MarineWeld™ Syringe - Part B

J-B Weld Company LLC

Version No: **4.6**
Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: **12/07/2023**
Print Date: **12/07/2023**
S.GHS.USA.EN

SECTION 1 Identification

Product Identifier

Product name	MarineWeld™ Syringe - Part B
Synonyms	50172 MarineWeld™ Syringe Part B
Other means of identification	UFI:FGXF-64NM-V00E-8GF2

Recommended use of the chemical and restrictions on use

Relevant identified uses	Use according to manufacturer's directions.

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	**J-B Weld Company LLC**
Address	400 CMH Road TX 75482 United States
Telephone	903-885-7696
Fax	Not Available
Website	WWW.JBWeld.com
Email	info@JBWeld.com

Emergency phone number

Association / Organisation	**InfoTrac**
Emergency telephone numbers	**Transportation Emergencies: 800-535-5053 or (24 hours)**
Other emergency telephone numbers	**Poison Control Centers: Medical Emergencies 800-222-1222 (24 hours)**

SECTION 2 Hazard(s) identification

Classification of the substance or mixture



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Classification	Reproductive Toxicity Category 2

Label elements

Hazard pictogram(s)	
Signal word	**Warning**

Hazard statement(s)

H361	Suspected of damaging fertility or the unborn child.

Hazard(s) not otherwise classified

Not Applicable

Page 1 continued...

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P280	Wear protective gloves and protective clothing.
P202	Do not handle until all safety precautions have been read and understood.

Precautionary statement(s) Response

P308+P313	IF exposed or concerned: Get medical advice/ attention.

Precautionary statement(s) Storage

P405	Store locked up.

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
13463-67-7	5-10	titanium dioxide (brookite)
280-57-9	<1	triethylenediamine
68928-76-7	<1	dimethyltin dineodecanoate

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: ▸ Wash out immediately with fresh 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. ▸ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: ▸ Immediately remove all contaminated clothing, including footwear. ▸ Flush skin and hair with running water (and soap if available). ▸ Seek medical attention in event of irritation.
Inhalation	▸ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▸ Other measures are usually unnecessary.
Ingestion	▸ Immediately give a glass of water. ▸ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.

Special protective equipment and precautions for fire-fighters

Fire Fighting	▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ Wear full body protective clothing with breathing apparatus. ▸ Prevent, by any means available, spillage from entering drains or water course.

Continued...

Fire/Explosion Hazard	▸ Combustible. ▸ Slight fire hazard when exposed to heat or flame. ▸ Heating may cause expansion or decomposition leading to violent rupture of containers. May emit poisonous fumes. May emit corrosive fumes.

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	▸ Remove all ignition sources. ▸ Clean up all spills immediately. ▸ Avoid breathing vapours and contact with skin and eyes.
Major Spills	Moderate hazard. ▸ Clear area of personnel and move upwind. ▸ Alert Fire Brigade 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	▸ Avoid all personal contact, including inhalation. ▸ Wear protective clothing when risk of exposure occurs. ▸ Use in a well-ventilated area. ▸ **DO NOT** allow clothing wet with material to stay in contact with skin
Other information	▸ Store in original containers. ▸ Keep containers securely sealed. ▸ No smoking, naked lights or ignition sources.

Conditions for safe storage, including any incompatibilities

Suitable container	▸ Metal can or drum ▸ Packaging as recommended by manufacturer. ▸ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	Titanium dioxide ▸ reacts with strong acids, strong oxidisers ▸ reacts violently with aluminium, calcium, hydrazine, lithium (at around 200 deg C.), magnesium, potassium, sodium, zinc, especially at elevated temperatures - these reactions involves reduction of the oxide and are accompanied by incandescence ▸ dust or powders can ignite and then explode in a carbon dioxide atmosphere None known

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Limits (PELs) Table Z-1	titanium dioxide (brookite)	Titanium dioxide - Total dust	15 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	titanium dioxide (brookite)	Inert or Nuisance Dust: Respirable fraction	5 mg/m3 / 15 mppcf	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	titanium dioxide (brookite)	Inert or Nuisance Dust: Total Dust	15 mg/m3 / 50 mppcf	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	titanium dioxide (brookite)	Titanium dioxide	Not Available	Not Available	Not Available	Ca; See Appendix A
US OSHA Permissible Exposure Limits (PELs) Table Z-1	dimethyltin dineodecanoate	Tin, organic compounds (as Sn)	0.1 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	dimethyltin dineodecanoate	Tin (organic compounds, as Sn)	0.1 mg/m3	Not Available	Not Available	[skin] [*Note: The REL applies to all organic tin compounds except Cyhexatin.]

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
titanium dioxide (brookite)	30 mg/m3	330 mg/m3	2,000 mg/m3

Continued...

Ingredient	TEEL-1	TEEL-2	TEEL-3
triethylenediamine	5.1 mg/m3	56 mg/m3	340 mg/m3

Ingredient	Original IDLH	Revised IDLH
titanium dioxide (brookite)	5,000 mg/m3	Not Available
triethylenediamine	Not Available	Not Available
dimethyltin dineodecanoate	25 mg/m3	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
triethylenediamine	E	≤ 0.01 mg/m³
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	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. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk.
Individual protection measures, such as personal protective equipment	
Eye and face protection	‣ Safety glasses with side shields. ‣ Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent] ‣ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.
Skin protection	See Hand protection below
Hands/feet protection	‣ Wear chemical protective gloves, e.g. PVC. ‣ Wear safety footwear or safety gumboots, e.g. Rubber 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. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.
Body protection	See Other protection below
Other protection	‣ Overalls. ‣ P.V.C apron. ‣ Barrier cream.

Respiratory protection

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

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	White Liquid

Physical state	Liquid	**Relative density (Water = 1)**	1.2-1.4
Odour	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 (°C)**	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)	203		Not Available
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	Not Applicable	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Available

Continued...

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 (1%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	▸ Unstable in the presence of incompatible materials. ▸ Product is considered stable. ▸ Hazardous polymerisation will not occur.
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	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
Ingestion	The material has **NOT** been classified by EC Directives or other classification systems as 'harmful by ingestion'. This is because of the lack of corroborating animal or human evidence.
Skin Contact	This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye	This material can cause eye irritation and damage in some persons.
Chronic	There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment. Ample evidence exists from experimentation that reduced human fertility is directly caused by exposure to the material.

MarineWeld™ Syringe - Part B	**TOXICITY**	**IRRITATION**
	Not Available	Not Available
titanium dioxide (brookite)	**TOXICITY**	**IRRITATION**
	dermal (hamster) LD50: >=10000 mg/kg[2]	Eye: no adverse effect observed (not irritating)[1]
	Inhalation(Rat) LC50: >2.28 mg/l4h[1]	Skin: no adverse effect observed (not irritating)[1]
	Oral (Rat) LD50: >=2000 mg/kg[1]	
triethylenediamine	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: >2000 mg/kg[1]	Eye (rabbit): 25 mg - moderate
	Inhalation(Rat) LC50: >5.05 mg/l4h[1]	Eye: adverse effect observed (irritating)[1]
	Oral (Rat) LD50: 1700 mg/kg[2]	Skin (rabbit): 25 mg (open)-mild
		Skin: adverse effect observed (irritating)[1]
dimethyltin dineodecanoate	**TOXICITY**	**IRRITATION**
	Oral (Rat) LD50: 892 mg/kg[1]	Eye: no adverse effect observed (not irritating)[1]
		Skin: adverse effect observed (irritating)[1]
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*	

Continued...

MarineWeld™ Syringe - Part B	**WARNING:** This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.
TITANIUM DIOXIDE (BROOKITE)	For titanium dioxide
TRIETHYLENEDIAMINE	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. 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. Some people may be genetically more prone than others, and exposure to other irritants may aggravate 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.
MarineWeld™ Syringe - Part B & TITANIUM DIOXIDE (BROOKITE)	Exposure to titanium dioxide is via inhalation, swallowing or skin contact. When inhaled, it may deposit in lung tissue and lymph nodes causing dysfunction of the lungs and immune system. Absorption by the stomach and intestines depends on the size of the particle.
TITANIUM DIOXIDE (BROOKITE) & DIMETHYLTIN DINEODECANOATE	No significant acute toxicological data identified in literature search.
TITANIUM DIOXIDE (BROOKITE) & TRIETHYLENEDIAMINE	The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. 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.
TRIETHYLENEDIAMINE & DIMETHYLTIN DINEODECANOATE	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. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant.

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

MarineWeld™ Syringe - Part B

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

titanium dioxide (brookite)

Endpoint	Test Duration (hr)	Species	Value	Source
BCF	1008h	Fish	<1.1-9.6	7
EC50	72h	Algae or other aquatic plants	3.75-7.58mg/l	4
EC50	48h	Crustacea	1.9mg/l	2
EC50	96h	Algae or other aquatic plants	179.05mg/l	2
LC50	96h	Fish	1.85-3.06mg/l	4
NOEC(ECx)	672h	Fish	>=0.004mg/L	2

triethylenediamine

Endpoint	Test Duration (hr)	Species	Value	Source
BCF	1008h	Fish	<1.3	7
EC50	72h	Algae or other aquatic plants	110mg/l	2
EC50	48h	Crustacea	92mg/l	Not Available
LC50	96h	Fish	1730mg/l	Not Available
EC50(ECx)	48h	Crustacea	92mg/l	Not Available

dimethyltin dineodecanoate

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	2mg/l	2
EC50	48h	Crustacea	39mg/l	2
NOEC(ECx)	72h	Algae or other aquatic plants	1.2mg/l	2

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 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*

Continued...

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
titanium dioxide (brookite)	HIGH	HIGH
triethylenediamine	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
titanium dioxide (brookite)	LOW (BCF = 10)
triethylenediamine	LOW (BCF = 13)

Mobility in soil

Ingredient	Mobility
titanium dioxide (brookite)	LOW (KOC = 23.74)
triethylenediamine	LOW (KOC = 95.14)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	▸ Containers may still present a chemical hazard/ danger when empty. ▸ Return to supplier for reuse/ recycling if possible. Otherwise: ▸ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. ▸ **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. ▸ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ▸ Recycle wherever possible or consult manufacturer for recycling options. ▸ Consult State Land Waste Management Authority for disposal. ▸ Bury residue in an authorised landfill.

SECTION 14 Transport information

Labels Required

Marine Pollutant	NO

Land transport (DOT): 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

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

Not Applicable

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

Product name	Group
titanium dioxide (brookite)	Not Available
triethylenediamine	Not Available
dimethyltin dineodecanoate	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
titanium dioxide (brookite)	Not Available
triethylenediamine	Not Available
dimethyltin dineodecanoate	Not Available

SECTION 15 Regulatory information

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

titanium dioxide (brookite) is found on the following regulatory lists

Continued...

