personal protective equipment should be worn handling this material.
OTHER PRECAUTIONS:	Avoid breathing the fumes from hot asphalt.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	N/A
RESPIRATORY PROTECTION:	N/A under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable exposure levels, appropriate NIOSH approved respiratory protection is recommended.

EYE PROTECTION:	Safety glasses with side shields
SKIN PROTECTION:	Cotton or leather gloves are recommended when handling.
OTHER PROTECTIVE EQUIPMENT:	None
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.
EXPOSURE GUIDELINES:	These products should be handled using methods and techniques that minimize or eliminate dust or fume generation.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Thin black sheet in roll form, may be surfaced with granules, talc, sand or film. Slight asphalt odor.		
FLASH POINT:	>500° F	**LOWER EXPLOSIVE LIMIT:**	No Data
METHOD USED:	COC	**UPPER EXPLOSIVE LIMIT:**	No Data
EVAPORATION RATE:	No Data	**BOILING POINT:**	No Data
pH (undiluted product):	No Data	**MELTING POINT:**	No Data
SOLUBILITY IN WATER:	No Data	**SPECIFIC GRAVITY:**	No Data
VAPOR DENSITY:	No Data	**PERCENT VOLATILE:**	No Data
VAPOR PRESSURE:	No Data	**MOLECULAR WEIGHT:**	No Data
VOC WITH WATER (LBS/GAL):	No Data	**WITHOUT WATER (LBS/GAL):**	No Data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY):	None known.
INCOMPATIBILITY (MATERIAL TO AVOID):	None known.
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:	None known.
HAZARDOUS POLYMERIZATION:	Will Not Occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: None available for the product. See section 3.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION

PROPER SHIPPING NAME:	N/A
HAZARD CLASS:	N/A
ID NUMBER:	N/A
PACKING GROUP:	N/A
LABEL STATEMENT:	N/A
OTHER:	N/A

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA

311/312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains a chemical known to the state of California to cause cancer and birth defects, or other reproductive harm.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Asphalt	8052-42-4	Yes	Yes	Yes	Yes	Yes	Yes
Limestone	1317-65-3	No	Yes	Yes	No	Yes	Yes
Talc (containing no asbestos)	14807-96-6	Yes	No	Yes	Yes	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS SDS: January 2011

CHANGES SINCE PREVIOUS SDS: GHS formatting changes.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Material Safety Data Sheet
MSDS # 2156
MSDS Date: February 2012

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	UnderRoof 2
TRADE NAME:	Roll Roofing
CHEMICAL NAME / SYNONYM:	N/A
CHEMICAL FAMILY:	N/A
MANUFACTURER:	GAF
ADDRESS:	1361 Alps Road, Wayne, NJ 07470
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

	NFPA Hazard Rating		HMIS Hazard Rating
Health	1	**Health**	1
Flammable	1	**Flammable**	1
Reactive	0	**Reactive**	0
Special Hazards	-	**Personal Protection**	X

OSHA HAZARDOUS: **Yes** **No X**

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Asphalt	8052-42-4	~45	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	REL: 5 mg/m3 – Ceiling (15 min. fumes)

Non-Hazardous Material	-	~40	NE	NE	NE
Limestone	1317-65-3	10-15	5 mg/m3 resp. 15 mg/m3 total	3 mg/m3 resp. 10 mg/m3 total	REL: 5 mg/m3 resp. 15 mg/m3 total

NE = Not Established

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products above are considered articles and do not require an MSDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

SECTION 3: HAZARDS IDENTIFICATION

PRIMARY ROUTE OF EXPOSURE: Occasional nuisance dust, Inhalation

SIGNS & SYMPTOMS OF EXPOSURE

EYES: May cause irritation to the eyes.

SKIN: May cause irritation to the skin.

INGESTION: This product is not intended to be ingested. If ingested, it may cause temporary irritation to the gastrointestinal (digestive) tract.

INHALATION: May cause irritation to the respiratory tract.

ACUTE HEALTH HAZARDS: NIOSH has found that studies of workers exposed to asphalt fumes have repeatedly found irritation of the serous membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation).

CHRONIC HEALTH HAZARDS: See below - carcinogenicity.

CARCINOGENICITY: NIOSH has concluded that the collective data from human, animal, genotoxicity and exposure studies provide sufficient evidence that roofing asphalt fumes are a potential occupational carcinogen.

