GAF
Safety Data Sheet
SDS # 4171
SDS Date: June 2023

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	LRF Adhesive M Low Temperature Cartridge Part 1
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

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:
Target Organ (SE) - Category 3
Target Organ (RE) - Category 2
Acute Toxicity - Category 4
Skin Irritant - Category 2
Skin Sensitizer - Category 1
Eye Irritant - Category 2A
Resp. Sensitizer - Category 1

GHS PICTOGRAMS:

SIGNAL WORD: Danger

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

PRECAUTIONARY STATEMENTS:
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves / eye protection / face protection.
[In case of inadequate ventilation] wear respiratory protection.
If on skin: Wash with plenty of water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do.
Continue rinsing.
Call a poison center/doctor if you feel unwell.
Specific treatment (see on this label).
Get medical advice/attention if you feel unwell.
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
If experiencing respiratory symptoms: Call a poison center/doctor.
Wash contaminated clothing before reuse.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

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

SIGNS & SYMPTOMS OF EXPOSURE

EYES: This product causes serious eye irritation.

SKIN: This product is irritating to the skin. This product may cause an allergic skin reaction.

INGESTION: This product is not expected to be ingested. However, ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea.

INHALATION: Allergic lung reaction such as asthma, which includes coughing, wheezing, chest pain and tightness, difficulty breathing and shortness of breath.

ACUTE HEALTH HAZARDS: See above.

CHRONIC HEALTH HAZARDS: Repeated inhalation and skin contact exposures may cause sensitization.

CARCINOGENICITY: None known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
4,4'-Methylene Bisphenol Isocyanate (MDI)	101-68-8	25 – 50	0.02 ppm – ceiling	0.005 ppm	0.005 ppm; 0.02 ppm – ceiling (10 min.)
diphenylmethanediisocyanate,isomeres and homologues (polymer exempt)	9016-87-9	25-50	NE	NE	NE

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Immediately flush eyes with water for at least 15 minutes while holding eyelids open. Seek medical attention.

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

INHALATION: Move affected individual to an area free of risk from further exposure. Administer oxygen or artificial respiration as needed. Immediate or delayed asthma-like symptoms may develop. Seek medical attention.

INGESTION: If the material is swallowed, seek immediate medical attention. Rinse out mouth with water. Drink 1 - 2 glasses of water but DO NOT induce vomiting. Never give anything by mouth to a victim who is unconscious or is having convulsions.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Use fire fighting measures that suit the environment. Product reacts with water to produce heat and gases.
HAZARDOUS COMBUSTION PRODUCTS:	Dried solids can burn and release toxic fumes and vapors.
RECOMMENDED FIRE FIGHTING PROCEDURES:	Firefighters should wear full protective clothing including self contained breathing apparatus.
UNUSUAL FIRE & EXPLOSION HAZARDS:	No further relevant information available.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:

Keep away from ignition sources.
Cover spilled material with neutralization solution (see below) and mix Wait 15 minutes. Collect material in open-head metal containers. Repeat neutralization and cleaning process until surface is decontaminated. Apply drum lid but DO NOT secure. Allow containers to vent for 72 hours to let carbon dioxide escape.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of contaminated material as waste in accordance with federal state and local regulations.
Ensure adequate ventilation.
· Reference to other sections
Neutralization solutions:
1. A mixture of 90% water. 3-8% ammonium hydroxide or concentrated ammonia, and 2% liquid detergent.
2. A mixture of 80% water, 20% non-ionic surfactant.
Apply solution. Wait 15 minutes. Collect in open-head container. Re-apply until surface is decontaminated. Apply drum lid but DO NOT secure. Let containers vent for 72 hours allowing carbon dioxide to escape. Secure drum lid.
Wear PPE for spill clean up. Stop the flow of material, if possible. Do not allow to drain to sewers.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:

Avoid prolonged or repeated contact with skin.
Avoid contact with eyes.
Wash thoroughly after handling.
Prevent formation of aerosols.
· Information about protection against explosions and fires:
Product reacts with water. Reaction may produce heat and/or gases. Container may rupture from gas generation

in a fire situation. This reaction may be violent.
Storage Temperature - 32F - 90F
Keep receptacle tightly sealed.

OTHER PRECAUTIONS: Product reacts with water and may produce heat and/or gases. Empty containers may contain hazardous residuals. Keep away from heat, sparks and open flame.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION: Provide adequate local ventilation to maintain worker exposure below exposure limits.