Chemical Footprint Project - Chemicals of High Concern List	US - Massachusetts - Right To Know Listed Chemicals
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs	US DOE Temporary Emergency Exposure Limits (TEELs)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans	US NIOSH Carcinogen List
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)	US NIOSH Recommended Exposure Limits (RELs)
US - Alaska Air Quality Control - Concentrations Triggering an Air Quality Episode for Air Pollutants Other Than PM-2.5	US OSHA Permissible Exposure Limits (PELs) Table Z-1
US - California Proposition 65 - Carcinogens	US OSHA Permissible Exposure Limits (PELs) Table Z-3
US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List	US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

triethylenediamine is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs)	US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

dimethyltin dineodecanoate is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List	US OSHA Permissible Exposure Limits (PELs) Table Z-1
US NIOSH Recommended Exposure Limits (RELs)	US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

Additional Regulatory Information

Not Applicable

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	No
Reproductive toxicity	Yes
Skin Corrosion or Irritation	No
Respiratory or Skin Sensitization	No
Serious eye damage or eye irritation	No
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	No
Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

None Reported

US. EPCRA Section 313 Toxic Release Inventory (TRI) (40 CFR 372)

None Reported

Additional Federal Regulatory Information

Not Applicable

State Regulations

US. California Proposition 65

WARNING: This product can expose you to chemicals including **titanium dioxide (brookite)**, which is known to the State of California to cause cancer. For more information, go to www.P65Warnings.ca.gov

Additional State Regulatory Information

Not Applicable

National Inventory Status

Continued...

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (titanium dioxide (brookite); triethylenediamine; dimethyltin dineodecanoate)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (dimethyltin dineodecanoate)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (dimethyltin dineodecanoate)
Vietnam - NCI	Yes
Russia - FBEPH	Yes
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	12/07/2023
Initial Date	01/19/2022

SDS Version Summary

Version	Date of Update	Sections Updated
3.6	12/06/2023	Toxicological information - Acute Health (eye), Toxicological information - Acute Health (skin), Toxicological information - Chronic Health, Hazards identification - Classification, Disposal considerations - Disposal, Exposure controls / personal protection - Engineering Control, Firefighting measures - Fire Fighter (extinguishing media), Firefighting measures - Fire Fighter (fire/explosion hazard), Firefighting measures - Fire Fighter (fire fighting), First Aid measures - First Aid (eye), First Aid measures - First Aid (skin), Handling and storage - Handling Procedure, Composition / information on ingredients - Ingredients, Exposure controls / personal protection - Personal Protection (eye), Exposure controls / personal protection - Personal Protection (hands/feet), Accidental release measures - Spills (major), Accidental release measures - Spills (minor), Handling and storage - Storage (storage requirement), Handling and storage - Storage (suitable container)

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. Risks may be determined by reference to Exposures Scenarios.

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MarineWeld™ Syringe - Part B

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Relevant identified uses	Use according to manufacturer's directions.

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	**J-B Weld Company, LLC**
Address	400 CMH Road Sulphur Springs, TX 75482 United States
Telephone	903-885-7696
Fax	903-885-5911
Website	www.jbweld.com
Email	info@jbweld.com

Emergency phone number

Association / Organisation	**InfoTrac**
Emergency telephone numbers	**For US and Canada (24 hour): 1-800-535-5053**
Other emergency telephone numbers	**Not Available**

SECTION 2 Hazard(s) identification

Classification of the substance or mixture



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Canadian WHMIS Symbols



Classification	Reproductive Toxicity Category 2

Label elements

Hazard pictogram(s)	
Signal word	**Warning**

Page 1 continued...

Hazard statement(s)

H361	Suspected of damaging fertility or the unborn child.

Physical and Health hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P280	Wear protective gloves and protective clothing.

Precautionary statement(s) Response

P308+P313	IF exposed or concerned: Get medical advice/ attention.

Precautionary statement(s) Storage

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Precautionary statement(s) Disposal

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Substances

See section below for composition of Mixtures

Mixtures

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Description of first aid measures

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Skin Contact	If skin contact occurs: ▸ Immediately remove all contaminated clothing, including footwear. ▸ Flush skin and hair with running water (and soap if available). ▸ Seek medical attention in event of irritation.
Inhalation	▸ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▸ Other measures are usually unnecessary.
Ingestion	▸ 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.

SECTION 5 Fire-fighting measures

Extinguishing media

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.

Special protective equipment and precautions for fire-fighters

Fire Fighting	▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ Wear full body protective clothing with breathing apparatus.

Continued...

	▸ Prevent, by any means available, spillage from entering drains or water course.
Fire/Explosion Hazard	▸ Combustible. ▸ Slight fire hazard when exposed to heat or flame. ▸ Heating may cause expansion or decomposition leading to violent rupture of containers. May emit poisonous fumes. May emit corrosive fumes.

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	▸ Remove all ignition sources. ▸ Clean up all spills immediately. ▸ Avoid breathing vapours and contact with skin and eyes.
Major Spills	Moderate hazard. ▸ Clear area of personnel and move upwind. ▸ Alert Fire Brigade 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	▸ Avoid all personal contact, including inhalation. ▸ Wear protective clothing when risk of exposure occurs. ▸ Use in a well-ventilated area. ▸ **DO NOT** allow clothing wet with material to stay in contact with skin
Other information	▸ Store in original containers. ▸ Keep containers securely sealed. ▸ No smoking, naked lights or ignition sources.

Conditions for safe storage, including any incompatibilities

Suitable container	▸ Metal can or drum ▸ Packaging as recommended by manufacturer. ▸ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	Titanium dioxide ▸ reacts with strong acids, strong oxidisers ▸ reacts violently with aluminium, calcium, hydrazine, lithium (at around 200 deg C.), magnesium, potassium, sodium, zinc, especially at elevated temperatures - these reactions involves reduction of the oxide and are accompanied by incandescence ▸ dust or powders can ignite and then explode in a carbon dioxide atmosphere None known

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	titanium dioxide (brookite)	Titanium dioxide	10 mg/m3	20 mg/m3	Not Available	Not Available
Canada - Manitoba Occupational Exposure Limits	titanium dioxide (brookite)	Not Available	10 mg/m3	Not Available	Not Available	TLV® Basis: LRT irr
Canada - Prince Edward Island Occupational Exposure Limits	titanium dioxide (brookite)	Titanium dioxide	10 mg/m3	Not Available	Not Available	TLV® Basis: LRT irr
Canada - British Columbia Occupational Exposure Limits	titanium dioxide (brookite)	Titanium dioxide	10 mg/m3	Not Available	Not Available	(N) - the 8-hour TWA listed in the Table is for the total dust. The substance also has an 8-hour TWA of 3 mg/m 3 for the respirable fraction.
Canada - Ontario Occupational Exposure Limits	titanium dioxide (brookite)	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified (PNOS) (Respirable fraction)	3 mg/m3	Not Available	Not Available	(R) Respirable fraction: means that size fraction of the airborne particulate deposited in the gas-exchange region of the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets the ACGIH

Continued...

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
						particle size-selective sampling criteria for airborne particulate matter; and (b) has the cut point of 4 µm at 50 per cent collection efficiency.
Canada - Ontario Occupational Exposure Limits	titanium dioxide (brookite)	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified (PNOS) (Inhalable fraction)	10 mg/m3	Not Available	Not Available	(I) Inhalable fraction: means that size fraction of the airborne particulate deposited anywhere in the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets the ACGIH particle size-selective sampling criteria for airborne particulate matter; and (b) has the cut point of 100 µm at 50 per cent collection efficiency.
Canada - Nova Scotia Occupational Exposure Limits	titanium dioxide (brookite)	Titanium dioxide	10 mg/m3	Not Available	Not Available	TLV Basis: lower respiratory tract irritation
Canada - Alberta Occupational Exposure Limits	titanium dioxide (brookite)	Titanium dioxide	10 mg/m3	Not Available	Not Available	3 - Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required.
Canada - Northwest Territories Occupational Exposure Limits	titanium dioxide (brookite)	Titanium dioxide	10 mg/m3	20 mg/m3	Not Available	Not Available
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	titanium dioxide (brookite)	Titanium dioxide - Total dust	10 mg/m3	Not Available	Not Available	Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1%.
Canada - Manitoba Occupational Exposure Limits	triethylenediamine	Not Available	0.03 ppm	Not Available	Not Available	TLV® Basis: Resp sens; asthma
Canada - British Columbia Occupational Exposure Limits	triethylenediamine	Piperazine and its Salts, as Piperazine	0.3 mg/m3	1 mg/m3	Not Available	Not Available
Canada - Ontario Occupational Exposure Limits	triethylenediamine	Triethylenediamine	1 ppm / 4.6 mg/m3	Not Available	Not Available	Not Available
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	dimethyltin dineodecanoate	Tin, organic compounds (as Sn) - Skin	0.1 mg/m3	0.2 mg/m3	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	dimethyltin dineodecanoate	Tin, (as Sn): organic compounds	0.1 mg/m3	0.2 mg/m3	Not Available	Skin
Canada - Manitoba Occupational Exposure Limits	dimethyltin dineodecanoate	Not Available	0.1 mg/m3	0.2 mg/m3	Not Available	TLV® Basis: Eye & URT irr; headache; nausea; CNS & immune eff
Canada - Prince Edward Island Occupational Exposure Limits	dimethyltin dineodecanoate	Tin, organic compounds, as Sn	0.1 mg/m3	0.2 mg/m3	Not Available	TLV® Basis: Eye & URT irr; headache; nausea; CNS & immune eff
Canada - British Columbia Occupational Exposure Limits	dimethyltin dineodecanoate	Tin - Organic compounds, as Sn	0.1 mg/m3	0.2 mg/m3	Not Available	Not Available
Canada - Ontario Occupational Exposure Limits	dimethyltin dineodecanoate	Tin, as Sn - Organic compounds, as Sn	0.1 mg/m3	Not Available	Not Available	Not Available
Canada - Nova Scotia Occupational Exposure Limits	dimethyltin dineodecanoate	Tin - Organic compounds (as Sn)	0.1 mg/m3	0.2 mg/m3	Not Available	Not Available
Canada - Alberta Occupational Exposure Limits	dimethyltin dineodecanoate	Tin, as Sn: Organic compounds	0.1 mg/m3	0.2 mg/m3	Not Available	1 - substance may be readily absorbed through intact skin
Canada - Northwest Territories Occupational Exposure Limits	dimethyltin dineodecanoate	Tin, (as Sn): organic compounds	0.1 mg/m3	0.2 mg/m3	Not Available	Skin
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	dimethyltin dineodecanoate	Tin: Organic compounds (as Sn)	0.1 mg/m3	0.2 mg/m3	Not Available	Pc: SKIN (percutaneous): Exposure is by contact with vapours or, of probable greater significance, by direct skin contact with the substance. The cutaneous route includes mucous membranes and the eyes.