SECTION 4: FIRST AID MEASRURES

FIRST AID PROCEDURES

EYES:	Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.
SKIN:	If contacted by hot asphalt. Cool with ice or water. Do not attempt to remove asphalt immediately. Consult medical personnel.
INHALATION:	Remove to fresh uncontaminated air.
INGESTION:	Not expected to be ingested.
NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:	Water-Jel has been shown to be an effective agent in softening and removing asphalt.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water spray, Alcohol foam, Carbon Dioxide, or Dry chemical.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	NIOSH-approved self contained breathing apparatus is recommended for smoke protection.
UNUSUAL FIRE & EXPLOSION HAZARDS:	N/A

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Pick up large pieces. Avoid creating dusts during clean up.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Hot asphalt is used to apply many of these products; appropriate personal protective equipment should be worn handling this material.
OTHER PRECAUTIONS:	Avoid breathing the fumes from hot asphalt.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / N/A

VENTILATION:

RESPIRATORY PROTECTION:	N/A under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable exposure levels, appropriate NIOSH approved respiratory protection is recommended.
EYE PROTECTION:	Safety glasses with side shields
SKIN PROTECTION:	Cotton or leather gloves are recommended when handling.
OTHER PROTECTIVE EQUIPMENT:	None
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.
EXPOSURE GUIDELINES:	These products should be handled using methods and techniques that minimize or eliminate dust or fume generation.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Thin black sheet in roll form, may be surfaced with granules, talc, sand or film. Slight asphalt odor.		
FLASH POINT:	>500° F	**LOWER EXPLOSIVE LIMIT:**	No Data
METHOD USED:	COC	**UPPER EXPLOSIVE LIMIT:**	No Data
EVAPORATION RATE:	No Data	**BOILING POINT:**	No Data
pH (undiluted product):	No Data	**MELTING POINT:**	No Data
SOLUBILITY IN WATER:	No Data	**SPECIFIC GRAVITY:**	No Data
VAPOR DENSITY:	No Data	**PERCENT VOLATILE:**	No Data
VAPOR PRESSURE:	No Data	**MOLECULAR WEIGHT:**	No Data
VOC WITH WATER (LBS/GAL):	No Data	**WITHOUT WATER (LBS/GAL):**	No Data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY):	None known.
INCOMPATIBILITY (MATERIAL TO AVOID):	None known.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: None known.

HAZARDOUS POLYMERIZATION: Will Not Occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: None available for the product. See section 3.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION

PROPER SHIPPING NAME: N/A

HAZARD CLASS: N/A

ID NUMBER: N/A

PACKING GROUP: N/A

LABEL STATEMENT: N/A

OTHER: N/A

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA

311/312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains a chemical known to the state of California to cause cancer and birth defects, or other reproductive harm.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Asphalt	8052-42-4	Yes	Yes	Yes	Yes	Yes	Yes
Limestone	1317-65-3	No	Yes	Yes	No	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS MSDS: October 2009

CHANGES SINCE PREVIOUS MSDS: Added additional ingredient information.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Material Safety Data Sheet
MSDS # 2156
MSDS Date: February 2012

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	UnderRoof 2
TRADE NAME:	Roll Roofing
CHEMICAL NAME / SYNONYM:	N/A
CHEMICAL FAMILY:	N/A
MANUFACTURER:	GAF
ADDRESS:	1361 Alps Road, Wayne, NJ 07470
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

	NFPA Hazard Rating		HMIS Hazard Rating
Health	1	**Health**	1
Flammable	1	**Flammable**	1
Reactive	0	**Reactive**	0
Special Hazards	-	**Personal Protection**	X

OSHA HAZARDOUS: **Yes** **No X**

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Asphalt	8052-42-4	~45	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	REL: 5 mg/m3 – Ceiling (15 min. fumes)

Non-Hazardous Material	-	~40	NE	NE	NE
Limestone	1317-65-3	10-15	5 mg/m3 resp. 15 mg/m3 total	3 mg/m3 resp. 10 mg/m3 total	REL: 5 mg/m3 resp. 15 mg/m3 total

NE = Not Established

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products above are considered articles and do not require an MSDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

SECTION 3: HAZARDS IDENTIFICATION

PRIMARY ROUTE OF EXPOSURE: Occasional nuisance dust, Inhalation

SIGNS & SYMPTOMS OF EXPOSURE

EYES: May cause irritation to the eyes.

SKIN: May cause irritation to the skin.

INGESTION: This product is not intended to be ingested. If ingested, it may cause temporary irritation to the gastrointestinal (digestive) tract.

INHALATION: May cause irritation to the respiratory tract.

ACUTE HEALTH HAZARDS: NIOSH has found that studies of workers exposed to asphalt fumes have repeatedly found irritation of the serous membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation).

CHRONIC HEALTH HAZARDS: See below - carcinogenicity.

CARCINOGENICITY: NIOSH has concluded that the collective data from human, animal, genotoxicity and exposure studies provide sufficient evidence that roofing asphalt fumes are a potential occupational carcinogen.

