

TEAM[®] Industrial Services
SAFETY DATA SHEET

1. Product and Company Identification

Material name CR-5A
Version # 00
Issue date 19-August-2013
Revision date 19-August-2013
Supersedes date N/A
Chemical description Catalyst
CAS # Mixture
Product code 800-0065
Product use Industrial Leak Sealant.
Manufacturer information
Manufacturer/Supplier Team Industrial Services, Inc.
Address 200 Hermann Drive, Alvin, Texas 77511, US
Emergency telephone number CHEMTREC - 24 HOURS

USA: CHEMTREC: 800-424-9300
International: 703-527-3887 (Collect)

2. Hazards Identification

Physical state Liquid.
Appearance Milky white to yellow liquid.
Emergency overview DANGER

Harmful if inhaled. Causes skin, eye and respiratory tract irritation. May cause allergic skin reaction. May cause allergic respiratory reaction. Possible cancer hazard.
OSHA regulatory status This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects
Routes of exposure Eye contact. Skin contact. Ingestion. Inhalation.
Eyes Causes eye irritation.
Skin Causes skin irritation. May cause allergic skin reaction.
Inhalation Causes allergic respiratory reaction. Causes respiratory tract irritation.
Ingestion May irritate and cause malaise.
Target organs Eyes. Skin. Respiratory system
Chronic effects May cause allergic skin disorders in sensitive individuals.
Signs and symptoms Sensitization. Wheezing. Difficulty in breathing. Irritation of eyes and mucous membranes. Skin irritation. Ingestion may cause irritation and malaise. Isocyanates may react with skin protein and moisture to cause itching, reddening, swelling, scaling or blistering.
Potential environmental effects The product contains a substance which may be harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Dibutyl maleate	105-76-0	<25
Methylenediphenyl diisocyanate	101-68-8	5-15
O-(p-isocyanatobenzyl)phenyl Isocyanate	5873-54-1	5-15

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First Aid Measures

First aid procedures

Eye contact	Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids wide apart. Get medical attention.
Skin contact	Remove contaminated clothing. Wash immediately with soap and water for at least 15 minutes. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Discard contaminated shoes and clothing.
Inhalation	Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.
Ingestion	Rinse mouth thoroughly. Do NOT induce vomiting. Get medical attention.

Notes to physician

The product irritates the respiratory tract and may trigger sensitisation of the skin and respiratory tract. Treatment of acute irritation or bronchial constriction is primarily symptomatic. Following severe exposure the patient should be kept under medical review for at least 48 hours.

General advice

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire Fighting Measures

Flammable properties

The product is not flammable. However: Will burn if strongly heated and when involved in fire.

Extinguishing media

Suitable extinguishing media	Dry chemical powder. Carbon dioxide (CO ₂). Foam.
Unsuitable extinguishing media	None known.

Protection of firefighters

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Protective equipment and precautions for firefighters Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus, operated in positive pressure mode and full protective clothing must be worn in case of fire.

Fire fighting

equipment/instructions

Use standard firefighting procedures and consider the hazards of other involved materials. Cool material exposed to heat with water spray and remove it if no risk is involved.

Hazardous combustion products

Carbon oxides. Nitrogen oxides. Hydrogen cyanide. Isocyanates.

6. Accidental Release Measures

Personal precautions

Evacuate area. Keep upwind. No action shall be taken involving any personal risk or without suitable training. Avoid inhalation of vapors and contact with skin and eyes. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection, see Section 8 of the MSDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground. Environmental manager must be informed of all major spillages.

Methods for containment

Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Collect and dispose of spillage as indicated in Section 13 of the MSDS.

Methods for cleaning up

Wipe up with absorbent material (e.g. cloth, fleece). Prevent product from entering drains. Never return spills in original containers for re-use. Should not be released into the environment.

Other information

Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling

Wear personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Mechanical ventilation may be required. Avoid inhalation of vapors and contact with skin and eyes. Persons already sensitized to diisocyanates may develop allergic reactions when using this product. Keep the workplace clean. Technical aids: Use disposable equipment (rags, brushes, spatulas, putty knives, etc.), if possible.