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
titanium dioxide (brookite)	30 mg/m3	330 mg/m3	2,000 mg/m3
triethylenediamine	5.1 mg/m3	56 mg/m3	340 mg/m3

Ingredient	Original IDLH	Revised IDLH
titanium dioxide (brookite)	5,000 mg/m3	Not Available
triethylenediamine	Not Available	Not Available
dimethyltin dineodecanoate	25 mg/m3	Not Available

Exposure controls

Appropriate engineering controls	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. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk.

Continued...

Individual protection measures, such as personal protective equipment	
Eye and face protection	‣ Safety glasses with side shields. ‣ Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent] ‣ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.
Skin protection	See Hand protection below
Hands/feet protection	‣ Wear chemical protective gloves, e.g. PVC. ‣ Wear safety footwear or safety gumboots, e.g. Rubber 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. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.
Body protection	See Other protection below
Other protection	‣ Overalls. ‣ P.V.C apron. ‣ Barrier cream.

Respiratory protection

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

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	White Liquid

Physical state	Liquid	**Relative density (Water = 1)**	1.2-1.4
Odour	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 (°C)**	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)	203		Not Available
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	Not Applicable	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Available
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 (1%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	‣ Unstable in the presence of incompatible materials. ‣ Product is considered stable. ‣ Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7

Continued...

Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
Ingestion	The material has **NOT** been classified by EC Directives or other classification systems as 'harmful by ingestion'. This is because of the lack of corroborating animal or human evidence.
Skin Contact	This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye	This material can cause eye irritation and damage in some persons.
Chronic	There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment. Ample evidence exists from experimentation that reduced human fertility is directly caused by exposure to the material.

MarineWeld™ Syringe - Part B		
	TOXICITY	**IRRITATION**
	Not Available	Not Available

titanium dioxide (brookite)		
	TOXICITY	**IRRITATION**
	dermal (hamster) LD50: >=10000 mg/kg[2]	Eye: no adverse effect observed (not irritating)[1]
	Inhalation(Rat) LC50: >2.28 mg/l4h[1]	Skin: no adverse effect observed (not irritating)[1]
	Oral (Rat) LD50: >=2000 mg/kg[1]	

triethylenediamine		
	TOXICITY	**IRRITATION**
	Dermal (rabbit) LD50: >2000 mg/kg[1]	Eye (rabbit): 25 mg - moderate
	Inhalation(Rat) LC50: >5.05 mg/l4h[1]	Eye: adverse effect observed (irritating)[1]
	Oral (Rat) LD50: 1700 mg/kg[2]	Skin (rabbit): 25 mg (open)-mild
		Skin: adverse effect observed (irritating)[1]

dimethyltin dineodecanoate		
	TOXICITY	**IRRITATION**
	Oral (Rat) LD50: 892 mg/kg[1]	Eye: no adverse effect observed (not irritating)[1]
		Skin: adverse effect observed (irritating)[1]

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*

MarineWeld™ Syringe - Part B	**WARNING:** This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.
TITANIUM DIOXIDE (BROOKITE)	For titanium dioxide
TRIETHYLENEDIAMINE	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. 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. Some people may be genetically more prone than others, and exposure to other irritants may aggravate 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.
MarineWeld™ Syringe - Part B & TITANIUM DIOXIDE (BROOKITE)	Exposure to titanium dioxide is via inhalation, swallowing or skin contact. When inhaled, it may deposit in lung tissue and lymph nodes causing dysfunction of the lungs and immune system. Absorption by the stomach and intestines depends on the size of the particle.
TITANIUM DIOXIDE (BROOKITE) & DIMETHYLTIN DINEODECANOATE	No significant acute toxicological data identified in literature search.

Continued...

TITANIUM DIOXIDE (BROOKITE) & TRIETHYLENEDIAMINE	The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. 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.
TRIETHYLENEDIAMINE & DIMETHYLTIN DINEODECANOATE	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. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant.

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

MarineWeld™ Syringe - Part B

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

titanium dioxide (brookite)

Endpoint	Test Duration (hr)	Species	Value	Source
BCF	1008h	Fish	<1.1-9.6	7
EC50	72h	Algae or other aquatic plants	3.75-7.58mg/l	4
EC50	48h	Crustacea	1.9mg/l	2
EC50	96h	Algae or other aquatic plants	179.05mg/l	2
LC50	96h	Fish	1.85-3.06mg/l	4
NOEC(ECx)	672h	Fish	>=0.004mg/L	2

triethylenediamine

Endpoint	Test Duration (hr)	Species	Value	Source
BCF	1008h	Fish	<1.3	7
EC50	72h	Algae or other aquatic plants	110mg/l	2
EC50	48h	Crustacea	92mg/l	Not Available
LC50	96h	Fish	1730mg/l	Not Available
EC50(ECx)	48h	Crustacea	92mg/l	Not Available

dimethyltin dineodecanoate

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	2mg/l	2
EC50	48h	Crustacea	39mg/l	2
NOEC(ECx)	72h	Algae or other aquatic plants	1.2mg/l	2

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 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*

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
titanium dioxide (brookite)	HIGH	HIGH
triethylenediamine	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
titanium dioxide (brookite)	LOW (BCF = 10)
triethylenediamine	LOW (BCF = 13)

Mobility in soil

Ingredient	Mobility
titanium dioxide (brookite)	LOW (KOC = 23.74)
triethylenediamine	LOW (KOC = 95.14)

Continued...

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	▸ Containers may still present a chemical hazard/ danger when empty. ▸ Return to supplier for reuse/ recycling if possible. Otherwise: ▸ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. ▸ **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. ▸ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ▸ Recycle wherever possible or consult manufacturer for recycling options. ▸ Consult State Land Waste Management Authority for disposal. ▸ Bury residue in an authorised landfill.

SECTION 14 Transport information

Labels Required

Marine Pollutant	NO

Land transport (TDG): 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

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

Not Applicable

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

Product name	Group
titanium dioxide (brookite)	Not Available
triethylenediamine	Not Available
dimethyltin dineodecanoate	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
titanium dioxide (brookite)	Not Available
triethylenediamine	Not Available
dimethyltin dineodecanoate	Not Available

SECTION 15 Regulatory information

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

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

titanium dioxide (brookite) is found on the following regulatory lists

Canada Categorization decisions for all DSL substances
Canada Domestic Substances List (DSL)
Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS GHS
Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

triethylenediamine is found on the following regulatory lists

Canada Categorization decisions for all DSL substances
Canada Domestic Substances List (DSL)

dimethyltin dineodecanoate is found on the following regulatory lists

Canada Categorization decisions for all DSL substances
Canada Domestic Substances List (DSL)
Chemical Footprint Project - Chemicals of High Concern List

Additional Regulatory Information

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes

Continued...

National Inventory	Status
Canada - NDSL	No (titanium dioxide (brookite); triethylenediamine; dimethyltin dineodecanoate)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (dimethyltin dineodecanoate)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (dimethyltin dineodecanoate)
Vietnam - NCI	Yes
Russia - FBEPH	Yes
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	12/07/2023
Initial Date	01/19/2022

SDS Version Summary

Version	Date of Update	Sections Updated
3.6	12/06/2023	Toxicological information - Acute Health (eye), Toxicological information - Acute Health (skin), Toxicological information - Chronic Health, Hazards identification - Classification, Disposal considerations - Disposal, Exposure controls / personal protection - Engineering Control, Firefighting measures - Fire Fighter (extinguishing media), Firefighting measures - Fire Fighter (fire/explosion hazard), Firefighting measures - Fire Fighter (fire fighting), First Aid measures - First Aid (eye), First Aid measures - First Aid (skin), Handling and storage - Handling Procedure, Composition / information on ingredients - Ingredients, Exposure controls / personal protection - Personal Protection (eye), Exposure controls / personal protection - Personal Protection (hands/feet), Accidental release measures - Spills (major), Accidental release measures - Spills (minor), Handling and storage - Storage (storage requirement), Handling and storage - Storage (suitable container)

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. Risks may be determined by reference to Exposures Scenarios.

Powered by AuthorITe, from Chemwatch.

MarineWeld™ Syringe - Part B

J-B Weld Company, LLC

Version Num: **4.6**
Fiche de données de sécurité selon les exigences du SIMDUT 2015

Date d'émission: **12/07/2023**
Date d'impression: **12/07/2023**
S.GHS.CAN.FR

SECTION 1 Identification

Identificateur de produit

Nom du produit	MarineWeld™ Syringe - Part B
Synonymes	50172 MarineWeld™ Syringe Part B
Autres moyens d'identification	UFI:FGXF-64NM-V00E-8GF2

Utilisation recommandée de la substance chimique et les restrictions sur l'utilisation

Utilisations identifiées pertinentes	Utilisé selon les instructions du fabricant.

Nom, adresse et numéro de téléphone du fabricant du produit chimique, importateur et autre partie responsable

Nom commercial de l'entreprise	**J-B Weld Company, LLC**
Adresse	400 CMH Road Sulphur Springs, TX 75482 United States
Téléphone	903-885-7696
Fax	903-885-5911
Site Internet	www.jbweld.com
Courriel	info@jbweld.com

Numéros de téléphone d'urgence

Association / Organisation	**InfoTrac**
Numéro de téléphone d'appel d'urgence	**For US and Canada (24 hour): 1-800-535-5053**
Autres numéros de téléphone d'urgence	**Pas Disponible**

SECTION 2 Identification des dangers

Classification de la substance ou du mélange



Remarque : Les numéros de catégorie de danger trouvés dans la classification SGH à la section 2 de ces FDS ne doivent PAS être utilisés pour remplir le losange NFPA 704. Bleu = Santé Rouge = Feu Jaune = Réactivité Blanc = Spécial (oxydant ou substance réactive à l'eau)

Symboles SIMDUT canadiennes



Classification	TOXICITÉ POUR LA REPRODUCTION Catégorie 2

Éléments d'étiquetage

Pictogramme(s) de danger	

Mention d'avertissement	**Attention**

Déclaration(s) sur les risques

H361	Susceptible de nuire à la fertilité ou au fœtus.

Danger physique et risque pour la santé non classé ailleurs

Sans Objet

Déclarations de Sécurité: Prévention

P201	Se procurer les instructions avant utilisation.
P280	Porter des gants de protection et des vêtements de protection.

Déclarations de Sécurité: Réponse

P308+P313	EN CAS d'exposition prouvée ou suspectée: consulter un médecin

Déclarations de Sécurité: Stockage

P405	Garder sous clef.

Déclarations de Sécurité: Élimination

P501	Éliminer le contenu/récipient dans un centre de collecte des déchets dangereux ou spéciaux autorisé conformément à toute réglementation locale.