SECTION 4: FIRST AID MEASRURES

FIRST AID PROCEDURES

EYES:	Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.
SKIN:	If contacted by hot asphalt. Cool with ice or water. Do not attempt to remove asphalt immediately. Consult medical personnel.
INHALATION:	Remove to fresh uncontaminated air.
INGESTION:	Not expected to be ingested.
NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:	Water-Jel has been shown to be an effective agent in softening and removing asphalt.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water spray, Alcohol foam, Carbon Dioxide, or Dry chemical.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	NIOSH-approved self contained breathing apparatus is recommended for smoke protection.
UNUSUAL FIRE & EXPLOSION HAZARDS:	N/A

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Pick up large pieces. Avoid creating dusts during clean up.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Hot asphalt is used to apply many of these products; appropriate personal protective equipment should be worn handling this material.
OTHER PRECAUTIONS:	Avoid breathing the fumes from hot asphalt.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / N/A

VENTILATION:

RESPIRATORY PROTECTION:	N/A under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable exposure levels, appropriate NIOSH approved respiratory protection is recommended.
EYE PROTECTION:	Safety glasses with side shields
SKIN PROTECTION:	Cotton or leather gloves are recommended when handling.
OTHER PROTECTIVE EQUIPMENT:	None
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.
EXPOSURE GUIDELINES:	These products should be handled using methods and techniques that minimize or eliminate dust or fume generation.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Thin black sheet in roll form, may be surfaced with granules, talc, sand or film. Slight asphalt odor.		
FLASH POINT:	>500° F	**LOWER EXPLOSIVE LIMIT:**	No Data
METHOD USED:	COC	**UPPER EXPLOSIVE LIMIT:**	No Data
EVAPORATION RATE:	No Data	**BOILING POINT:**	No Data
pH (undiluted product):	No Data	**MELTING POINT:**	No Data
SOLUBILITY IN WATER:	No Data	**SPECIFIC GRAVITY:**	No Data
VAPOR DENSITY:	No Data	**PERCENT VOLATILE:**	No Data
VAPOR PRESSURE:	No Data	**MOLECULAR WEIGHT:**	No Data
VOC WITH WATER (LBS/GAL):	No Data	**WITHOUT WATER (LBS/GAL):**	No Data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY):	None known.
INCOMPATIBILITY (MATERIAL TO AVOID):	None known.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: None known.

HAZARDOUS POLYMERIZATION: Will Not Occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: None available for the product. See section 3.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION

PROPER SHIPPING NAME: N/A

HAZARD CLASS: N/A

ID NUMBER: N/A

PACKING GROUP: N/A

LABEL STATEMENT: N/A

OTHER: N/A

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA

311/312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains a chemical known to the state of California to cause cancer and birth defects, or other reproductive harm.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Asphalt	8052-42-4	Yes	Yes	Yes	Yes	Yes	Yes
Limestone	1317-65-3	No	Yes	Yes	No	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS MSDS: October 2009

CHANGES SINCE PREVIOUS MSDS: Added additional ingredient information.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 2095
SDS Date: July 2018

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Timbertex® Ridglass® Seal-A-Ridge® Seal-A-Ridge® ArmorShield™ Z®Ridge TimberCrest™
TRADE NAME:	Asphalt / Fiberglass Shingles
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

ADDITONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Occasional nuisance dust, Inhalation

SIGNS & SYMPTOMS OF EXPOSURE

Eyes: May cause irritation to the eyes.

Skin: May cause irritation to the skin.

Ingestion: This product is not intended to be ingested. If ingested, it may cause temporary irritation to the gastrointestinal (digestive) tract.

Inhalation: May cause irritation to the respiratory tract.

ACUTE HEALTH HAZARDS: NIOSH has found that studies of workers exposed to asphalt fumes have repeatedly found irritation of the serous membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation).

CHRONIC HEALTH HAZARDS: Studies in humans have found that exposure to respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is a serious and irreversible disease; it may be progressive even after exposure has ceased; it can lead to disability and death. Human studies also have found that silicosis is a risk factor for tuberculosis, and that occupational exposure to respirable crystalline silica is associated with chronic obstructive pulmonary disease, including bronchitis and emphysema. Some studies show excess numbers of cases of scleroderma, connective tissue disorders, lupus, rheumatoid arthritis, chronic kidney diseases and end-stage kidney disease in workers exposed to respirable crystalline silica.

CARCINOGENICITY: IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A). IARC concluded that available data from cancer studies in humans points to an association between exposures to oxidized asphalts during roofing and lung cancer and tumors in the upper aero-digestive tract. In addition, IARC found sufficient evidence of carcinogenicity in experimental animals for extracts and fume condensates of oxidized asphalts.

