



Rigid Patch, FiberWeld Pipe Repair Cast (Part A)

HPP Lunds

Version No: 6.19

Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

Issue Date: 11/09/2021

Print Date: 11/09/2021

S.GHS.AUS.EN

SECTION 1 Identification of the substance / mixture and of the company / undertaking

Product Identifier

Product name	Rigid Patch, FiberWeld Pipe Repair Cast (Part A)
Synonyms	Rigid Patch (complete formula), FiberWeld Pipe Repair Cast Part A (39036, 38248 Part A, 38260 Part A)
Other means of identification	Not Available

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Use as directed by the manufacturer.
--------------------------	--------------------------------------

Details of the supplier of the safety data sheet

Registered company name	HPP Lunds
Address	1/195 Jackson Rd Sunnybank Hills, Qld 4109 Australia
Telephone	1300-306-781
Fax	903-885-5911
Website	www.hpplunds.com.au & www.jbweld.com.au
Email	Sales@hpplunds.com.au

Emergency telephone number

Association / Organisation	InfoTrac
Emergency telephone numbers	Transportation Emergencies (24 hour): 1300-366-961
Other emergency telephone numbers	Not Available

SECTION 2 Hazards identification

Classification of the substance or mixture

Poisons Schedule	Not Applicable
Classification [1]	Serious Eye Damage/Eye Irritation Category 2A, Skin Corrosion/Irritation Category 2, Sensitisation (Skin) Category 1
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

Label elements

Hazard pictogram(s)	
Signal word	Warning

Hazard statement(s)

H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.

Precautionary statement(s) Prevention

P280	Wear protective gloves, protective clothing, eye protection and face protection.
P261	Avoid breathing dust/fumes.
P264	Wash all exposed external body areas thoroughly after handling.

Rigid Patch, FiberWeld Pipe Repair Cast (Part A)

P272	Contaminated work clothing should not be allowed out of the workplace.
------	--

Precautionary statement(s) Response

P362	Take off contaminated clothing and wash before reuse.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
------	--

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
112-80-1	<1	oleic acid
1314-98-3	<1	zinc sulfide
6425-39-4	<1	2,2'-dimorpholinodiethyl ether
67815-87-6	25-35	MDI/ propylene glycol/ ethylenediamine propoxylated
9016-87-9	1-5	MDI oligomer
101-68-8	5-10	4,4'-diphenylmethane diisocyanate (MDI)
26447-40-5	<1	diphenylmethane diisocyanate (MDI) mixed isomers
65997-17-3	60-80	glass fibre - from continuous filament
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available	

SECTION 4 First aid measures

Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Immediately hold eyelids apart and flush the eye continuously with running water. ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. ▶ Transport to hospital or doctor without delay. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<ul style="list-style-type: none"> ▶ Gently brush or vacuum off adherent fibres. ▶ Wash affected areas thoroughly with water (and soap if available). ▶ Seek medical attention if irritation exists and persists.
Inhalation	<ul style="list-style-type: none"> ▶ If fumes or combustion products are inhaled remove from contaminated area. ▶ Lay patient down. Keep warm and rested. ▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▶ Transport to hospital, or doctor, without delay. <p>Following uptake by inhalation, move person to an area free from risk of further exposure. Oxygen or artificial respiration should be administered as needed. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Treatment is essentially symptomatic. A physician should be consulted.</p>
Ingestion	<ul style="list-style-type: none"> ▶ Immediately give a glass of water. ▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

For sub-chronic and chronic exposures to isocyanates:

- ▶ This material may be a potent pulmonary sensitiser which causes bronchospasm even in patients without prior airway hyperreactivity.
- ▶ Clinical symptoms of exposure involve mucosal irritation of respiratory and gastrointestinal tracts.
- ▶ Conjunctival irritation, skin inflammation (erythema, pain vesiculation) and gastrointestinal disturbances occur soon after exposure.
- ▶ Pulmonary symptoms include cough, burning, substernal pain and dyspnoea.
- ▶ Some cross-sensitivity occurs between different isocyanates.
- ▶ Noncardiogenic pulmonary oedema and bronchospasm are the most serious consequences of exposure. Markedly symptomatic patients should receive oxygen, ventilatory support and an intravenous line.
- ▶ Treatment for asthma includes inhaled sympathomimetics (epinephrine [adrenalin], terbutaline) and steroids.
- ▶ Activated charcoal (1 g/kg) and a cathartic (sorbitol, magnesium citrate) may be useful for ingestion.
- ▶ Mydriatics, systemic analgesics and topical antibiotics (Sulamyd) may be used for corneal abrasions.
- ▶ There is no effective therapy for sensitised workers.