SECTION 3 Composition/informations sur les composants

Substances

Voir la section ci-dessous pour la composition des mélanges

Mélanges

Numéro CAS	%[poids]	Nom
13463-67-7	5-10	BIOXYDE DE TITANE
280-57-9	<1	1,4-DIAZABICYCLO[2.2.2]OCTANE
68928-76-7	<1	bis(néodécanoyloxy)(diméthyl)stannane

L'identité chimique spécifique et/ou le pourcentage exacte (concentration) de la composition sont couverts par le secret de fabrication.

SECTION 4 Premiers secours

Description des premiers secours

Contact avec les yeux	Si ce produit entre en contact avec les yeux : ▸ Maintenir immédiatement les yeux ouverts et rincer de manière continue avec de l'eau claire. ▸ S'assurer d une irrigation complète des yeux en gardant les paupières écartées et éloignées du centre des yeux et aussi en soulevant occasionnellement les paupières du haut et du bas. ▸ Si la douleur persiste ou réapparaît, rechercher un avis médical. ▸ En cas de blessures aux yeux, les lentilles de contact ne doivent être retirées que par une personne formée.
Contact avec la peau	Si le produit entre en contact avec la peau: ▸ Retirer immédiatement tous les vêtements contaminés, chaussures incluses. ▸ Laver les zones affectées à grand eau (et avec du savon si disponible). ▸ Rechercher un avis médical en cas d'irritation.
Inhalation	▸ En cas d'inhalation de fumées ou d'ingestion de produits de combustion : Déplacez-vous vers un endroit aéré. ▸ En général, d'autres mesures ne sont pas nécessaires.
Ingestion	▸ Donnez un verre d'eau immédiatement. ▸ Les premiers soins ne sont généralement pas nécessaires. En cas de doute, contactez un centre anti-poisons ou un médecin.

Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires

Traiter symptomatiquement.

SECTION 5 Mesures de lutte contre l'incendie

Moyens d'extinction

- Mousse.
- Poudre chimique sèche.
- BCF (lorsque le règlement le permet).

Dangers particuliers résultant de la substance ou du mélange

Incompatibilité au feu	Non connu.

Suite...

Équipement de protection spécial et précautions particulières pour les pompiers

Lutte Incendie	‣ Alerter les pompiers et leur indiquer l'endroit et la nature du risque. ‣ Porter un vêtement de protection complet avec un appareil respiratoire. ‣ Prévenir par tous les moyens, les éclaboussures d'entrer dans les drains et voies d'eau.
Risque D'Incendie/Explosion	‣ Combustible. ‣ Faible risque d'incendie si exposé à la chaleur ou à une flamme. ‣ Un échauffement peut provoquer une expansion ou une décomposition conduisant une rupture violente des containers rigides. Peut émettre des fumées toxiques. Peut émettre des fumées corrosives.

SECTION 6 Mesures à prendre en cas de dispersion accidentelle

Précautions individuelles, équipement de protection et procédures d'urgence

Voir l'article 8

Précautions pour la protection de l'environnement

Voir section 12

Méthodes et matériel de confinement et de nettoyage

Eclaboussures Mineures	‣ Retirer toutes les sources d'allumage. ‣ Nettoyer immédiatement toutes les éclaboussures. ‣ Eviter de respirer les vapeurs et éviter un contact des yeux et de la peau.
Eclaboussures Majeures	Risque modéré. ‣ Vider la zone de son personnel et se déplacer contre le vent. ‣ Alerter les pompiers et leurs indiquer l'endroit et la nature du risque.

Le conseil sur l'équipement de protection individuel est contenu dans la rubrique 8 de la FDS.

SECTION 7 Manipulation et stockage

Précautions à prendre pour une manipulation sans danger

Manipulation Sure	‣ Evitez tout contact de la personne, même l'inhalation. ‣ Mettez des vêtements de protection qui protègent lorsqu'il y a risque d'exposition. Travaillez dans un endroit bien aéré. **NE PAS** permettre des vêtements humidifiés par le produit de demeurer en contact avec la peau.
Autres Données	‣ Conserver dans les containers d'origine. ‣ Conserver les containers scellés. ‣ Ne pas fumer, pas de lumière à nu ni de source d'allumage.

Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités

Container adapté	Vérifier que tous les containers sont clairement étiquetés et sans fuite.
Incompatibilite de Stockage	Le dioxyde de titane ‣ réagit avec les acides forts, les oxydants forts ‣ réagit violemment avec l'aluminium, le calcium, l'hydrazine, le lithium (à environ 200 ° C), le magnésium, le potassium, le sodium, le zinc, en particulier à des températures élevées - ces réactions impliquent une réduction de l'oxyde et s'accompagnent d'une incandescence ‣ la poussière ou les poudres peuvent s'enflammer puis exploser dans une atmosphère de dioxyde de carbone Inconnu.

SECTION 8 Contrôles de l'exposition/protection individuelle

Paramètres de contrôle

Valeurs limites d'exposition professionnelle (VLEP)

DONNEES SUR LES INGREDIENTS

Source	Composant	Nom du produit	VME	STEL	pic	Notes
Canada - Saskatchewan sur la santé et la sécurité au travail - des limites de contamination	BIOXYDE DE TITANE	Titanium dioxide	10 mg/m3	20 mg/m3	Pas Disponible	Pas Disponible
Canada - Manitoba Limites d'exposition professionnelle	BIOXYDE DE TITANE	Pas Disponible	10 mg/m3	Pas Disponible	Pas Disponible	TLV® Basis: LRT irr
Canada - Île-du-Prince-Édouard Limites d'exposition professionnelle	BIOXYDE DE TITANE	Titanium dioxide	10 mg/m3	Pas Disponible	Pas Disponible	TLV® Basis: LRT irr
Canada - Colombie-Britannique Limites D'Exposition Professionnelle	BIOXYDE DE TITANE	Titanium dioxide	10 mg/m3	Pas Disponible	Pas Disponible	(N) - the 8-hour TWA listed in the Table is for the total dust. The substance also has an 8-hour TWA of 3 mg/m 3 for the respirable fraction.

Suite...

Source	Composant	Nom du produit	VME	STEL	pic	Notes
Canada - Limites d'exposition professionnelle en Ontario	BIOXYDE DE TITANE	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified (PNOS) (Inhalable fraction)	10 mg/m3	Pas Disponible	Pas Disponible	(I) Inhalable fraction: means that size fraction of the airborne particulate deposited anywhere in the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets the ACGIH particle size-selective sampling criteria for airborne particulate matter; and (b) has the cut point of 100 µm at 50 per cent collection efficiency.
Canada - Limites d'exposition professionnelle en Ontario	BIOXYDE DE TITANE	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified (PNOS) (Respirable fraction)	3 mg/m3	Pas Disponible	Pas Disponible	(R) Respirable fraction: means that size fraction of the airborne particulate deposited in the gas-exchange region of the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets the ACGIH particle size-selective sampling criteria for airborne particulate matter; and (b) has the cut point of 4 µm at 50 per cent collection efficiency.
Canada - Nouvelle-Écosse Limites d'exposition professionnelle	BIOXYDE DE TITANE	Titanium dioxide	10 mg/m3	Pas Disponible	Pas Disponible	TLV Basis: lower respiratory tract irritation
Canada - Limites d'exposition professionelle sur les Territoires du Nord-Ouest	BIOXYDE DE TITANE	Dioxyde de titane	10 mg/m3	20 mg/m3	Pas Disponible	Pas Disponible
Canada - Limites d'exposition professionnelle de l'Alberta	BIOXYDE DE TITANE	Titanium dioxide	10 mg/m3	Pas Disponible	Pas Disponible	3 - Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required.
Canada - Valeurs d'exposition admissibles aux contaminants de l'air au Quebec	BIOXYDE DE TITANE	Titane, dioxyde de - la poussière totale	10 mg/m3	Pas Disponible	Pas Disponible	Note 1: La norme correspond à la poussière ne contenant pas d'amiante et dont le pourcentage de silice cristalline est inférieur à 1%.
Canada - Manitoba Limites d'exposition professionnelle	1,4-DIAZABICYCLO[2.2.2]OCTANE	Pas Disponible	0.03 ppm	Pas Disponible	Pas Disponible	TLV® Basis: Resp sens; asthma
Canada - Colombie-Britannique Limites D'Exposition Professionnelle	1,4-DIAZABICYCLO[2.2.2]OCTANE	Piperazine and its Salts, as Piperazine	0.3 mg/m3	1 mg/m3	Pas Disponible	Pas Disponible
Canada - Limites d'exposition professionnelle en Ontario	1,4-DIAZABICYCLO[2.2.2]OCTANE	Triethylenediamine	1 ppm / 4.6 mg/m3	Pas Disponible	Pas Disponible	Pas Disponible
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	bis(néodécanoyloxy) (diméthyl)stannane	Tin, organic compounds (as Sn) - Skin	0.1 mg/m3	0.2 mg/m3	Pas Disponible	Pas Disponible
Canada - Saskatchewan sur la santé et la sécurité au travail - des limites de contamination	bis(néodécanoyloxy) (diméthyl)stannane	Tin, (as Sn): organic compounds	0.1 mg/m3	0.2 mg/m3	Pas Disponible	Skin
Canada - Manitoba Limites d'exposition professionnelle	bis(néodécanoyloxy) (diméthyl)stannane	Pas Disponible	0.1 mg/m3	0.2 mg/m3	Pas Disponible	TLV® Basis: Eye & URT irr; headache; nausea; CNS & immune eff
Canada - Île-du-Prince-Édouard Limites d'exposition professionnelle	bis(néodécanoyloxy) (diméthyl)stannane	Tin, organic compounds, as Sn	0.1 mg/m3	0.2 mg/m3	Pas Disponible	TLV® Basis: Eye & URT irr; headache; nausea; CNS & immune eff
Canada - Colombie-Britannique Limites D'Exposition Professionnelle	bis(néodécanoyloxy) (diméthyl)stannane	Tin - Organic compounds, as Sn	0.1 mg/m3	0.2 mg/m3	Pas Disponible	Pas Disponible
Canada - Limites d'exposition professionnelle en Ontario	bis(néodécanoyloxy) (diméthyl)stannane	Tin, as Sn - Organic compounds, as Sn	0.1 mg/m3	Pas Disponible	Pas Disponible	Pas Disponible
Canada - Nouvelle-Écosse Limites d'exposition professionnelle	bis(néodécanoyloxy) (diméthyl)stannane	Tin - Organic compounds (as Sn)	0.1 mg/m3	0.2 mg/m3	Pas Disponible	Pas Disponible
Canada - Limites d'exposition professionelle sur les Territoires du Nord-Ouest	bis(néodécanoyloxy) (diméthyl)stannane	Étain (comme Sn) : Composés organiques	0.1 mg/m3	0.2 mg/m3	Pas Disponible	Peau
Canada - Limites d'exposition professionnelle de l'Alberta	bis(néodécanoyloxy) (diméthyl)stannane	Tin, as Sn: Organic compounds	0.1 mg/m3	0.2 mg/m3	Pas Disponible	1 - substance may be readily absorbed through intact skin
Canada - Valeurs d'exposition admissibles aux contaminants de l'air au Quebec	bis(néodécanoyloxy) (diméthyl)stannane	Étain: Composés organiques (exprimée en Sn)	0,1 mg/m3	0,2 mg/m3	Pas Disponible	Pc: PEAU (percutanée)

Limites d'urgence

Suite...