NIOSH has concluded that the collective data from human, animal, genotoxicity and exposure studies provide sufficient evidence that roofing asphalt fumes are a potential occupational carcinogen.

Occupational exposure to respirable crystalline silica is classified as a known carcinogen in humans. IARC has determined that respirable crystalline silica is carcinogenic to humans (Group 1), based on findings of sufficient evidence of carcinogenicity in both humans and experimental animals. NTP has classified respirable crystalline silica as a known human carcinogen based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between exposure to respirable crystalline silica and increased lung cancer rates in workers exposed to crystalline silica dust. NIOSH has determined that respirable crystalline silica is a potential occupational carcinogen.

IARC has determined that occupational exposure to Titanium Dioxide is possibly carcinogenic to humans (Group 2B). IARC concluded lung tumors were observed in rats following high dose exposure by inhalation and in female rats exposed by intra-tracheal instillation. Other studies have shown no tumors in rats following inhalation exposure and no tumors in mice or rats following oral exposure.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**%**	**OSHA**	**ACGIH**	**OTHER**
Granules	-	20 – 45	NE	NE	NE
Limestone	1317-65-3	25 – 45	5 mg/m3 – resp. 15 mg/m3 – total	3 mg/m3 – resp. 10 mg/m3 – total	REL: 5 mg/m3 – resp. 10 mg/m3 – total
Oxidized Asphalt	64742-93-4	10 – 30	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	5 mg/m3 – ceiling (15 min. fumes)
Crystalline Silica	14808-60-7	0 – 10	50 µg/m³	0.025 mg/m3	REL: 0.05 mg/m3 – resp.
Fiberglass Mat	65997-17-3	1 – 3	1 f/cc – resp.	1 f/cc – resp.	REL: 5 mg/m3 – total fibers
Titanium Dioxide	13463-67-7	0 – 4	15 mg/m3 – total	10 mg/m3 – total	REL: lowest feasible concentration

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.

SKIN: Wash affected area thoroughly with soap and water.

INHALATION: Remove to fresh uncontaminated air.

INGESTION: Not expected to be ingested.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: No information available

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA: Water spray, Alcohol foam, Carbon Dioxide, or Dry chemical.

HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	NIOSH-approved self contained breathing apparatus is recommended for smoke protection.
UNUSUAL FIRE & EXPLOSION HAZARDS:	N/A

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Pick up large pieces. Avoid creating dusts during clean up.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	No specific handling or storage requirements.
OTHER PRECAUTIONS:	None

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	N/A
RESPIRATORY PROTECTION:	N/A under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable exposure levels, appropriate NIOSH approved respiratory protection is recommended.
EYE PROTECTION:	Safety glasses with side shields
SKIN PROTECTION:	Cotton or leather gloves are recommended when handling.
OTHER PROTECTIVE EQUIPMENT:	None
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Granule coated shingle; no appreciable odor.		
FLASH POINT:	> 550 °F	**LOWER EXPLOSIVE LIMIT:**	No data
METHOD USED:	No data	**UPPER EXPLOSIVE LIMIT:**	No data

EVAPORATION RATE:	No data	**BOILING POINT:**	No data
pH (undiluted product):	No data	**MELTING POINT:**	No data
SOLUBILITY IN WATER:	No data	**SPECIFIC GRAVITY:**	No data
VAPOR DENSITY:	No data	**PERCENT VOLATILE:**	No data
VAPOR PRESSURE:	No data	**MOLECULAR WEIGHT:**	No data
VOC WITH WATER (LBS/GAL):	No data	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): None known.

INCOMPATIBILITY (MATERIAL TO AVOID): None known.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon Dioxide and Carbon Monoxide

HAZARDOUS POLYMERIZATION: Will Not Occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: None available for the product. See section 3.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA None

311 / 312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains silica and titanium dioxide, chemicals known to the State of California to cause cancer.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Limestone	1317-65-3	No	Yes	Yes	No	Yes	Yes
Oxidized Asphalt	64742-93-4	No	No	No	No	No	No
Crystalline Silica	14808-60-7	Yes	Yes	Yes	Yes	Yes	Yes
Fiberglass Mat	65997-17-3	Yes	No	Yes	Yes	No	Yes
Titanium Dioxide	13463-67-7	No	Yes	Yes	Yes	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS:	None.
DATE OF PREVIOUS SDS:	December 2014
CHANGES SINCE PREVIOUS SDS:	Update to OSHA silica PEL.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 1030
SDS Date: March 2018

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Purity™ Shingle Wavy, Purity™ Shingle Straight, Purity™ Shingle Thatched, Profile 9 Shingle, Profile 12 Shingle, Profile 14 Shingle, Emphasis™ Shingle
TRADE NAME:	WeatherSide™
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Inhalation (occasional nuisance dust) – no exposure expected when handling under normal conditions. Dust exposure is possible when mechanical manipulation (sawing, etc.).