Storage

Store in tightly closed original container. Store in a cool and well-ventilated place. Store away from incompatible materials. Do not store in open or unlabelled containers.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
Methylenediphenyl diisocyanate (CAS 101-68-8)	TWA	0.005 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Methylenediphenyl diisocyanate (CAS 101-68-8)	Ceiling	0.2 mg/m ³
		0.02 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Methylenediphenyl diisocyanate (CAS 101-68-8)	TWA	0.05 mg/m ³
		0.005 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
Methylenediphenyl diisocyanate (CAS 101-68-8)	Ceiling	0.01 ppm
	TWA	0.005 ppm
O-(p-isocyanatobenzyl)phenyl Isocyanate (CAS 5873-54-1)	Ceiling	0.01 ppm
	TWA	0.005 ppm

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
Methylenediphenyl diisocyanate (CAS 101-68-8)	Ceiling	0.02 ppm
	TWA	0.005 ppm

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
Methylenediphenyl diisocyanate (CAS 101-68-8)	TWA	0.051 mg/m ³
		0.005 ppm

Mexico. Occupational Exposure Limit Values

Components	Type	Value
Methylenediphenyl diisocyanate (CAS 101-68-8)	TWA	0.051 mg/m ³
		0.005 ppm

Exposure guidelines No exposure standards allocated.

Canada - British Columbia OELs: Skin designation

Methylenediphenyl diisocyanate (CAS 101-68-8) Can be absorbed through the skin.

Engineering controls General ventilation normally adequate. Ensure adequate ventilation, especially in confined areas. Provide easy access to water supply and eye wash facilities. Mix and prepare in a place with efficient exhaust ventilation.

Personal protective equipment

Eye / face protection	Wear approved chemical safety goggles. Use face shield in case of splash risk.
Skin protection	Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure. Contact chemical protective clothing manufacturer for specific information.
Respiratory protection	In case of inadequate ventilation or risk of inhalation of vapors, use suitable respiratory equipment.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Private clothes and working clothes should be kept separately. Personal protective equipment should not be worn during lunch breaks.

9. Physical & Chemical Properties

Appearance	Milky white to yellow liquid.
Physical state	Liquid.
Form	Liquid.
Color	Milky white to yellow.
Odor	Slightly musty.
Odor threshold	Not available.
pH	Neutral
Vapor pressure	0 mm Hg @ (40°C)
Vapor density	Not available.
Boiling point	Not available.
Melting point/Freezing point	< -4 °F (< -20 °C)
Solubility (water)	Insoluble in water.
Specific gravity	1.05 - 1.1 (Water=1)
Flash point	> 266.0 °F (> 130.0 °C)
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Auto-ignition temperature	Not available.
Bulk density	8.76 - 9.3 lb/gal
Other data	
Decomposition temperature	< 212 °F (< 100 °C)
Flammability (solid, gas)	Non flammable.

10. Chemical Stability & Reactivity Information

Chemical stability	Contact with moisture or temperatures above 350° F (177° C) will cause polymerization.
Conditions to avoid	Exposure to heat and contact with sources of ignition. Moisture. Contact with incompatible materials.
Incompatible materials	Amines. Strong bases. Alcohols. Copper and copper alloys. Liquid chlorine. Water.
Hazardous decomposition products	During combustion: Carbon oxides. Hydrogen cyanide. Nitrogen oxides. Isocyanates.
Possibility of hazardous reactions	Will polymerize with heat or moisture.

11. Toxicological Information

Toxicological data

Components	Species	Test Results
Methylenediphenyl diisocyanate (CAS 101-68-8)		
Acute		
<i>Inhalation</i>		
LC50	Rat	> 2.24 mg/l, 1 Hours

Sensitization	May cause allergic respiratory reaction.
Acute effects	Harmful if inhaled. May cause allergic respiratory reaction.
Local effects	Causes skin, eye and respiratory tract irritation.
Chronic effects	None known.
Carcinogenicity	Possible cancer hazard - may cause cancer based on animal data.

IARC Monographs. Overall Evaluation of Carcinogenicity

Methylenediphenyl diisocyanate (CAS 101-68-8)	3 Not classifiable as to carcinogenicity to humans.
O-(p-isocyanatobenzyl)phenyl Isocyanate (CAS 5873-54-1)	3 Not classifiable as to carcinogenicity to humans.