[Ellenhorn and Barceloux; Medical Toxicology]

NOTE: Isocyanates cause airway restriction in naive individuals with the degree of response dependant on the concentration and duration of exposure. They induce smooth muscle

Continued...

Rigid Patch, FiberWeld Pipe Repair Cast (Part A)

contraction which leads to bronchoconstrictive episodes. Acute changes in lung function, such as decreased FEV1, may not represent sensitivity.

[Karol & Jin, Frontiers in Molecular Toxicology, pp 56-61, 1992]

Personnel who work with isocyanates, isocyanate prepolymers or polyisocyanates should have a pre-placement medical examination and periodic examinations thereafter, including a pulmonary function test. Anyone with a medical history of chronic respiratory disease, asthmatic or bronchial attacks, indications of allergic responses, recurrent eczema or sensitisation conditions of the skin should not handle or work with isocyanates. Anyone who develops chronic respiratory distress when working with isocyanates should be removed from exposure and examined by a physician. Further exposure must be avoided if a sensitivity to isocyanates or polyisocyanates has developed.

SECTION 5 Firefighting measures

Extinguishing media

- ▶ Small quantities of water in contact with hot liquid may react violently with generation of a large volume of rapidly expanding hot sticky semi-solid foam.
- ▶ Presents additional hazard when fire fighting in a confined space.
- ▶ Foam.
- ▶ Dry chemical powder.

Special hazards arising from the substrate or mixture

Fire Incompatibility	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
-----------------------------	--

Advice for firefighters

Fire Fighting	<ul style="list-style-type: none"> ▶ Alert Fire Department and tell them location and nature of hazard. ▶ Wear breathing apparatus plus protective gloves.
Fire/Explosion Hazard	<p>-Combustible.</p> <p>-Moderate fire hazard when exposed to heat or flame.</p> <p>Combustion products include:</p> <p>carbon monoxide (CO)</p> <p>carbon dioxide (CO₂)</p> <p>isocyanates</p> <p>hydrogen cyanide</p> <p>and minor amounts of</p> <p>nitrogen oxides (NO_x)</p> <p>hydrogen fluoride</p> <p>metal oxides</p> <p>other pyrolysis products typical of burning organic material.</p> <p>May emit corrosive fumes.</p>
HAZCHEM	Not Applicable

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<ul style="list-style-type: none"> ▶ Clean up all spills immediately. ▶ Avoid all personal contact, including inhalation.
Major Spills	<p>For isocyanate spills of less than 40 litres (2 m²):</p> <ul style="list-style-type: none"> ▶ Evacuate area from everybody not dealing with the emergency, keep them upwind and prevent further access, remove ignition sources and, if inside building, ventilate area as well as possible. ▶ Notify supervision and others as necessary. ▶ Avoid contamination with water, alkalis and detergent solutions. ▶ Material reacts with water and generates gas, pressurises containers with even drum rupture resulting. ▶ Clear area of personnel and move upwind. ▶ Alert Fire Department and tell them location and nature of hazard.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> ▶ The use of ceramic fibres in the work place should be reviewed in the context of frequency of use and potential for exposure. ▶ In circumstances where the respiratory standards or excursion limits are approached, work areas should be designated by the use of ropes or other similar barriers and appropriate signs be utilised, where possible. ▶ Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions) ▶ Minimise airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, and flame.
Other information	<p>Consider storage under inert gas.</p> <ul style="list-style-type: none"> ▶ Store in original containers. ▶ Keep containers securely sealed.

