

## 1. Identification

**Product identifier** **FLEXJOINT<sup>TM</sup> U500 SEALANT PART B HARDENER**

**Other means of identification** None.

**Recommended use** Not available.

**Recommended restrictions** None known.

### Manufacturer/Importer/Supplier/Distributor information

**Company Name** Armor Limited, Inc.  
**Address** 2410 US-15 South, Sumter, SC 29150

**After hours telephone number** 1-877-982-7667

**Normal work hours telephone number** 1-877-982-7667

**Website** [www.armor-inc.com](http://www.armor-inc.com)

**E-mail** [customerservice@armor-inc.com](mailto:customerservice@armor-inc.com)

**Emergency 24-hour telephone number** CHEMTREC North America: +1-800-424-9300, International: +1-703-527-3887

**Information on operation hours** 8:00 a.m. to 5:00 p.m.

## 2. Hazard(s) identification

**Physical hazards** Not classified.

<b>Health hazards</b>	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Sensitization, respiratory	Category 1
	Sensitization, skin	Category 1
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, repeated exposure	Category 2

**Environmental hazards** Not classified.

**OSHA defined hazards** Not classified.

### Label elements



**Signal word** Danger

**Hazard statement** Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Harmful if inhaled. 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.

### Precautionary statement

**Prevention** Avoid breathing 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/protective clothing/eye protection/face protection. In case of inadequate ventilation wear respiratory protection.

<b>Response</b>	IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. 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 eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. Specific treatment see Section 4 of this SDS. Get medical advice/attention if you feel unwell.
<b>Storage</b>	Store locked up. Store in a well-ventilated place. Keep container tightly closed.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	None.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	Common name and synonyms	CAS number	%
4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI)		101-68-8	15 - 80
METHYLENEDIPHENYL DIISOCYANATE		26447-40-5	< 5
Other components below reportable levels			47.5

### 4. First-aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Wash the skin immediately with soap and water. Immediately take off all contaminated clothing. Wash contaminated clothing before reuse. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Continue rinsing. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Never give anything by mouth to a victim who is unconscious or is having convulsions. Call a POISON CENTER or doctor/physician.
<b>Most important symptoms/effects, acute and delayed</b>	Direct contact with eyes may cause temporary irritation. Exposure may cause temporary irritation, redness, or discomfort. Skin irritation. Irritating to mouth, throat, and stomach. May cause respiratory irritation. May cause allergic respiratory reaction. Coughing.
<b>Indication of immediate medical attention and special treatment needed</b>	Treat symptomatically.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid breathing mist or vapor. Ensure adequate ventilation. Wear appropriate personal protective equipment. For personal protection, see section 8 of the SDS.
<b>Methods and materials for containment and cleaning up</b>	<p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p>
<b>Environmental precautions</b>	Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

<b>Precautions for safe handling</b>	Observe good industrial hygiene practices. Wear suitable protective clothing, gloves and eye/face protection. Provide adequate ventilation. Protect from moisture. Avoid contact with eyes, skin, and clothing. Avoid ingestion. Wash hands thoroughly after handling. Use care in handling/storage. Keep away from food, drink and animal feedingstuffs.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in tightly closed container. Store in cool, dry place in tightly closed receptacles (60-80°F recommended). Keep container in a well-ventilated place. Keep away from heat and flame. Keep under nitrogen.

## 8. Exposure controls/personal protection

### Occupational exposure limits

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

Components	Type	Value
4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) (CAS 101-68-8)	Ceiling	0.2 mg/m3
		0.02 ppm

#### US. ACGIH Threshold Limit Values (TLV)

Components	Type	Value
4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) (CAS 101-68-8)	TWA	0.005 ppm

#### NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended

Components	Type	Value
4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) (CAS 101-68-8)	IDLH	75 mg/m3

#### US. NIOSH: Pocket Guide to Chemical Hazards Recommended Exposure Limits (REL)

Components	Type	Value
4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) (CAS 101-68-8)	Ceiling	0.2 mg/m3
		0.02 ppm
	TWA	0.05 mg/m3
		0.005 ppm

<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
<b>Appropriate engineering controls</b>	Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles). Wear face shield if there is risk of splashes.

<b>Skin protection</b>	
<b>Hand protection</b>	Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves. Polyethylene. Butyl rubber. Impervious gloves. Neoprene. Rubber, neoprene or PVC. Nitrile.
<b>Other</b>	Wear suitable protective clothing.
<b>Respiratory protection</b>	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	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. Keep away from foodstuffs, beverages and feed.