Composant	TEEL-1	TEEL-2	TEEL-3
BIOXYDE DE TITANE	30 mg/m3	330 mg/m3	2,000 mg/m3
1,4-DIAZABICYCLO[2.2.2]OCTANE	5.1 mg/m3	56 mg/m3	340 mg/m3

Composant	IDLH originale	IDLH révisé
BIOXYDE DE TITANE	5,000 mg/m3	Pas Disponible
1,4-DIAZABICYCLO[2.2.2]OCTANE	Pas Disponible	Pas Disponible
bis(néodécanoyloxy) (diméthyl)stannane	25 mg/m3	Pas Disponible

Contrôles de l'exposition

Contrôles techniques appropriés	Une ventilation locale d'évacuation est habituellement nécessaire. Si un risque d'exposition existe, il faut porter un respirateur approuvé. Un bon ajustement des vêtements est essentiel pour obtenir une protection adéquate.
Mesures de protection individuelle, telles que les équipements de protection individuelle	
Protection des yeux/du visage.	‣ Lunettes de sécurité avec protections latérales ‣ Lunettes chimiques. [AS/NZS 1337.1, EN166 ou équivalent national] ‣ Les lentilles de contact peuvent présenter un danger particulier; les lentilles de contact souples peuvent absorber et concentrer les irritants. Un document de politique écrit, décrivant le port de lentilles ou les restrictions d'utilisation, doit être créé pour chaque lieu de travail ou tâche.
Protection de la peau	Voir protection Main ci-dessous
Protection des mains / pieds	Porter des gants de protection contre les produits chimiques, par exemple en PVC. Porter des chaussures de sécurité ou des bottes en plastique. Le choix de gants appropriés ne dépend pas seulement du matériau, mais aussi d'autres critères de qualité qui peuvent varier d'un fabricant à l'autre. Lorsque le produit chimique est une préparation de plusieurs substances, la résistance des matériaux des gants ne peut pas être calculée à l'avance et doit donc être contrôlée avant l'application. La rupture exacte dans le temps des substances doit être obtenue auprès du fabricant des gants de protection et et doit être observé lors du choix final.
Protection corporelle	Voir Autre protection ci-dessous
Autres protections	‣ Tenue complète. ‣ Tablier en P.V.C. ‣ Crème protectrice.

Protection respiratoire

Filtre de type AK-P de capacité suffisante (AS / NZS 1716 et 1715, EN 143:2000 et 149:2001, ANSI Z88 ou équivalent national)

SECTION 9 Propriétés physiques et chimiques

Informations sur les propriétés physiques et chimiques essentielles

Aspect	White Liquid

État Physique	liquide	**Densité relative (l'eau = 1)**	1.2-1.4
Odeur	Pas Disponible	**Coefficient de partition n-octanol / eau**	Pas Disponible
Seuil pour les odeurs	Pas Disponible	**Température d'auto-allumage (°C)**	Pas Disponible
pH (comme fourni)	Pas Disponible	**Température de décomposition**	Pas Disponible
Point de fusion / point de congélation (° C)	Pas Disponible	**Viscosité (cSt)**	Pas Disponible
Point d'ébullition initial et plage d'ébullition (° C)	Pas Disponible	**Poids Moléculaire (g/mol)**	Pas Disponible
Point d'éclair (°C)	203		Pas Disponible
Taux d'évaporation	Pas Disponible	**Propriétés explosives**	Pas Disponible
Inflammabilité	Sans Objet	**Propriétés oxydantes**	Pas Disponible
Limite supérieure d'explosivité	Pas Disponible	**La tension de surface (dyn/cm or mN/m)**	Pas Disponible
Limite inférieure d'explosivité (LIE)	Pas Disponible	**Composé volatile (%vol)**	Pas Disponible
Pression de vapeur (kPa)	Pas Disponible	**Groupe du Gaz**	Pas Disponible
Hydrosolubilité	Non miscible	**pH en solution (1%)**	Pas Disponible

Suite...

Densité de vapeur (Air = 1)	Pas Disponible	**Composés organiques volatils g/L**	Pas Disponible

SECTION 10 Stabilité et réactivité

Réactivité	Voir section 7
Stabilité chimique	▸ Présence de matériaux incompatibles. ▸ Le produit est considéré stable. ▸ Une polymérisation dangereuse n'aura pas lieu.
Possibilité de réactions dangereuses	Voir section 7
Conditions à éviter	Voir section 7
Matières incompatibles	Voir section 7
Produits de décomposition dangereux	Voir Section 5

SECTION 11 Informations toxicologiques

Informations sur les effets toxicologiques

Inhalé	Le produit n'est pas censé produire des effets négatifs sur la santé ni des irritations du système respiratoire (tels que classifiées par les directives CE se basant sur des modèles animaux). Néanmoins, la pratique d'une bonne hygiène requiert de conserver les expositions à un minimum et que des mesures de contrôle adaptées soient mises en place lors d'une pratique professionnel.
Ingestion	Le produit **N'A PAS ETE** classifié sous les directives CE ou sous un autre système de classification comme 'nocif par ingestion'. Ceci est du au manque de preuves corroborantes chez les animaux et les humains. Le produit peut néanmoins être dommageable pour la santé de l'individu, suivant une ingestion, particulièrement si des organes précédemment endommagés (i.e. foie, reins) sont présents.
Contact avec la peau	Ce produit à la capacité de provoquer une inflammation au contact de la peau chez certaines personnes. Le produit peut accentuer toute condition dermite pré-existante. Un contact de la peau n'est pas connu pour avoir des effets nocifs sur la santé (classifié comme tel par la directive CE); le produit peut néanmoins produire des dommages sur la santé après une entrée par des blessures, des lésions ou des abrasions. Le coupures ouvertes, une peau irritée ou abrasive ne devrait pas être exposé à ce produit. Une entrée dans le système sanguin, via par exemple, des coupures, des abrasions ou des lésions, peut produire des blessures systémiques avec des effets nocifs. Examiner les peau avant l'utilisation du produit et s'assurer que les dommages externes sont correctement protégés.
Yeux	Le produit à la capacité de provoquer une irritation des yeux et des dommages chez certaines personnes.
Chronique	Sur la base d'expériences animales d'abord, le matériel peut avoir des effets carcinogènes ou mutagènes; selon les informations disponibles, néanmoins, il n'existe actuellement que des données inappropriées pour estimer la situation de manière satisfaisante Il existe suffisamment de preuves pour établir une relation de cause à effet entre l'exposition de l'homme au matériel et un taux de fertilité diminué.

MarineWeld™ Syringe - Part B	**TOXICITÉ**	**IRRITATION**
	Pas Disponible	Pas Disponible
BIOXYDE DE TITANE	**TOXICITÉ**	**IRRITATION**
	Dermiquel (hamster) LD50: >=10000 mg/kg[2]	Peau: aucun effet nocif observé (non irritant)[1]
	Inhalation(Rat) LC50; >2.28 mg/l4h[1]	Yeux: aucun effet nocif observé (non irritant)[1]
	Oral(Rat) LD50; >=2000 mg/kg[1]	
1,4-DIAZABICYCLO[2.2.2]OCTANE	**TOXICITÉ**	**IRRITATION**
	Dermiquel (lapin) LD50: >2000 mg/kg[1]	Eye (rabbit): 25 mg - moderate
	Inhalation(Rat) LC50; >5.05 mg/l4h[1]	Peau: effet nocif observé (irritant)[1]
	Oral(Rat) LD50; 1700 mg/kg[2]	Skin (rabbit): 25 mg (open)-mild
		Yeux: effet nocif observé (irritant)[1]
bis(néodécanoyloxy) (diméthyl)stannane	**TOXICITÉ**	**IRRITATION**
	Oral(Rat) LD50; 892 mg/kg[1]	Peau: effet nocif observé (irritant)[1]
		Yeux: aucun effet nocif observé (non irritant)[1]

Légende:	*1 Valeur obtenue substances Europe de l'ECHA enregistrés de -.. Toxicité aiguë 2 Valeur obtenue à partir de la fiche signalétique du fabricant, sauf les données spécifiées soient extraites du RTECS - Registre des effets toxiques des substances chimiques*

MarineWeld™ Syringe - Part B	AVERTISSEMENT : Cette substance a été classée par l'IARC comme appartenant au Groupe 2B : Possible cancérigène pour les humains.

Suite...

1,4-DIAZABICYCLO[2.2.2]OCTANE	Les informations suivantes concernent les allergènes de contact en tant que groupe et ne sont pas forcément spécifiques à ce produit. Les allergies de contact se manifestent rapidement par un eczéma de contact, plus rarement par de l'urticaire ou un œdème de Quincke. La pathogenèse de l'eczéma de contact implique une réaction immunitaire à médiation cellulaire (lymphocytes T) de type retardé. Une attention particulière est attirée sur la diathèse dite atopique qui se caractérise par une sensibilité accrue à la rhinite allergique, à l'asthme bronchique allergique et à l'eczéma atopique (neurodermatite) qui est associée à une augmentation de la synthèse des IgE. Les alvéolites allergiques exogènes sont introduit principalement par des imuno-complexes allergènes spécifiques de type IgG ; les réactions à médiations cellulaires (lymphocytes T) peuvent être impliqués. Une telle allergie est de type retardataire de 4 heures par rapport au début de l'exposition.
BIOXYDE DE TITANE & BIS(NÉODÉCANOYLOXY) (DIMÉTHYL)STANNANE	Aucune donnée toxicologique aiguë significative n'a été identifiée lors de la recherche bibliographique.
BIOXYDE DE TITANE & 1,4-DIAZABICYCLO[2.2.2]OCTANE	Le produit peut produire une irritation modérée des yeux aboutissant à une inflammation. Une exposition prolongée ou répétée aux irritants peut produire des conjonctivites. Le produit peut causer une irritation de la peau après une exposition prolongée ou répétée et peut produire au contact de la peau des rougeurs, des tuméfactions, une production de vésicules, la formation d'écailles et un épaississement de la peau.
1,4-DIAZABICYCLO[2.2.2]OCTANE & BIS(NÉODÉCANOYLOXY) (DIMÉTHYL)STANNANE	Des symptômes de type asthmatique peuvent persister pendant des mois, voire des années, après la fin de l'exposition à la substance. Cela peut être dû à un état non allergique connu sous le nom de syndrome de dysfonctionnement réactif des voies aériennes (syndrome de Brooks) qui peut survenir à la suite d'une exposition à des niveaux élevés de composé très irritant. Les principaux critères de diagnostic du syndrome de Brooks comprennent l'absence de maladie respiratoire antérieure, chez un individu non atopique, avec apparition soudaine de symptômes persistants de type asthmatique dans les minutes ou les heures suivant une exposition documentée à l'irritant.