SIGNS & SYMPTOMS OF EXPOSURE

EYES: May cause irritation to the eyes.

SKIN: May cause irritation to the skin.

INGESTION: This product is not intended to be ingested. If ingested, it may cause temporary irritation to the gastrointestinal (digestive) tract.

INHALATION: May cause irritation to the respiratory tract.

ACUTE HEALTH HAZARDS: None known.

CHRONIC HEALTH HAZARDS: Studies in humans have found that exposure to respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is a serious and irreversible disease; it may be progressive even after exposure has ceased; it can lead to disability and death. Human studies also have found that silicosis is a risk factor for tuberculosis, and that occupational exposure to respirable crystalline silica is associated with chronic obstructive pulmonary disease, including bronchitis and emphysema. Some studies show excess numbers of cases of scleroderma, connective tissue disorders, lupus, rheumatoid arthritis, chronic kidney diseases and end-stage kidney disease in workers exposed to respirable crystalline silica.

CARCINOGENICITY: Occupational exposure to respirable crystalline silica is classified as a known carcinogen in humans. IARC has determined that respirable crystalline silica is carcinogenic to humans (Group 1), based on findings of sufficient evidence of carcinogenicity in both humans and experimental animals. NTP has classified respirable crystalline silica as a known human carcinogen based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between occupational exposure to respirable crystalline silica and increased lung cancer rates. NIOSH has determined that respirable crystalline silica is a potential occupational carcinogen.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Silica, Crystalline Quartz	14808-60-7	20-80	50 µg/m3	0.025 mg/m3	REL: 0.05 mg/m3 – resp.
Amorphous Silica	69012-64-2	10 – 40	NE	NE	NE
Cellulose Pulp	9004-34-6	2 – 20	5 mg/m3 – resp. 15 mg/m3 – total	10 mg/m3 – total	REL: 5 mg/m3 – resp. 10 mg/m3 – total
Calcium Sulfate	7778-18-9	1 – 5	5 mg/m3 – resp. 15 mg/m3 – total	10 mg/m3 – total	REL: 5 mg/m3 – resp. 10 mg/m3 – total
Zirconium Oxide	1314-23-4	0 – 5	5 mg/m3 – resp.	5 mg/m3 (as Zr)	5 mg/m3 (as Zr)

			(as Zr)	10 mg/m3 STEL (as Zr)	10 mg/m3 STEL (as Zr)
Activated Carbon	7440-44-0	0 – 5	5 mg/m3 – resp. 15 mg/m3 – total	NE	NE

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.

SKIN: Wash affected area thoroughly with soap and water.

INHALATION: Remove to fresh uncontaminated air.

INGESTION: Not expected to be ingested.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: No information available

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA: Water spray, alcohol foam, carbon dioxide, or dry chemical.

HAZARDOUS COMBUSTION PRODUCTS: The shingle itself does not burn. The coating may burn off and release carbon dioxide and carbon monoxide.

RECOMMENDED FIRE FIGHTING PROCEDURES: Not Applicable

UNUSUAL FIRE & EXPLOSION HAZARDS: Not Applicable

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Pick up large pieces. Avoid creating dusts during clean up.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: No specific handling or storage requirements.

OTHER PRECAUTIONS: None

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION: Not Applicable

RESPIRATORY PROTECTION: Respiratory protection may be needed when mechanically manipulating this product (sawing, cutting, etc.). If respiratory protection is selected, a NIOSH-approved dust mask or respirator should be worn. Selection and use of specific respirators should meet applicable standards set by state and Federal OSHA standards for respiratory protection.

EYE PROTECTION: Safety glasses with side shields.

SKIN PROTECTION: Cotton or leather gloves are recommended when handling.

OTHER PROTECTIVE EQUIPMENT: None

WORK HYGIENIC PRACTICES: Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.

EXPOSURE GUIDELINES: Not Applicable

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	White painted or coated textured cement shingle; no appreciable odor.		
FLASH POINT:	Not Applicable	**LOWER EXPLOSIVE LIMIT:**	Not Applicable
METHOD USED:	Not Applicable	**UPPER EXPLOSIVE LIMIT:**	Not Applicable
EVAPORATION RATE:	Not Applicable	**BOILING POINT:**	Not Applicable
pH (undiluted product):	Not Applicable	**MELTING POINT:**	Not Applicable
SOLUBILITY IN WATER:	Not Applicable	**SPECIFIC GRAVITY:**	Not Applicable
VAPOR DENSITY:	Not Applicable	**PERCENT VOLATILE:**	Not Applicable
VAPOR PRESSURE:	Not Applicable	**MOLECULAR WEIGHT:**	Not Applicable

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY:	**STABLE X**	**UNSTABLE ☐**
CONDITIONS TO AVOID (STABILITY):	None known.	
INCOMPATIBILITY (MATERIAL TO AVOID):	None known.	
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:	None known.	
HAZARDOUS POLYMERIZATION:	Will not occur.	