## 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Clear.
<b>Odor</b>	Slightly. Aromatic.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	<32 °F (<0 °C)
<b>Initial boiling point and boiling range</b>	>392 °F (>200 °C)
<b>Flash point</b>	>392.0 °F (>200.0 °C)
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.

### Upper/lower flammability or explosive limits

<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	1.09 g/cm <sup>3</sup>
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	2000 - 3000 cP
<b>Other information</b>	
<b>Explosive properties</b>	Not explosive.
<b>Oxidizing properties</b>	Not oxidizing.

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Reacts with alkalis. Reacts with water, with formation of carbon dioxide. Reacts with amines. Reacts with alcohols. Risk of bursting. Risk of exothermic reaction. Contact with certain rubbers and plastics can cause brittleness of the substance/product with subsequent loss in strength.
<b>Conditions to avoid</b>	Exposure to moisture. Heat.
<b>Incompatible materials</b>	Amines. Alcohols. Water. Alkalines. Strong bases. Isocyanates. Acids.

**Hazardous decomposition products** Carbon monoxide, carbon dioxide, hydrogen cyanide, nitrogen oxides, aromatic isocyanates, gases/vapours.

## 11. Toxicological information

### Information on likely routes of exposure

**Inhalation** Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Skin contact** Causes skin irritation. May cause an allergic skin reaction.

**Eye contact** Causes eye irritation.

**Ingestion** May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

**Symptoms related to the physical, chemical and toxicological characteristics** Direct contact with eyes may cause temporary irritation. Exposure may cause temporary irritation, redness, or discomfort. Skin irritation. Irritating to mouth, throat, and stomach. May cause allergic respiratory reaction. Coughing.

### Information on toxicological effects

**Acute toxicity** Harmful if inhaled.

Components	Species	Test Results
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4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) (CAS 101-68-8)		
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#### Acute

##### **Inhalation**

LC50	Rat	369 mg/m3, 4 Hours
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**Skin corrosion/irritation** Irritating to skin.

**Serious eye damage/eye irritation** May cause eye irritation.

### Respiratory or skin sensitization

**Respiratory sensitization** Not a respiratory sensitizer.

**Skin sensitization** This product is not expected to cause skin sensitization.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** Not classifiable as to carcinogenicity to humans.

#### **IARC Monographs. Overall Evaluation of Carcinogenicity**

4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) (CAS 101-68-8)	3 Not classifiable as to carcinogenicity to humans.
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METHYLENEDIPHENYL DIISOCYANATE (CAS 26447-40-5)	3 Not classifiable as to carcinogenicity to humans.
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#### **OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not listed.

#### **US. National Toxicology Program (NTP) Report on Carcinogens**

Not listed.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure** May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard** Not an aspiration hazard.

**Chronic effects** Prolonged inhalation may be harmful.

## 12. Ecological information

**Ecotoxicity** This material is not expected to be harmful to aquatic life.

**Persistence and degradability** No data is available on the degradability of any ingredients in the mixture.

**Bioaccumulative potential** No data available.

#### **Partition coefficient n-octanol / water (log Kow)**

4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI)	5.22
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**Mobility in soil** No data available.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

**Contaminated packaging** Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 14. Transport information

**DOT**  
Not regulated as dangerous goods.

**IATA**  
Not regulated as dangerous goods.

**IMDG**  
Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not established.

### 15. Regulatory information

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

**Toxic Substances Control Act (TSCA)** One or more components of the mixture are not on the TSCA 8(b) inventory or are designated "inactive".

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**  
Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**  
Not listed.

**SARA 304 Emergency release notification**  
Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**  
Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**SARA 302 Extremely hazardous substance**  
Not listed.

**SARA 311/312 Hazardous chemical** Yes

**Classified hazard categories** Acute toxicity (any route of exposure)  
Skin corrosion or irritation  
Serious eye damage or eye irritation  
Respiratory or skin sensitization  
Specific target organ toxicity (single or repeated exposure)

**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI)	101-68-8	15 - 80

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**  
4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) (CAS 101-68-8)

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**  
Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

## US state regulations

### California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	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
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply 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).

## 16. Other information, including date of preparation or last revision

**Issue date** 02-17-2025

**Version #** 01

**NFPA ratings** Health: 1  
Flammability: 1  
Instability: 0

**Disclaimer** Ergon Armor cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

**Revision information** Hazard(s) identification: Prevention  
First-aid measures: Most important symptoms/effects, acute and delayed  
Toxicological information: Symptoms related to the physical, chemical and toxicological characteristics