toxicité aiguë	✗	**Cancérogénicité**	✗
Irritation / corrosion	✗	**reproducteur**	✓
Lésions oculaires graves / irritation	✗	**STOT - exposition unique**	✗
Sensibilisation respiratoire ou cutanée	✗	**STOT - exposition répétée**	✗
Mutagénéité	✗	**risque d'aspiration**	✗

Légende: ✗ *– Les données pas disponibles ou ne remplit pas les critères de classification*
✓ *– Données nécessaires à la classification disponible*

SECTION 12 Informations écologiques

Toxicité

MarineWeld™ Syringe - Part B

ENDPOINT	Durée de l'essai (heures)	espèce	Valeur	source
Pas Disponible	Pas Disponible	Pas Disponible	Pas Disponible	Pas Disponible

BIOXYDE DE TITANE

ENDPOINT	Durée de l'essai (heures)	espèce	Valeur	source
BCF	1008h	Poisson	<1.1-9.6	7
EC50	72h	Les algues ou d'autres plantes aquatiques	3.75-7.58mg/l	4
EC50	48h	crustacés	1.9mg/l	2
EC50	96h	Les algues ou d'autres plantes aquatiques	179.05mg/l	2
LC50	96h	Poisson	1.85-3.06mg/l	4
NOEC(ECx)	672h	Poisson	>=0.004mg/L	2

1,4-DIAZABICYCLO[2.2.2]OCTANE

ENDPOINT	Durée de l'essai (heures)	espèce	Valeur	source
BCF	1008h	Poisson	<1.3	7
EC50	72h	Les algues ou d'autres plantes aquatiques	110mg/l	2
EC50	48h	crustacés	92mg/l	Pas Disponible
LC50	96h	Poisson	1730mg/l	Pas Disponible
EC50(ECx)	48h	crustacés	92mg/l	Pas Disponible

bis(néodécanoyloxy) (diméthyl)stannane

ENDPOINT	Durée de l'essai (heures)	espèce	Valeur	source
EC50	72h	Les algues ou d'autres plantes aquatiques	2mg/l	2
EC50	48h	crustacés	39mg/l	2
NOEC(ECx)	72h	Les algues ou d'autres plantes aquatiques	1.2mg/l	2

Légende: *Extrait de 1. Donnees de toxicite de IUCLID 2. Substances enregistrees par ECHA en Europe - informations ecotoxicologiques - Toxicite aquatique 4. Base de donnees ECOTOX de l'Agence de protection de l'environnement (EPA) des Etats-Unis- Donnees de toxicite aquatique 5. Donnees d'evaluation des risques aquatiques ECETOC 6. NITE (Japon) - Donnees de bioconcentration 7. METI (Japon) - Donnees de bioconcentration*

Ne pas laisser pénétrer dans la nappe phréatique, les eaux ou les canalisations.

Persistance et dégradabilité

Composant	Persistance: Eau/Sol	Persistance: l'air
BIOXYDE DE TITANE	HAUT	HAUT

Suite...

Composant	Persistance: Eau/Sol	Persistance: l'air
1,4-DIAZABICYCLO[2.2.2]OCTANE	HAUT	HAUT

Potentiel de bioaccumulation

Composant	Bioaccumulation
BIOXYDE DE TITANE	BAS (BCF = 10)
1,4-DIAZABICYCLO[2.2.2]OCTANE	BAS (BCF = 13)

Mobilité dans le sol

Composant	Mobilité
BIOXYDE DE TITANE	BAS (KOC = 23.74)
1,4-DIAZABICYCLO[2.2.2]OCTANE	BAS (KOC = 95.14)

SECTION 13 Considérations relatives à l'élimination

Méthodes de traitement des déchets

Elimination du produit / emballage	▸ Les conteneurs peuvent encore présenter un danger / danger chimique lorsqu'ils sont vides. ▸ Retourner au fournisseur pour réutilisation / recyclage si possible. Autrement: ▸ Si le conteneur ne peut pas être nettoyé suffisamment bien pour garantir qu'il ne reste pas de résidus ou si le conteneur ne peut pas être utilisé pour stocker le même produit, perforer les conteneurs pour éviter leur réutilisation et les enfouir dans une décharge autorisée. Les législations concernant les exigences pour l'élimination des déchets peuvent être différentes suivant les pays, régions ou/ou territoires. Chaque utilisateur doit se conformer aux lois régissant la zone où il se trouve. Dans des cas particuliers, certains déchets doivent faire l'objet d'un suivi. NE PAS permettre à l'eau provenant du lavage ou de l'équipement de pénétrer dans les conduits d'eau. Il peut s'avérer nécessaire de collecter toute l'eau de lavage pour un traitement préalable avant l'élimination. Dans tous les cas, une élimination dans les égouts peut-être soumise à des lois et réglementations et ces dernières doivent être prises en compte de manière prioritaire. ▸ Recycler si possible ou consulter le fabricant pour les options de recyclage. ▸ Consulter l'Autorité de regulation des déchets pour un traitement. ▸ Recycler les containers si possible ou en disposer dans un lieu autorisé.

SECTION 14 Informations relatives au transport

Etiquettes nécessaires

Polluant marin	aucun

Transport terrestre (TDG): NON REGLEMENTE PAR LE CODE DES TRANSPORTS CONCERNANT LES MARCHANDISES DANGEREUSES

Transport aérien (ICAO-IATA / DGR): NON REGLEMENTE PAR LE CODE DES TRANSPORTS CONCERNANT LES MARCHANDISES DANGEREUSES

Transport maritime (IMDG-Code / GGVSee): NON REGLEMENTE PAR LE CODE DES TRANSPORTS CONCERNANT LES MARCHANDISES DANGEREUSES

14.7.1. Transport en vrac conformément à l'annexe II de la convention Marpol et au recueil IBC

Sans Objet

14.7.2. Transport en vrac conformément à l'annexe V et MARPOL Code IMSBC

Nom du produit	Grouper
BIOXYDE DE TITANE	Pas Disponible
1,4-DIAZABICYCLO[2.2.2]OCTANE	Pas Disponible
bis(néodécanoyloxy) (diméthyl)stannane	Pas Disponible

14.7.3. Transport en vrac conformément aux dispositions du Code IGC

Nom du produit	Type de navire
BIOXYDE DE TITANE	Pas Disponible
1,4-DIAZABICYCLO[2.2.2]OCTANE	Pas Disponible
bis(néodécanoyloxy) (diméthyl)stannane	Pas Disponible

SECTION 15 Informations réglementaires

Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement

Ce produit a été classé conformément aux critères de danger du Règlement sur les produits dangereux et la FDS contient toutes les informations requises par le Règlement sur les produits dangereux.

BIOXYDE DE TITANE Est disponible dans les textes réglementaires suivants

Suite...

Agence Internationale pour la Recherche sur le Cancer (CIRC) - Agents classés par les Monographies du CIRC	Liste internationale OMS de la limite proposée d'exposition professionnelle (VLEP) Les valeurs pour les nanomatériaux manufacturés (MNMS)
Canada Catégorisation des décisions pour toutes les substances de la LIS	Projet d'empreinte chimique - Liste des produits chimiques préoccupants
Canada Liste Intérieure des Substances (DSL)	Service d'index toxicologique du Canada - Système d'information sur les matières dangereuses utilisées au travail - SIMDUT SGH
Centre International de recherche sur le cancer (CIRC) - Agents classés par les monographies du CIRC - Groupe 2B: Peut-être cancérogène pour l'homme	

1,4-DIAZABICYCLO[2.2.2]OCTANE Est disponible dans les textes réglementaires suivants

Canada Catégorisation des décisions pour toutes les substances de la LIS	Canada Liste Intérieure des Substances (DSL)

bis(néodécanoyloxy)(diméthyl)stannane Est disponible dans les textes réglementaires suivants

Canada Catégorisation des décisions pour toutes les substances de la LIS	Projet d'empreinte chimique - Liste des produits chimiques préoccupants
Canada Liste Intérieure des Substances (DSL)	

Informations Réglementaires Supplémentaires

N'est pas applicable

État de l'inventaire national

Inventaire national	Statut
Australie - AIIC / Australie non-utilisation industrielle	Oui
Canada - DSL	Oui
Canada - NDSL	Non (BIOXYDE DE TITANE; 1,4-DIAZABICYCLO[2.2.2]OCTANE; bis(néodécanoyloxy)(diméthyl)stannane)
Chine - IECSC	Oui
Europe - EINEC / ELINCS / NLP	Oui
Japon - ENCS	Non (bis(néodécanoyloxy)(diméthyl)stannane)
Corée - KECI	Oui
Nouvelle-Zélande - NZIoC	Oui
Philippines - PICCS	Oui
É.-U.A. - TSCA	Oui
Taiwan - TCSI	Oui
Mexique - INSQ	Non (bis(néodécanoyloxy)(diméthyl)stannane)
Vietnam - NCI	Oui
Russie - FBEPH	Oui
Légende:	*Oui = Tous les ingrédients figurent dans l'inventaire* *Non = Un ou plusieurs des ingrédients répertoriés dans le CAS ne figurent pas dans l'inventaire. Ces ingrédients peuvent être exemptés ou devront être enregistrés.*

SECTION 16 Autres informations

date de révision	12/07/2023
date initiale	01/19/2022

Résumé de la version SDS

Version	Date de mise à jour	Sections mises à jour
3.6	12/06/2023	Informations toxicologiques - la santé aiguë (oeil), Informations toxicologiques - la santé aiguë (inhalation), Informations toxicologiques - Santé chronique, Identification des dangers - Classification, Considérations relatives à l'élimination - Disposition, Contrôles de l'exposition/protection individuelle - contrôle technique, Mesures de lutte contre l'incendie - Pompier (média d'extinction), Mesures de lutte contre l'incendie - Pompier (incendie / risque d'explosion), Mesures de lutte contre l'incendie - Pompier (lutte contre l'incendie), Premiers secours - premiers soins (oeil), Premiers secours - les premiers secours (peau), Manipulation et stockage - procédure de traitement, Composition/informations sur les composants - Ingrédients, Contrôles de l'exposition/protection individuelle - Protection individuelle (oeil), Contrôles de l'exposition/protection individuelle - Protection individuelle (mains / pieds), Mesures à prendre en cas de dispersion accidentelle - Déversements (majeurs), Mesures à prendre en cas de dispersion accidentelle - Déversement (mineur), Manipulation et stockage - stockage (exigence de stockage), Manipulation et stockage - stockage (récipient approprié)

autres informations

La classification de la préparation et de ses composants individuels est basée sur des sources officielles et faisant autorité, ainsi que sur un examen indépendant par le comité de classification de Chemwatch en utilisant des références bibliographiques disponibles.
La fiche de données de sécurité (SDS) est un outil de communication des dangers et doit être utilisée pour aider à l'évaluation des risques. De nombreux facteurs déterminent si les dangers signalés représentent des risques sur le lieu de travail ou dans d'autres environnements. Les risques peuvent être déterminés en fonction des scénarios d'exposition.