Conditions for safe storage, including any incompatibilities

Rigid Patch, FiberWeld Pipe Repair Cast (Part A)

Suitable container	<ul style="list-style-type: none"> ▶ Polyethylene or polypropylene container. ▶ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	<ul style="list-style-type: none"> ▶ Avoid storage and reaction with hydrofluoric or phosphoric acids and concentrated alkalis. ▶ Metals and their oxides or salts may react violently with chlorine trifluoride and bromine trifluoride. ▶ These trifluorides are hypergolic oxidisers. -Avoid reaction with water, alcohols and detergent solutions. Isocyanates are electrophiles, and as such they are reactive toward a variety of nucleophiles including alcohols, amines, and even water. ▶ A range of exothermic decomposition energies for isocyanates is given as 20-30 kJ/mol. ▶ The relationship between energy of decomposition and processing hazards has been the subject of discussion; it is suggested that values of energy released per unit of mass, rather than on a molar basis (J/g) be used in the assessment.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	MDI oligomer	Isocyanates, all (as-NCO)	0.02 mg/m ³	0.07 mg/m ³	Not Available	Not Available
Australia Exposure Standards	4,4'-diphenylmethane diisocyanate (MDI)	Methylene bisphenyl isocyanate (MDI)	0.02 mg/m ³	0.07 mg/m ³	Not Available	Not Available
Australia Exposure Standards	diphenylmethane diisocyanate (MDI) mixed isomers	Isocyanates, all (as-NCO)	0.02 mg/m ³	0.07 mg/m ³	Not Available	Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
oleic acid	220 mg/m ³	2,400 mg/m ³	15,000 mg/m ³
zinc sulfide	8.9 mg/m ³	99 mg/m ³	590 mg/m ³
MDI oligomer	0.15 mg/m ³	3.6 mg/m ³	22 mg/m ³
4,4'-diphenylmethane diisocyanate (MDI)	0.45 mg/m ³	Not Available	Not Available
4,4'-diphenylmethane diisocyanate (MDI)	29 mg/m ³	40 mg/m ³	240 mg/m ³
diphenylmethane diisocyanate (MDI) mixed isomers	29 mg/m ³	40 mg/m ³	240 mg/m ³
glass fibre - from continuous filament	15 mg/m ³	170 mg/m ³	990 mg/m ³

Ingredient	Original IDLH	Revised IDLH
oleic acid	Not Available	Not Available
zinc sulfide	Not Available	Not Available
2,2'-dimorpholinodiethyl ether	Not Available	Not Available
MDI/ propylene glycol/ ethylenediamine, propoxylated	Not Available	Not Available
MDI oligomer	Not Available	Not Available
4,4'-diphenylmethane diisocyanate (MDI)	75 mg/m ³	Not Available
diphenylmethane diisocyanate (MDI) mixed isomers	Not Available	Not Available
glass fibre - from continuous filament	Not Available	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
2,2'-dimorpholinodiethyl ether	E	≤ 0.1 ppm
MDI/ propylene glycol/ ethylenediamine, propoxylated	E	≤ 0.1 ppm
glass fibre - from continuous filament	E	≤ 0.01 mg/m ³

Notes:

Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.

Exposure controls

Appropriate engineering controls	<ul style="list-style-type: none"> ▶ Provide good ventilation (either forced or natural) ▶ Where possible, enclose sources of dust and provide dust extraction at the source. ▶ Restrict access to work areas involved in handling man-made mineral fibres and ensure that adequate training, in the handling of such materials, has been provided.
---	--

Rigid Patch, FiberWeld Pipe Repair Cast (Part A)

	<ul style="list-style-type: none"> ▶ If measured respirable fibre is less than the recommended occupational exposure level, wear approved dust respirator Class P1 (half-face). ▶ Use a Class P2 or P3 respirator (full-face), where exposure is above the recommended occupational exposure level ▶ Use an approved respirator if power tools without dust extraction or containment are used. <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p>
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> ▶ Safety glasses with side shields. ▶ Chemical goggles.
Skin protection	See Hand protection below
Hands/feet protection	<p>NOTE:</p> <ul style="list-style-type: none"> ▶ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <ul style="list-style-type: none"> ▶ Isocyanate resistant materials include Teflon, Viton, nitrile rubber and some PVA gloves. ▶ Protective gloves and overalls should be worn as specified in the appropriate national standard. <p>Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.</p> <ul style="list-style-type: none"> ▶ polychloroprene.
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ▶ Personnel involved in the installation of unbonded ceramic materials should wear disposable coveralls, or long-sleeve loose fitting clothing, gloves and suitable respirator. Such equipment should also be used by personnel employed in removing materials which have not become embrittled. ▶ Disposable coveralls or long sleeve, loose fitting protective clothing, e.g. overalls (launder clothing separately from other clothing). ▶ When working above head height, use head covering.

Respiratory protection

Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

- ▶ Use approved positive flow mask if significant quantities of dust becomes airborne.
- ▶ Try to avoid creating dust conditions.