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: None available for the product. See section 3.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION

PROPER SHIPPING NAME: This product is not classified as a hazardous material for transport.

HAZARD CLASS: Not Applicable.

ID NUMBER: Not Applicable.

PACKING GROUP: Not Applicable.

LABEL STATEMENT: Not Applicable.

OTHER: Not Applicable.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA

311/312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains silica, a chemical known to the state of California to cause cancer.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Crystalline Silica	14808-60-7	Yes	Yes	Yes	Yes	Yes	Yes
Amorphous Silica	69012-64-2	No	No	No	No	No	No
Activated Carbon	7440-44-0	No	No	No	No	Yes	Yes
Calcium Sulfate	7778-18-9	No	No	Yes	Yes	Yes	Yes
Cellulose Pulp	9004-34-6	No	No	Yes	Yes	Yes	Yes
Zirconium Oxide	1314-23-4	Yes *	No	Yes *	No	No	Yes *

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS SDS:	September 2013
CHANGES SINCE PREVIOUS SDS:	Update to Section 3.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 1008A
SDS Date: October 2019

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Weather Watch 2.0 Weather Watch 1.5 StormGuard Storm Flash
TRADE NAME:	Roll Roofing
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Occasional nuisance dust, Inhalation

SIGNS & SYMPTOMS OF EXPOSURE

EYES: May cause irritation to the eyes.

SKIN: May cause irritation to the skin.

INGESTION: This product is not intended to be ingested. If ingested, it may cause temporary irritation to the gastrointestinal (digestive) tract.

INHALATION: May cause irritation to the respiratory tract.

ACUTE HEALTH HAZARDS: None known.

CHRONIC HEALTH HAZARDS: Studies in humans have found that exposure to respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is a serious and irreversible disease; it may be progressive even after exposure has ceased; it can lead to disability and death. Human studies also have found that silicosis is a risk factor for tuberculosis, and that occupational exposure to respirable crystalline silica is associated with chronic obstructive pulmonary disease, including bronchitis and emphysema. Some studies show excess numbers of cases of scleroderma, connective tissue disorders, lupus, rheumatoid arthritis, chronic kidney diseases and end-stage kidney disease in workers exposed to respirable crystalline silica.

CARCINOGENICITY: NIOSH has concluded that the collective data from human, animal, genotoxicity and exposure studies provide sufficient evidence that roofing asphalt fumes are a potential occupational carcinogen.

Occupational exposure to respirable crystalline silica is classified as a known carcinogen in humans. IARC has determined that respirable crystalline silica is carcinogenic to humans (Group 1), based on findings of sufficient evidence of carcinogenicity in both humans and experimental animals. NTP has classified respirable crystalline silica as a known human carcinogen based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between occupational exposure to respirable crystalline silica and increased lung cancer rates. NIOSH has determined that respirable crystalline silica is a potential occupational carcinogen.

IARC has determined that occupational exposure to Titanium Dioxide is possibly carcinogenic to humans (Group 2B). IARC concluded lung tumors were observed in rats following high doseexposure by inhalation and in female rats exposed by intra-tracheal instillation. Other studies have shown no tumors in rats following inhalation exposure and no tumors in mice or rats following oral exposure.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Granules/Slag	-	40-50	NE	NE	NE
Asphalt	8052-42-4	25-30	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	5 mg/m3 – ceiling (15 min. fumes)
Limestone	1317-65-3	5-10	5 mg/m3 resp. 15 mg/m3 total	3 mg/m3 resp. 10 mg/m3 total	REL: 5 mg/m3 resp. 15 mg/m3 total
Fiberglass Mat	65997-17-3	1-3	1 f/cc – resp.	1 f/cc – resp.	REL: 5 mg/m3 – total fibers
Silica, Crystalline Quartz	14808-60-7	0-1	50 ug/m3 / (% SiO2 + 2) – resp.	0.025 mg/m3	REL: 0.05 mg/m3 – resp.
Titanium Dioxide	13463-67-7	0–1	15 mg/m3 total	10 mg/m3 total	NE

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.