Alimenté par AuthorITe, de Chemwatch.

fin de la SDD

MarineWeld™ Syringe - Part A

J-B Weld Company LLC

Version No: **4.4**
Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: **12/07/2023**
Print Date: **12/07/2023**
S.GHS.USA.EN

SECTION 1 Identification

Product Identifier

Product name	MarineWeld™ Syringe - Part A
Synonyms	50172 MarineWeld™ Syringe Part A
Other means of identification	UFI:GGXF-64NM-V00E-8GF0

Recommended use of the chemical and restrictions on use

Relevant identified uses	Use according to the manufacturers directions

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	**J-B Weld Company LLC**
Address	400 CMH Road TX 75482 United States
Telephone	903-885-7696
Fax	Not Available
Website	WWW.JBWeld.com
Email	info@JBWeld.com

Emergency phone number

Association / Organisation	**InfoTrac**
Emergency telephone numbers	**Transportation Emergencies: 800-535-5053 or (24 hours)**
Other emergency telephone numbers	**Poison Control Centers: Medical Emergencies 800-222-1222 (24 hours)**

SECTION 2 Hazard(s) identification

Classification of the substance or mixture



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Classification	Sensitisation (Skin) Category 1, Acute Toxicity (Inhalation) Category 4, Sensitisation (Respiratory) Category 1

Label elements

Hazard pictogram(s)	
Signal word	**Danger**

Hazard statement(s)

H317	May cause an allergic skin reaction.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Page 1 continued...

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves and protective clothing.
P284	[In case of inadequate ventilation] wear respiratory protection.
P261	Avoid breathing mist/vapours/spray.
P272	Contaminated work clothing must not be allowed out of the workplace.

Precautionary statement(s) Response

P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physician/first aider.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P312	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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
28182-81-2	75-80	hexamethylene diisocyanate polymer
21645-51-2	10-15	aluminium hydroxide
822-06-0	<0.2	hexamethylene diisocyanate
1318-02-1	1-5	zeolites

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with eyes: ▸ Wash out immediately with water. ▸ If irritation continues, seek medical attention. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: ▸ Immediately remove all contaminated clothing, including footwear. ▸ Flush skin and hair with running water (and soap if available). ▸ Seek medical attention in event of irritation. For thermal burns: ▸ Decontaminate area around burn. ▸ Consider the use of cold packs and topical antibiotics. For first-degree burns (affecting top layer of skin) ▸ Hold burned skin under cool (not cold) running water or immerse in cool water until pain subsides. ▸ Use compresses if running water is not available. ▸ Cover with sterile non-adhesive bandage or clean cloth. ▸ Do NOT apply butter or ointments; this may cause infection. ▸ Give over-the counter pain relievers if pain increases or swelling, redness, fever occur. For second-degree burns (affecting top two layers of skin) ▸ Cool the burn by immerse in cold running water for 10-15 minutes. ▸ Use compresses if running water is not available. ▸ Do NOT apply ice as this may lower body temperature and cause further damage. ▸ Do NOT break blisters or apply butter or ointments; this may cause infection. ▸ Protect burn by cover loosely with sterile, nonstick bandage and secure in place with gauze or tape. To prevent shock: (unless the person has a head, neck, or leg injury, or it would cause discomfort): ▸ Lay the person flat. ▸ Elevate feet about 12 inches. ▸ Elevate burn area above heart level, if possible. ▸ Cover the person with coat or blanket. ▸ Seek medical assistance. For third-degree burns Seek immediate medical or emergency assistance. In the mean time: ▸ Protect burn area cover loosely with sterile, nonstick bandage or, for large areas, a sheet or other material that will not leave lint in wound.

Continued...

	▸ Separate burned toes and fingers with dry, sterile dressings. ▸ Do not soak burn in water or apply ointments or butter; this may cause infection. ▸ To prevent shock see above. ▸ For an airway burn, do not place pillow under the person's head when the person is lying down. This can close the airway. ▸ Have a person with a facial burn sit up. ▸ Check pulse and breathing to monitor for shock until emergency help arrives.
Inhalation	▸ 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. 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.
Ingestion	▸ Immediately give a glass of water. ▸ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

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 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 Fire-fighting 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.
- Cooling with flooding quantities of water reduces this risk.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).

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

Special protective equipment and precautions for fire-fighters

Fire Fighting	▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ Wear full body protective clothing with breathing apparatus. ▸ Prevent, by any means available, spillage from entering drains or water course.
Fire/Explosion Hazard	- Combustible. - Moderate fire hazard when exposed to heat or flame. - When heated to high temperatures decomposes rapidly generating vapour which pressures and may then rupture containers with release of flammable and highly toxic isocyanate vapour. Combustion products include: carbon dioxide (CO2) isocyanates hydrogen cyanide and minor amounts of nitrogen oxides (NOx) other pyrolysis products typical of burning organic material. May emit corrosive fumes. When heated at high temperatures many isocyanates decompose rapidly generating a vapour which pressurises containers, possibly to the point of rupture. Release of toxic and/or flammable isocyanate vapours may then occur

SECTION 6 Accidental release measures

Continued...

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	▸ Remove all ignition sources. ▸ Clean up all spills immediately. ▸ Avoid breathing vapours and contact with skin and eyes.
Major Spills	▸ Liquid Isocyanates and high isocyanate vapour concentrations will penetrate seals on self contained breathing apparatus - SCBA should be used inside encapsulating suit where this exposure may occur. For isocyanate spills of less than 40 litres (2 m2): ▸ 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. ▸ Put on personal protective equipment (suitable respiratory protection, face and eye protection, protective suit, gloves and impermeable boots). ▸ Avoid contamination with water, alkalies and detergent solutions. ▸ Material reacts with water and generates gas, pressurises containers with even drum rupture resulting. ▸ **DO NOT** reseal container if contamination is suspected. Moderate hazard. ▸ Clear area of personnel and move upwind. ▸ Alert Fire Brigade 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	▸ Avoid all personal contact, including inhalation. ▸ Wear protective clothing when risk of exposure occurs. ▸ Use in a well-ventilated area. ▸ **DO NOT** allow clothing wet with material to stay in contact with skin
Other information	Consider storage under inert gas. for commercial quantities of isocyanates: · Isocyanates should be stored in adequately bunded areas. Nothing else should be kept within the same bunding. Pre-polymers need not be segregated. ▸ Store in original containers. ▸ Keep containers securely sealed. ▸ No smoking, naked lights or ignition sources.

Conditions for safe storage, including any incompatibilities

Suitable container	▸ Metal can or drum ▸ Packaging as recommended by manufacturer. ▸ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	· 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. Upon treatment with an alcohol, an isocyanate forms a urethane linkage. ▸ 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. ▸ For example, in 'open vessel processes' (with man-hole size openings, in an industrial setting), substances with exothermic decomposition energies below 500 J/g are unlikely to present a danger, whilst those in 'closed vessel processes' (opening is a safety valve or bursting disk) present some danger where the decomposition energy exceeds 150 J/g.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Limits (PELs) Table Z-1	aluminium hydroxide	Particulates Not Otherwise Regulated (PNOR)- Respirable fraction	5 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	aluminium hydroxide	Particulates Not Otherwise Regulated (PNOR)- Total dust	15 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	aluminium hydroxide	Inert or Nuisance Dust: Respirable fraction	5 mg/m3 / 15 mppcf	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	aluminium hydroxide	Inert or Nuisance Dust: Total Dust	15 mg/m3 / 50 mppcf	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	aluminium hydroxide	Particulates not otherwise regulated	Not Available	Not Available	Not Available	See Appendix D

Continued...

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Limits (PELs) Table Z-1	zeolites	Particulates Not Otherwise Regulated (PNOR)- Total dust	15 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	zeolites	Particulates Not Otherwise Regulated (PNOR)- Respirable fraction	5 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	zeolites	Inert or Nuisance Dust: Total Dust	15 mg/m3 / 50 mppcf	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	zeolites	Inert or Nuisance Dust: Respirable fraction	5 mg/m3 / 15 mppcf	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	zeolites	Particulates not otherwise regulated	Not Available	Not Available	Not Available	See Appendix D
US NIOSH Recommended Exposure Limits (RELs)	hexamethylene diisocyanate	Hexamethylene diisocyanate	0.005 ppm / 0.035 mg/m3	Not Available	0.020 (10-minute) ppm / 0.140 (10-minute) mg/m3	Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
hexamethylene diisocyanate polymer	7.8 mg/m3	86 mg/m3	510 mg/m3
aluminium hydroxide	8.7 mg/m3	73 mg/m3	440 mg/m3
zeolites	30 mg/m3	330 mg/m3	2,000 mg/m3
zeolites	30 mg/m3	330 mg/m3	2,000 mg/m3
hexamethylene diisocyanate	0.018 ppm	0.2 ppm	3 ppm

Ingredient	Original IDLH	Revised IDLH
hexamethylene diisocyanate polymer	Not Available	Not Available
aluminium hydroxide	Not Available	Not Available
zeolites	Not Available	Not Available
hexamethylene diisocyanate	Not Available	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
hexamethylene diisocyanate polymer	E	≤ 0.1 ppm
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

- All processes in which isocyanates are used should be enclosed wherever possible.
- Total enclosure, accompanied by good general ventilation, should be used to keep atmospheric concentrations below the relevant exposure standards.
- If total enclosure of the process is not feasible, local exhaust ventilation may be necessary.

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.
The basic types of engineering controls are:
Process controls which involve changing the way a job activity or process is done to reduce the risk.

Individual protection measures, such as personal protective equipment



Eye and face protection

- Safety glasses with side shields.
- Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent]
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.