SECTION 9 Physical and chemical properties**Information on basic physical and chemical properties**

Appearance	Moisture sensitive. White solid		
Physical state	Solid	Relative density (Water = 1)	Not Available
Odor	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Available
Flash point (°C)	Not Available		
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 Stability and reactivity

Rigid Patch, FiberWeld Pipe Repair Cast (Part A)

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▶ Unstable in the presence of incompatible materials. ▶ Product is considered stable. ▶ Extremely high temperatures.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	<p>Inhalation of dusts, generated by the material, during the course of normal handling, may produce toxic effects.</p> <p>The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of dusts, or fumes, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.</p> <p>The vapour/mist may be highly irritating to the upper respiratory tract and lungs; the response may be severe enough to produce bronchitis and pulmonary oedema. Possible neurological symptoms arising from isocyanate exposure include headache, insomnia, euphoria, ataxia, anxiety neurosis, depression and paranoia.</p> <p>Loose and granular forms produce more dust than preforms (batts) but handling of batts results in fibre dislodgement and dusting. Nose and throat irritation may be transitory.</p> <p>Effects on lungs are significantly enhanced in the presence of respirable particles.</p>
Ingestion	<p>The material is not thought to produce adverse health effects following ingestion (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum.</p>
Skin Contact	<p>This material can cause inflammation of the skin on contact in some persons.</p> <p>The material may accentuate any pre-existing dermatitis condition</p> <p>Man-made mineral fibres may produce mild skin reaction with itching or redness of the skin. This is due to the physical and not from the chemical nature of the substance.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>The material is mildly abrasive and may produce discomfort which results in a temporary skin rash. Discomfort is accentuated by fibre adhering to sweaty skin at higher temperatures.</p>
Eye	<p>Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result.</p>
Chronic	<p>Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Persons with a history of asthma or other respiratory problems or are known to be sensitised, should not be engaged in any work involving the handling of isocyanates.</p> <p>The chemistry of reaction of isocyanates, as evidenced by MDI, in biological milieu is such that in the event of a true exposure of small MDI doses to the mouth, reactions will commence at once with biological macromolecules in the buccal region and will continue along the digestive tract prior to reaching the stomach.</p> <p>There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.</p> <p>Isocyanate vapours are irritating to the airways and can cause their inflammation, with wheezing, gasping, severe distress, even loss of consciousness and fluid in the lungs. Nervous system symptoms that may occur include headache, sleep disturbance, euphoria, inco-ordination, anxiety, depression and paranoia.</p>

Rigid Patch, FiberWeld Pipe Repair Cast (Part A)	TOXICITY	IRRITATION
	Not Available	Not Available
oleic acid	TOXICITY	IRRITATION
	Oral(Rat) LD50; 74000 mg/kg ^[2]	Skin (human):15 mg/3d-I- moderate
		Skin (rabbit):500 mg mild
zinc sulfide	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[2]	Not Available
	Inhalation(Rat) LC50; >5.04 mg/L4h ^[2]	
	Oral(Rat) LD50; >2000 mg/kg ^[1]	
2,2'-dimorpholinodiethyl ether	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 746.24 mg/kg ^[1]	Eye (rabbit): irritant OECD 405
	Oral(Rat) LD50; >2000 mg/kg ^[1]	Eye: adverse effect observed (irritating) ^[1]
		Skin (rabbit): irritant OECD 404
		Skin: no adverse effect observed (not irritating) ^[1]

Rigid Patch, FiberWeld Pipe Repair Cast (Part A)

MDI/ propylene glycol/ ethylenediamine, propoxylated	TOXICITY	IRRITATION
	dermal (rat) LD50: >9400 mg/kg ^[2]	Not Available
	Inhalation(Rat) LC50; 0.31 mg/L4h ^[2]	
MDI oligomer	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >9400 mg/kg ^[2]	Eye (rabbit): 100 mg - mild
	Inhalation(Rat) LC50; 0.49 mg/L4h ^[2]	
4,4'-diphenylmethane diisocyanate (MDI)	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >6200 mg/kg ^[2]	Dermal Sensitiser *
	Inhalation(Rat) LC50; 0.368 mg/L4h ^[1]	Eye: no adverse effect observed (not irritating) ^[1]
diphenylmethane diisocyanate (MDI) mixed isomers	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >6200 mg/kg ^[2]	Dermal Sensitiser *
	Inhalation(Rat) LC50; 0.369 mg/L4h ^[2]	Skin (rabbit): 500 mg /24 hours
glass fibre - from continuous filament	TOXICITY	IRRITATION
	Oral(Rat) LD50; >2000 mg/kg ^[1]	Not Available
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