SKIN: Wear appropriate gloves. If contacted by hot asphalt cool with ice or water. Do not attempt to remove asphalt immediately. Consult medical personnel.

INHALATION: Move to fresh air.

INGESTION: Not expected to be ingested.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: Treat symptomatically

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water spray, alcohol foam, carbon dioxide, or dry chemical.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	NIOSH-approved self contained breathing apparatus is recommended for smoke protection.
UNUSUAL FIRE & EXPLOSION HAZARDS:	None.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Pick up large pieces. Avoid creating dusts during clean up.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Store in a cool, dry place.
OTHER PRECAUTIONS:	None.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	Not applicable.
RESPIRATORY PROTECTION:	Not required under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable exposure levels, appropriate NIOSH approved respiratory protection is recommended.
EYE PROTECTION:	Safety glasses with side shields
SKIN PROTECTION:	Cotton or leather gloves are recommended when handling.
OTHER PROTECTIVE EQUIPMENT:	None
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.

EXPOSURE GUIDELINES: These products should be handled using methods and techniques that minimize or eliminate dust or fume generation.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Thin black sheet in roll form, may be surfaced with granules, talc, sand or film. Slight asphalt odor.		
FLASH POINT:	>500° F	**LOWER EXPLOSIVE LIMIT:**	No Data
METHOD USED:	COC	**UPPER EXPLOSIVE LIMIT:**	No Data
EVAPORATION RATE:	No Data	**BOILING POINT:**	No Data
pH (undiluted product):	No Data	**MELTING POINT:**	No Data
SOLUBILITY IN WATER:	No Data	**SPECIFIC GRAVITY:**	No Data
VAPOR DENSITY:	No Data	**PERCENT VOLATILE:**	No Data
VAPOR PRESSURE:	No Data	**MOLECULAR WEIGHT:**	No Data
VOC WITH WATER (LBS/GAL):	No Data	**WITHOUT WATER (LBS/GAL):**	No Data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): None known.

INCOMPATIBILITY (MATERIAL TO AVOID): None known.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: None known.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: None available for the product. See section 3.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA

311/312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains silica and titanium dioxide, chemicals known to the state of California to cause cancer.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Asphalt	8052-42-4	Yes	Yes	Yes	Yes	Yes	Yes
Crystalline Silica	14808-60-7	Yes	Yes	Yes	Yes	Yes	Yes
Titanium Dioxide	13463-67-7	No	Yes	Yes	Yes	Yes	Yes
Limestone	1317-65-3	No	Yes	Yes	No	Yes	Yes
Fiberglass Mat	65997-17-3	Yes	No	Yes	Yes	No	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS SDS: May 2018

CHANGES SINCE PREVIOUS SDS: Product name change, Prop 65 update.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

GAF
Safety Data Sheet
SDS # 2186
SDS Date: December 2014

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	Woodland™ Shingles
TRADE NAME:	Asphalt / Fiberglass Shingles
CHEMICAL NAME / SYNONYM:	N/A
CHEMICAL FAMILY:	N/A
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Occasional nuisance dust, Inhalation

SIGNS & SYMPTOMS OF EXPOSURE

Eyes: May cause irritation to the eyes.

Skin: May cause irritation to the skin.