RESPIRATORY PROTECTION: Use a NIOSH-approved respirator to protect against inhalation of vapors. A respirator should be used if ventilation is unavailable, or is inadequate for keeping vapor levels below the applicable exposure limits. Consult the respirator manufacturer to determine the appropriate type of equipment for a given application.

EYE PROTECTION: Wear safety glasses and a face shield or chemical goggles.

SKIN PROTECTION: The use of neoprene, nitrile or butyl rubber gloves is recommended. Wear an apron and protective work clothing.

OTHER PROTECTIVE EQUIPMENT: Eye wash stations and safety showers are recommended.

WORK HYGIENIC PRACTICES: Wash exposed skin prior to eating, drinking or smoking and at the end of each shift. Immediately remove all soiled and contaminated clothing. Avoid contact with the eyes and skin.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Off white to light amber liquid with faint aromatic odor.		
FLASH POINT:	>348 °F	**LOWER EXPLOSIVE LIMIT:**	0.9
METHOD USED:	Pensky-Martin CC	**UPPER EXPLOSIVE LIMIT:**	6.7
EVAPORATION RATE:	No Data	**BOILING POINT:**	392 °F
IGNITION TEMPERATURE:	752 °F	**MELTING POINT:**	No Data
SOLUBILITY IN WATER:	Insoluble	**SPECIFIC GRAVITY:**	9.3 lbs/gal
VAPOR DENSITY:	No Data	**PERCENT VOLATILE:**	No Data
VAPOR PRESSURE:	0 mm Hg	**MOLECULAR WEIGHT:**	No Data
VOC WITH WATER (G/L):	<50	**SPECIFIC GRAVITY (LBS/GAL):**	No Data

SECTION 10: STABILITY AND REACTIVITY

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

CONDITIONS TO AVOID (STABILITY): Contact with moisture, other materials that react with isocyanates, or temperatures above 350F (177C), may cause polymerization.
Violent reaction with water at high temperatures.
May produce violent reactions with bases and numerous organic substances including alcohols and amines.
MDI reacts slowly with water to form Carbon Dioxide gas. This gas can cause sealed containers to expand and possibly rupture. Contact with moisture, other materials that react with isocyanates, or temperatures above 350F, may cause polymerization.

INCOMPATIBILITY (MATERIAL TO AVOID): Reacts with amines, caustic alkali solutions, alcohols, ammonia, oxidizers, acids, polyols.
Reacts with water forming carbon dioxide-may rupture sealed containers if contaminated with water.
May produce violent reactions with bases and numerous organic substances including alcohols and amines.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon dioxide, carbon monoxide, oxides of nitrogen, dense black smoke, hydrogen cyanide, isocyanic acid, other undeterminated compounds.

HAZARDOUS POLYMERIZATION: Contact with moisture, other materials that react with isocyanates, or temperatures above 350F, may cause polymerization.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: 4,4' Methylene Bisphenol Isocyanate (MDI)

Oral LD50 Mouse: 2200 mg/kg

Primary irritant effect:
 on the skin:
Skin irritant.
Irritant to skin and mucous membranes.
 on the eye:
Causes serious eye irritation.
Vapors may be irritating to the eyes.
Irritating effect.
 Sensitization:
Skin Contact - May cause allergic skin reaction.
Inhalation - Sensitization possible through inhalation.

Skin Contact - Sensitization possible through skin contact.

 Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION:

Do not allow undiluted product or large quantities of it to reach groundwater, water course or sewage system.
Toxic for aquatic organisms

Water hazard class 1 (Self-assessment): slightly hazardous for water

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Must be specially treated adhering to official regulations.
Disposal must be made according to official regulations.

SECTION 14: TRANSPORTATION INFORMATION

DOT
Not regulated.

IATA
Not regulated.

IMDG
Not regulated.

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

4,4'-Methylene Bisphenol Isocyanate (MDI): 101-68-8, 5000 lbs.

SARA

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

313 REPORTABLE INGREDIENTS: 4,4'-Methylene Bisphenol Isocyanate (MDI), 101-68-8, 30 – 60%
diphenylmethanediisocyanate,isomeres and homologues, 9016-87-9, 30 – 60%

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
4,4'-Methylene Bisphenol Isocyanate (MDI)	101-68-8	Yes	Yes	Yes	Yes	Yes	Yes
diphenylmethanediisocyanate ,isomeres and homologues	9016-87-9	Yes	Yes	Yes	Yes	Yes	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS SDS: May 2020

CHANGES SINCE PREVIOUS SDS: SDS Update.

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.