



SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: LRF Adhesive M HFO Part 1

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
	3		2
	0		0
	0		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
Respiratory Sensitizer - Category 1
Eye Irritant - Category 2A
Pressurized Gas

GHS PICTOGRAMS:



SIGNAL WORD:

Danger

HAZARD STATEMENTS:

Contains gas under pressure; may explode if heated.
 Harmful if inhaled.
 Causes skin irritation.
 Causes serious eye irritation.
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 May cause an allergic skin reaction.
 May cause respiratory irritation.
 May cause damage to organs through prolonged or repeated exposure.
 Harmful 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.
 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.
 Avoid release to the environment.
 Wear protective gloves/protective clothing/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.
 IF exposed or concerned: Get medical advice/attention.
 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.

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. Sensitization possible through skin contact.

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

INHALATION: Sensitization possible through inhalation.

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

CHEMICAL NAME	CAS #	% (BY WT)	OCCUPATIONAL EXPOSURE LIMITS		
			OSHA	ACGIH	OTHER
diphenylmethanediisocyanate, isomers and homologues (polymer exempt)	9016-87-9	50 – 100	NE	NE	NE
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.)
methylenediphenyl diisocyanate (MDI)	26447-40-5	2.5 – 10	NE	NE	NE
trans-1-Chloro-3,3,3-trifluoropropene	102687-65-0	2.5-10%	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: None known.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA: Water spray, carbon dioxide, or dry chemical. Fight larger fires with water spray. Use fire fighting measures that suit the environment. Do not use water jet.

HAZARDOUS COMBUSTION PRODUCTS: Carbon dioxide, carbon monoxide, oxides of nitrogen, dense black smoke, hydrogen cyanide, isocyanic acid, other undetermined compounds.

RECOMMENDED FIRE FIGHTING PROCEDURES: Firefighters should wear full protective clothing including self contained breathing apparatus.

UNUSUAL FIRE & EXPLOSION HAZARDS: Containers may burst if overheated. This product reacts with water producing carbon dioxide gas. Do not reseal contaminated containers as a hazardous pressure build up could result in container rupture.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Absorb spill with inert material. Ventilate the contaminated area. Shovel material into appropriate container for further neutralization and disposal. Evacuate the area promptly. Keep upwind of the spilled material and isolate exposure. Avoid inhalation of vapors and mists. Surfaces may become slippery after a spill. 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: Do not spray on a naked flame or any incandescent material. Keep ignition sources away - Do not smoke. Protect against electrostatic charges. Pressurized container: protect from sunlight and do not expose to temperatures exceeding 100°F, i.e. electric lights. Do not pierce or burn, even after use. Store in a cool, dry place.

OTHER PRECAUTIONS: Empty containers may contain hazardous residuals. Keep away from heat, sparks and open flame. DO NOT cut, drill, puncture, weld or grind on or near full, partially full or empty product containers. Store in a cool location away from direct heat. Observe official regulations on storing packagings with pressurized containers.

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 and disposable body protection is recommended.
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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Amber liquid with faint aromatic 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:	Not Miscible	SPECIFIC GRAVITY:	1.22 □
VAPOR DENSITY:	No Data	PERCENT VOLATILE:	< 0.15
VAPOR PRESSURE:	No Data	MOLECULAR WEIGHT:	No Data
VOC (Per EPA 24):	<50 g/L	SPECIFIC GRAVITY (LBS/GAL):	10.2

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY:	STABLE X	UNSTABLE
CONDITIONS TO AVOID (STABILITY):	<p>Contact with moisture, other materials that react with isocyanates, or temperatures above 350F (177C), may cause polymerization.</p> <p>Avoid heat, flames, sparks.</p> <p>Reacts with water forming carbon dioxide-may rupture sealed containers if contaminated with water.</p>	
INCOMPATIBILITY (MATERIAL TO AVOID):	Water, oxidizing agents.	

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon dioxide, hydrocarbons.

HAZARDOUS POLYMERIZATION: Contact with moisture, other materials that react with isocyanates, may cause polymerization.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:
methylenediphenyl diisocyanate (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: Toxic to fish.

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

Chemical under pressure, n.o.s. (trans-1-Chloro-3,3,3-trifluoropropene)

IATA

Chemical under pressure, n.o.s. (trans-1-Chloro-3,3,3-trifluoropropene)

IMDG

Chemical under pressure, n.o.s. (trans-1-Chloro-3,3,3-trifluoropropene)

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'-methylenediphenyl diisocyanate (MDI): 101-68-8, 5000 lbs.

SARA

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

313 REPORTABLE INGREDIENTS: 4,4'-methylenediphenyl diisocyanate (MDI), 101-68-8
diphenylmethanediisocyanate, isomeres and homologues, 9016-87-9,

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'-methylenediphenyl diisocyanate (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: None

CHANGES SINCE PREVIOUS SDS: New product.

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.