Ingestion:	This product is not intended to be ingested. If ingested, it may cause temporary irritation to the gastrointestinal (digestive) tract.
Inhalation:	May cause irritation to the respiratory tract.
ACUTE HEALTH HAZARDS:	NIOSH has found that studies of workers exposed to asphalt fumes have repeatedly found irritation of the serous membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation).
CHRONIC HEALTH HAZARDS:	Studies in humans have found that exposure to respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is a serious and irreversible disease; it may be progressive even after exposure has ceased; it can lead to disability and death. Human studies also have found that silicosis is a risk factor for tuberculosis, and that occupational exposure to respirable crystalline silica is associated with chronic obstructive pulmonary disease, including bronchitis and emphysema. Some studies show excess numbers of cases of scleroderma, connective tissue disorders, lupus, rheumatoid arthritis, chronic kidney diseases and end-stage kidney disease in workers exposed to respirable crystalline silica.
CARCINOGENICITY:	IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A). IARC concluded that available data from cancer studies in humans points to an association between exposures to oxidized asphalts during roofing and lung cancer and tumors in the upper aero-digestive tract. In addition, IARC found sufficient evidence of carcinogenicity in experimental animals for extracts and fume condensates of oxidized asphalts. NIOSH has concluded that the collective data from human, animal, genotoxicity and exposure studies provide sufficient evidence that roofing asphalt fumes are a potential occupational carcinogen. Occupational exposure to respirable crystalline silica is classified as a known carcinogen in humans. IARC has determined that respirable crystalline silica is carcinogenic to humans (Group 1), based on findings of sufficient evidence of carcinogenicity in both humans and experimental animals. NTP has classified respirable crystalline silica as a known human carcinogen based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between exposure to respirable crystalline silica and increased lung cancer rates in workers exposed to crystalline silica dust. NIOSH has determined that respirable crystalline silica is a potential occupational carcinogen. IARC has determined that occupational exposure to Titanium Dioxide is possibly carcinogenic to humans (Group 2B). IARC concluded lung tumors were observed in rats following high dose exposure by inhalation and in female rats exposed by intra-tracheal instillation. Other studies have shown no tumors in rats following inhalation exposure and no tumors in mice or rats following oral exposure.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**%**	**OSHA**	**ACGIH**	**OTHER**
Granules	-	20 – 45	NE	NE	NE
Limestone	1317-65-3	25 – 45	5 mg/m3 – resp. 15 mg/m3 – total	3 mg/m3 – resp. 10 mg/m3 – total	REL: 5 mg/m3 – resp. 10 mg/m3 – total
Oxidized Asphalt	64742-93-4	10 – 30	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	5 mg/m3 – ceiling (15 min. fumes)
Crystalline Silica	14808-60-7	0 – 10	10 mg/m3 / (% SiO2 + 2) – resp.	0.025 mg/m3	REL: 0.05 mg/m3 – resp.
Fiberglass Mat	65997-17-3	1 – 3	1 f/cc – resp.	1 f/cc – resp.	REL: 5 mg/m3 – total fibers
Titanium Dioxide	13463-67-7	0 – 4	15 mg/m3 – total	10 mg/m3 – total	REL: lowest feasible concentration

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.

SKIN: Wash affected area thoroughly with soap and water.

INHALATION: Remove to fresh uncontaminated air.

INGESTION: Not expected to be ingested.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: No information available

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA: Water spray, Alcohol foam, Carbon Dioxide, or Dry chemical.

HAZARDOUS COMBUSTION PRODUCTS: Carbon dioxide and carbon monoxide.

RECOMMENDED FIRE FIGHTING PROCEDURES:	NIOSH-approved self contained breathing apparatus is recommended for smoke protection.
UNUSUAL FIRE & EXPLOSION HAZARDS:	N/A

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Pick up large pieces. Avoid creating dusts during clean up.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	No specific handling or storage requirements.
OTHER PRECAUTIONS:	None

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	N/A
RESPIRATORY PROTECTION:	N/A under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable exposure levels, appropriate NIOSH approved respiratory protection is recommended.
EYE PROTECTION:	Safety glasses with side shields
SKIN PROTECTION:	Cotton or leather gloves are recommended when handling.
OTHER PROTECTIVE EQUIPMENT:	None
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Granule coated shingle; no appreciable odor.		
FLASH POINT:	> 550 °F	**LOWER EXPLOSIVE LIMIT:**	No data
METHOD USED:	No data	**UPPER EXPLOSIVE LIMIT:**	No data
EVAPORATION RATE:	No data	**BOILING POINT:**	No data

pH (undiluted product):	No data	**MELTING POINT:**	No data
SOLUBILITY IN WATER:	No data	**SPECIFIC GRAVITY:**	No data
VAPOR DENSITY:	No data	**PERCENT VOLATILE:**	No data
VAPOR PRESSURE:	No data	**MOLECULAR WEIGHT:**	No data
VOC WITH WATER (LBS/GAL):	No data	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY): None known.

INCOMPATIBILITY (MATERIAL TO AVOID): None known.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon Dioxide and Carbon Monoxide

HAZARDOUS POLYMERIZATION: Will Not Occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: None available for the product. See section 3.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION

PROPER SHIPPING NAME: This product is not classified as a hazardous material for transport.

HAZARD CLASS: N/A

ID NUMBER: N/A

PACKING GROUP: N/A

LABEL STATEMENT: N/A

OTHER: N/A

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA None

311 / 312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains a chemical known to the state of California to cause cancer and birth defects, or other reproductive harm. Cancer: Oxidized Asphalt, Crystalline Silica and Titanium Dioxide.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Limestone	1317-65-3	No	Yes	Yes	No	Yes	Yes
Oxidized Asphalt	64742-93-4	No	No	No	No	No	No
Crystalline Silica	14808-60-7	Yes	Yes	Yes	Yes	Yes	Yes
Fiberglass Mat	65997-17-3	Yes	No	Yes	Yes	No	Yes

Titanium Dioxide	13463-67-7	No	Yes	Yes	Yes	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None.

DATE OF PREVIOUS SDS: October 2013

CHANGES SINCE PREVIOUS SDS: Headquarters Address Change

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.