OLEIC ACID	<p>Polyunsaturated fats (PUFAs) protect against heart disease by providing more membrane fluidity than monounsaturated fats (MUFAs), but they are more vulnerable to being oxidized and therefore rancid.</p> <p>Foods containing monounsaturated fats reduce low-density lipoprotein (LDL) cholesterol, while possibly increasing high-density lipoprotein (HDL) cholesterol.</p> <p>Levels of oleic, and other monounsaturated fatty acids in red blood cell membranes were positively associated with breast cancer risk.</p> <p>For aliphatic fatty acids (and salts)</p> <p>Acute oral (gavage) toxicity:</p> <p>The acute oral LD50 values in rats for both were greater than >2000 mg/kg bw Clinical signs were generally associated with poor condition following administration of high doses (salivation, diarrhoea, staining, piloerection and lethargy). There were no adverse effects on body weight in any study. In some studies, excess test substance and/or irritation in the gastrointestinal tract was observed at necropsy.</p> <p>Skin and eye irritation potential, with a few stated exceptions, is chain length dependent and decreases with increasing chain length. According to several OECD test regimes the animal skin irritation studies indicate that the C6-10 aliphatic acids are severely irritating or corrosive, while the C12 aliphatic acid is irritating, and the C14-22 aliphatic acids generally are not irritating or mildly irritating.</p> <p>Human skin irritation studies using more realistic exposures (30-minute, 1-hour or 24-hours) indicate that the aliphatic acids have sufficient, good or very good skin compatibility.</p> <p>Animal eye irritation studies indicate that among the aliphatic acids, the C8-12 aliphatic acids are irritating to the eye while the C14-22 aliphatic acids are not irritating.</p> <p>The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.</p>
2,2'-DIMORPHOLINODIETHYL ETHER	<p>Overexposure to most of these materials may cause adverse health effects.</p> <p>Many amine-based compounds can cause release of histamines, which, in turn, can trigger allergic and other physiological effects, including constriction of the bronchi or asthma and inflammation of the cavity of the nose. Whole-body symptoms include headache, nausea, faintness, anxiety, a decrease in blood pressure, rapid heartbeat, itching, reddening of the skin, urticaria (hives) and swelling of the face, which are usually transient.</p> <p>There are generally four routes of possible or potential exposure: inhalation, skin contact, eye contact, and swallowing.</p> <p>Inhalation: Inhaling vapours may result in moderate to severe irritation of the tissues of the nose and throat and can irritate the lungs. No experimental evidence available for genotoxicity in vitro (Ames test negative). *BASF</p>
MDI/ PROPYLENE GLYCOL/ ETHYLENEDIAMINE, PROPOXYLATED	<p>Oral (Rat) LD50: 5000 mg/kg * (OECD 423) Skin : Moderate</p> <p>Polyethers (such as ethoxylated surfactants and polyethylene glycols) are highly susceptible to being oxidized in the air. They then form complex mixtures of oxidation products.</p> <p>Animal testing reveals that whole the pure, non-oxidised surfactant is non-sensitizing, many of the oxidation products are sensitizers.</p>
MDI OLIGOMER	product
4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI)	Inhalation (human) TCLo: 0.13 ppm/30 mins Eye (rabbit): 0.10 mg moderate
GLASS FIBRE - FROM CONTINUOUS FILAMENT	<p>There is little evidence for acute toxicity after inhalation of MMMF. Glasswool administered by inhalation produced little pulmonary fibrosis in experimental animals [IARC Monograph 43] The dust has been associated with skin irritation due to the mechanical action of the fibres [CHEMINFO, Sax, ILO ENCYCLOPAEDIA]. Filaments are manufactured to definite fibre diameters; cannot split along their length rather they break across and form small particles not needles [FARIMA]. NOTE: Carcinogenic by RTECS criteria (rat inhalation studies)</p>

Rigid Patch, FiberWeld Pipe Repair Cast (Part A)