Epidemiology	Not available.
Mutagenicity	Not classified.
Reproductive effects	Not classified.
Symptoms and target organs	Sensitization. Wheezing. Difficulty in breathing. Irritation of eyes and mucous membranes. Skin irritation. Ingestion may cause irritation and malaise. Isocyanates may react with skin protein and moisture to cause itching, reddening, swelling, scaling or blistering.

12. Ecological Information

Ecotoxicity	The product contains a substance which may be harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment.
Environmental effects	This product is toxic to fish and other aquatic organisms.
Persistence and degradability	No data available.
Bioaccumulation / Accumulation	The product is not expected to bioaccumulate.
Mobility in environmental media	The product is non-volatile. The product reacts with water to form a solid insoluble reaction product which is non-degradable, according to information available.

13. Disposal Considerations

Waste codes	Not regulated.
Disposal instructions	Dispose in accordance with all applicable regulations. Do not allow runoff to sewer, waterway or ground.
Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information

DOT

Basic shipping requirements:

UN number	UN3082
Proper shipping name	Environmentally hazardous substances, liquid, n.o.s. (Methylenediphenyl diisocyanate)
Hazard class	9
Packing group	III
Environmental hazards	

Marine pollutant

Yes

Special precautions Read safety instructions, MSDS and emergency procedures before handling.

Additional information:

Special provisions	8, 146, 335, IB3, T4, TP1, TP29
Packaging exceptions	155
Packaging non bulk	203
Packaging bulk	241

IATA

UN number	UN3082
UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (Methylenediphenyl diisocyanate)
Transport hazard class(es)	9
Packing group	III
ERG code	9L
Special precautions for user	Read safety instructions, MSDS and emergency procedures before handling.

IMDG

UN number UN3082
UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Methylenediphenyl diisocyanate)
Transport hazard class(es) 9
Packing group III
Environmental hazards
Marine pollutant Yes
EmS F-A, S-F
Special precautions for user Read safety instructions, MSDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

TDG

UN number UN3082
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Methylenediphenyl diisocyanate)
Hazard class 9
Packing group III
Marine pollutant D
Special provisions 16

General Read safety instructions, MSDS and emergency procedures before handling.

15. Regulatory Information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Methylenediphenyl diisocyanate (CAS 101-68-8)

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

Methylenediphenyl diisocyanate (CAS 101-68-8) 1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Methylenediphenyl diisocyanate (CAS 101-68-8) Listed.

CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)

Methylenediphenyl diisocyanate: 5000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
 Delayed Hazard - Yes
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

Section 302 extremely hazardous substance (40 CFR 355, Appendix A) No

SARA 311/312 Hazardous chemical Yes

Drug Enforcement Administration (DEA) (21 CFR 1308.11-15) Not controlled

Canadian regulations This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS status Controlled

WHMIS classification D1A - Immediate/Serious-VERY TOXIC
 D2A - Other Toxic Effects-VERY TOXIC
 D2B - Other Toxic Effects-TOXIC

WHMIS labeling



Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

State regulations

This product does not contain a chemical known to the State of California to cause cancer birth defects or other reproductive harm.

US - California Hazardous Substances (Director's): Listed substance

Methylenediphenyl diisocyanate (CAS 101-68-8) Listed.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

US - New Jersey RTK - Substances: Listed substance

Methylenediphenyl diisocyanate (CAS 101-68-8) Listed.

O-(p-isocyanatobenzyl)phenyl Isocyanate (CAS 5873-54-1) Listed.

US. Massachusetts RTK - Substance List

Methylenediphenyl diisocyanate (CAS 101-68-8) Listed.

US. New Jersey Worker and Community Right-to-Know Act

Methylenediphenyl diisocyanate (CAS 101-68-8) 500 lbs

US. Pennsylvania RTK - Hazardous Substances

Methylenediphenyl diisocyanate (CAS 101-68-8) Listed.

16. Other Information

Further information

HMIS® is a registered trade and service mark of the NPCA.

X - Specialized Handling

HMIS® ratings

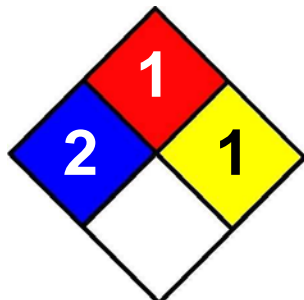
Health: 2*

Flammability: 1

Physical hazard: 1

Personal protection: X

NFPA Ratings



Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available.