Rigid Patch, FiberWeld Pipe Repair Cast (Part A) & 2,2'-DIMORPHOLINODIETHYL ETHER & MDI/ PROPYLENE GLYCOL/ ETHYLENEDIAMINE, PROPOXYLATED & MDI OLIGOMER & 4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) & DIPHENYLMETHANE DIISOCYANATE (MDI) MIXED ISOMERS	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type.
ZINC SULFIDE & DIPHENYLMETHANE DIISOCYANATE (MDI) MIXED ISOMERS	No significant acute toxicological data identified in literature search.
MDI/ PROPYLENE GLYCOL/ ETHYLENEDIAMINE, PROPOXYLATED & MDI OLIGOMER & 4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) & DIPHENYLMETHANE DIISOCYANATE (MDI) MIXED ISOMERS	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Allergic reactions involving the respiratory tract are usually due to interactions between IgE antibodies and allergens and occur rapidly. Allergic potential of the allergen and period of exposure often determine the severity of symptoms. Attention should be paid to atopic diathesis, characterised by increased susceptibility to nasal inflammation, asthma and eczema. Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. Such allergy is of the delayed type with onset up to four hours following exposure. Isocyanate vapours are irritating to the airways and can cause their inflammation, with wheezing, gasping, severe distress, even loss of consciousness and fluid in the lungs. Nervous system symptoms that may occur include headache, sleep disturbance, euphoria, inco-ordination, anxiety, depression and paranoia.
MDI OLIGOMER & 4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) & DIPHENYLMETHANE DIISOCYANATE (MDI) MIXED ISOMERS	The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. Aromatic and aliphatic diisocyanates may cause airway toxicity and skin sensitization. Monomers and prepolymers exhibit similar respiratory effect.
MDI OLIGOMER & 4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) & DIPHENYLMETHANE DIISOCYANATE (MDI) MIXED ISOMERS & GLASS FIBRE - FROM CONTINUOUS FILAMENT	The substance is classified by IARC as Group 3: NOT classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing.

Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✓	Reproductivity	✗
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✓	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 Ecological information

Toxicity

Rigid Patch, FiberWeld Pipe Repair Cast (Part A)	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
oleic acid	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
zinc sulfide	Endpoint	Test Duration (hr)	Species	Value	Source
	BCF	1344h	Fish	17-61	7
	LC50	96h	Fish	>0.25mg/l	2
	NOEC(ECx)	96h	Fish	>=0.25mg/l	2
2,2'-dimorpholinodiethyl ether	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50(ECx)	72h	Algae or other aquatic plants	>100mg/l	2
	EC50	72h	Algae or other aquatic plants	>100mg/l	2
	LC50	96h	Fish	>2150mg/l	2
	EC50	48h	Crustacea	>100mg/l	2

Rigid Patch, FiberWeld Pipe Repair Cast (Part A)

MDI/ propylene glycol/ ethylenediamine, propoxylated	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available

MDI oligomer	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available

4,4'-diphenylmethane diisocyanate (MDI)	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	>1640mg/l	2
	LC50	96h	Fish	>1000mg/l	2
	NOEC(ECx)	504h	Crustacea	>=10mg/l	2
	BCF	672h	Fish	61-150	7

diphenylmethane diisocyanate (MDI) mixed isomers	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96h	Fish	>=1000mg/l	1
	NOEC(ECx)	504h	Crustacea	>=10mg/l	1
	EC50	96h	Algae or other aquatic plants	3230mg/l	1

glass fibre - from continuous filament	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC(ECx)	72h	Algae or other aquatic plants	>=1000mg/l	2
	EC50	72h	Algae or other aquatic plants	>1000mg/l	2
	LC50	96h	Fish	>1000mg/l	2

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

for polyisocyanates:

Polyisocyanates are not readily biodegradable. However, due to other elimination mechanisms (hydrolysis, adsorption), long retention times in water are not to be expected.

For Isocyanate Monomers:

Environmental Fate: Isocyanates, (di- and polyfunctional isocyanates), are commonly used to make various polymers, such as polyurethanes. Polyurethanes find significant application in the manufacture of rigid and flexible foams.

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
oleic acid	LOW	LOW
2,2'-dimorpholinodiethyl ether	HIGH	HIGH
4,4'-diphenylmethane diisocyanate (MDI)	LOW (Half-life = 1 days)	LOW (Half-life = 0.24 days)

Bioaccumulative potential

Ingredient	Bioaccumulation
oleic acid	LOW (LogKOW = 7.64)
zinc sulfide	LOW (BCF = 217)
2,2'-dimorpholinodiethyl ether	LOW (LogKOW = -1.3122)
4,4'-diphenylmethane diisocyanate (MDI)	LOW (BCF = 15)
diphenylmethane diisocyanate (MDI) mixed isomers	LOW (BCF = 15)

Mobility in soil

Ingredient	Mobility
oleic acid	LOW (KOC = 11670)
2,2'-dimorpholinodiethyl ether	LOW (KOC = 10)
4,4'-diphenylmethane diisocyanate (MDI)	LOW (KOC = 376200)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	
	<ul style="list-style-type: none"> ▶ Containers may still present a chemical hazard/ danger when empty. ▶ Return to supplier for reuse/ recycling if possible.

Continued...

Rigid Patch, FiberWeld Pipe Repair Cast (Part A)

- ▶ **DO NOT** allow wash water from cleaning or process equipment to enter drains.
- ▶ It may be necessary to collect all wash water for treatment before disposal.

SECTION 14 Transport information

HAZCHEM	Not Applicable
----------------	----------------

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
oleic acid	Not Available
zinc sulfide	Not Available
2,2'-dimorpholinodiethyl ether	Not Available
MDI/ propylene glycol/ ethylenediamine, propoxylated	Not Available
MDI oligomer	Not Available
4,4'-diphenylmethane diisocyanate (MDI)	Not Available
diphenylmethane diisocyanate (MDI) mixed isomers	Not Available
glass fibre - from continuous filament	Not Available

Transport in bulk in accordance with the ICG Code

Product name	Ship Type
oleic acid	Not Available
zinc sulfide	Not Available
2,2'-dimorpholinodiethyl ether	Not Available
MDI/ propylene glycol/ ethylenediamine, propoxylated	Not Available
MDI oligomer	Not Available
4,4'-diphenylmethane diisocyanate (MDI)	Not Available
diphenylmethane diisocyanate (MDI) mixed isomers	Not Available
glass fibre - from continuous filament	Not Available

SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

oleic acid is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

zinc sulfide is found on the following regulatory lists

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4

Australian Inventory of Industrial Chemicals (AIIC)

2,2'-dimorpholinodiethyl ether is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

MDI/ propylene glycol/ ethylenediamine, propoxylated is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

MDI oligomer is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australia Model Work Health and Safety Regulations - Hazardous chemicals (other than lead) requiring health monitoring

Australian Inventory of Industrial Chemicals (AIIC)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6

4,4'-diphenylmethane diisocyanate (MDI) is found on the following regulatory lists

Rigid Patch, FiberWeld Pipe Repair Cast (Part A)

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
 Australia Model Work Health and Safety Regulations - Hazardous chemicals (other than lead) requiring health monitoring
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6

Australian Inventory of Industrial Chemicals (AIIC)
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

diphenylmethane diisocyanate (MDI) mixed isomers is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
 Australia Model Work Health and Safety Regulations - Hazardous chemicals (other than lead) requiring health monitoring

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
 Australian Inventory of Industrial Chemicals (AIIC)

glass fibre - from continuous filament is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (oleic acid; zinc sulfide; 2,2'-dimorpholinodiethyl ether; MDI/ propylene glycol/ ethylenediamine, propoxylated; MDI oligomer; 4,4'-diphenylmethane diisocyanate (MDI); diphenylmethane diisocyanate (MDI) mixed isomers; glass fibre - from continuous filament)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	No (MDI/ propylene glycol/ ethylenediamine, propoxylated; MDI oligomer)
Japan - ENCS	No (MDI/ propylene glycol/ ethylenediamine, propoxylated; glass fibre - from continuous filament)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	No (MDI/ propylene glycol/ ethylenediamine, propoxylated)
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (2,2'-dimorpholinodiethyl ether; MDI/ propylene glycol/ ethylenediamine, propoxylated)
Vietnam - NCI	Yes
Russia - FBEPH	No (MDI/ propylene glycol/ ethylenediamine, propoxylated)
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	11/09/2021
Initial Date	10/28/2020

SDS Version Summary

Version	Date of Update	Sections Updated
5.19	11/08/2021	Chronic Health, Disposal, Environmental, Exposure Standard

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

Powered by AuthorITe, from Chemwatch.