Skin protection

See Hand protection below

Hands/feet protection

NOTE:

- 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.
- Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

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.
The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

- Do NOT wear natural rubber (latex gloves).
- 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.
- Contaminated garments should be removed promptly and should not be re-used until they have been decontaminated.
- **DO NOT** use skin cream unless necessary and then use only minimum amount.
- Isocyanate vapour may be absorbed into skin cream and this increases hazard.

Continued...

Body protection	See Other protection below
Other protection	All employees working with isocyanates must be informed of the hazards from exposure to the contaminant and the precautions necessary to prevent damage to their health. They should be made aware of the need to carry out their work so that as little contamination as possible is produced, and of the importance of the proper use of all safeguards against exposure to themselves and their fellow workers. Adequate training, both in the proper execution of the task and in the use of all associated engineering controls, as well as of any personal protective equipment, is essential. ▸ Overalls. ▸ P.V.C apron. ▸ Barrier cream.

Respiratory protection

Full face respirator with supplied air.

- Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

For spraying or operations which might generate aerosols:
Full face respirator with supplied air.

- In certain circumstances, personal protection of the individual employee is necessary. Personal protective devices should be regarded as being supplementary to substitution and engineering control and should not be used in preference to them as they do nothing to eliminate the hazard.
- However, in some situations, minimising exposure to isocyanates by enclosure and ventilation is not possible, and occupational exposure standards may be exceeded, particularly during on-site mixing of paints, spray-painting, foaming and maintenance of machine and ventilation systems. In these situations, air-line respirators or self-contained breathing apparatus complying with the appropriate nationals standard must be used.
- Organic vapour respirators with particulate pre- filters and powered, air-purifying respirators are NOT suitable.
- Personal protective equipment must be appropriately selected, individually fitted and workers trained in their correct use and maintenance. Personal protective equipment must be regularly checked and maintained to ensure that the worker is being protected.
- Air- line respirators or self-contained breathing apparatus complying with the appropriate national standard should be used during the clean-up of spills and the repair or clean-up of contaminated equipment and similar situations which cause emergency exposures to hazardous atmospheric concentrations of isocyanate.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	

Physical state	Liquid	**Relative density (Water = 1)**	1.3
Odour	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 (°C)**	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)	261	**Taste**	Not Available
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	Not Applicable	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Available
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 (1%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	▸ Unstable in the presence of incompatible materials. ▸ Product is considered stable. ▸ Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7

Continued...

Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of vapours, fumes or aerosols, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress. 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. Gastrointestinal disturbances are characterised by nausea and vomiting.
Ingestion	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.
Skin Contact	Skin contact is not thought to produce harmful health effects (as classified under EC Directives using animal models). Systemic harm, however, has been identified following exposure of animals by at least one other route and the material may still produce health damage following entry through wounds, lesions or abrasions. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye	Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).
Chronic	Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems. Inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. This product contains a polymer with a functional group considered to be of high concern. Isothiocyanates may cause hypersensitivity of the skin and airways. 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. 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. Reaction products will be a variety of polyureas and macromolecular conjugates with for example mucus, proteins and cell components. There are reports of lung damage due to excessive inhalation of alumina dust. Ingestion of large amounts of aluminium hydroxide for prolonged periods may cause phosphate depletion, especially if phosphate intake is low. This may cause loss of appetite, muscle weakness, muscular disease and even softening of the bones. Animal testing shows that polymeric MDI can damage the nasal cavities and lungs, causing inflammation.and increased cell growth. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. 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.

MarineWeld™ Syringe - Part A

TOXICITY	IRRITATION
Not Available	Not Available

hexamethylene diisocyanate polymer

TOXICITY	IRRITATION
dermal (rat) LD50: >2000 mg/kg[1]	Skin (rabbit): 500 mg - moderate
Inhalation(Rat) LC50: 0.052-0.5 mg/L4h[1]	
Oral (Rat) LD50: >2000 mg/kg[1]	

aluminium hydroxide

TOXICITY	IRRITATION
Inhalation(Rat) LC50: >2.3 mg/l4h[1]	Eye: no adverse effect observed (not irritating)[1]
Oral (Rat) LD50: >2000 mg/kg[1]	Skin: no adverse effect observed (not irritating)[1]

zeolites

TOXICITY	IRRITATION
Dermal (rabbit) LD50: >2000 mg/kg[2]	Not Available
Inhalation(Rat) LC50: >0.5 mg/l4h[2]	
Oral (Rat) LD50: >2000 mg/kg[1]	

hexamethylene diisocyanate

TOXICITY	IRRITATION
Dermal (rabbit) LD50: 593 mg/kg[2]	Eye: adverse effect observed (irritating)[1]
Inhalation(Rat) LC50: 0.06 mg/L4h[2]	Skin: adverse effect observed (corrosive)[1]

Continued...

	Oral (Mouse) LD50; 350 mg/kg[2]	Skin: adverse effect observed (irritating)[1]
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*	

HEXAMETHYLENE DIISOCYANATE POLYMER	* Bayer SDS ** Ardex SDS The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. 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.
ZEOLITES	Inhalation (-) LC50: >18.3 mg/l/1hr for sodium aluminosilicate, zeolite A: Skin (rabbit): non-irritating Eye (rabbit): slight [Grace]
HEXAMETHYLENE DIISOCYANATE	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. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Aromatic and aliphatic diisocyanates may cause airway toxicity and skin sensitization. Monomers and prepolymers exhibit similar respiratory effect. Of the several members of diisocyanates tested on experimental animals by inhalation and oral exposure, some caused cancer while others produced a harmless outcome. For 1,6-hexamethylene diisocyanate (HDI): Exposures to HDI are often associated with exposures to its prepolymers, one of which is widely used as a hardener in automobile and airplane paints. Both the prepolymers and the native substance may cause asthma. HDI is corrosive to the skin and eye, and will sensitise the skin and airway.
MarineWeld™ Syringe - Part A & HEXAMETHYLENE DIISOCYANATE POLYMER & HEXAMETHYLENE DIISOCYANATE	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. Some people may be genetically more prone than others, and exposure to other irritants may aggravate 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. 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. 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.
HEXAMETHYLENE DIISOCYANATE POLYMER & ALUMINIUM HYDROXIDE & HEXAMETHYLENE DIISOCYANATE	No significant acute toxicological data identified in literature search.

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

MarineWeld™ Syringe - Part A

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

hexamethylene diisocyanate polymer

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	>1000mg/l	Not Available
EC50	48h	Crustacea	>100mg/l	Not Available
LC50	96h	Fish	>100mg/l	Not Available
EC50(ECx)	48h	Crustacea	>100mg/l	Not Available

aluminium hydroxide

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	0.017mg/L	2
EC50	48h	Crustacea	>0.065mg/l	4
EC50	96h	Algae or other aquatic plants	0.005mg/L	2
NOEC(ECx)	72h	Algae or other aquatic plants	>100mg/l	1
LC50	96h	Fish	0.57mg/l	2

Continued...

zeolites	

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	>1000mg/l	2
EC50	48h	Crustacea	100-1800mg/l	1
EC50	96h	Algae or other aquatic plants	18mg/l	1
ErC50	72h	Algae or other aquatic plants	18mg/l	1
LC50	96h	Fish	1000mg/l	1
EC10(ECx)	96h	Algae or other aquatic plants	4.9mg/l	1

hexamethylene diisocyanate

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	>77.4mg/l	2
EC0(ECx)	24h	Crustacea	<0.33mg/l	1
LC50	96h	Fish	22mg/l	1

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 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. The resulting polyurea is more or less inert and, due to its molecular size, not bioavailable.
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. They are also used in the production of adhesives, elastomers, and coatings.
DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
hexamethylene diisocyanate polymer	HIGH	HIGH
hexamethylene diisocyanate	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
hexamethylene diisocyanate polymer	LOW (LogKOW = 7.5795)
hexamethylene diisocyanate	LOW (LogKOW = 3.1956)

Mobility in soil

Ingredient	Mobility
hexamethylene diisocyanate polymer	LOW (KOC = 18560000)
hexamethylene diisocyanate	LOW (KOC = 5864)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal

- Containers may still present a chemical hazard/ danger when empty.
- Return to supplier for reuse/ recycling if possible.

Otherwise:

- If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

- **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.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- **DO NOT** recycle spilled material.
- Consult State Land Waste Management Authority for disposal.
- Neutralise spill material carefully and decontaminate empty containers and spill residues with 10% ammonia solution plus detergent or a proprietary decontaminant prior to disposal.

SECTION 14 Transport information

Labels Required

Marine Pollutant	NO

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

Continued...

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

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

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

Not Applicable

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

Product name	Group
hexamethylene diisocyanate polymer	Not Available
aluminium hydroxide	Not Available
zeolites	Not Available
hexamethylene diisocyanate	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
hexamethylene diisocyanate polymer	Not Available
aluminium hydroxide	Not Available
zeolites	Not Available
hexamethylene diisocyanate	Not Available

SECTION 15 Regulatory information

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

hexamethylene diisocyanate polymer is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs)
US TSCA New Chemical Exposure Limits (NCEL)
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

aluminium hydroxide is found on the following regulatory lists

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
US OSHA Permissible Exposure Limits (PELs) Table Z-1
US OSHA Permissible Exposure Limits (PELs) Table Z-3
US - Alaska Air Quality Control - Concentrations Triggering an Air Quality Episode for Air Pollutants Other Than PM-2.5
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US DOE Temporary Emergency Exposure Limits (TEELs)
US NIOSH Recommended Exposure Limits (RELs)

zeolites is found on the following regulatory lists

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Limits (PELs) Table Z-1
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
US OSHA Permissible Exposure Limits (PELs) Table Z-3
US - Alaska Air Quality Control - Concentrations Triggering an Air Quality Episode for Air Pollutants Other Than PM-2.5
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US DOE Temporary Emergency Exposure Limits (TEELs)

hexamethylene diisocyanate is found on the following regulatory lists

US - California Hazardous Air Pollutants Identified as Toxic Air Contaminants
US EPCRA Section 313 Chemical List
US - Massachusetts - Right To Know Listed Chemicals
US NIOSH Recommended Exposure Limits (RELs)
US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US Clean Air Act - Hazardous Air Pollutants
US TSCA New Chemical Exposure Limits (NCEL)
US DOE Temporary Emergency Exposure Limits (TEELs)
US TSCA Section 4/12 (b) - Sunset Dates/Status
US EPA Integrated Risk Information System (IRIS)

Additional Regulatory Information

Not Applicable

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No

Continued...

Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	Yes
Reproductive toxicity	No
Skin Corrosion or Irritation	No
Respiratory or Skin Sensitization	Yes
Serious eye damage or eye irritation	No
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	No
Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

Name	Reportable Quantity in Pounds (lb)	Reportable Quantity in kg
hexamethylene diisocyanate	100	45.4

US. EPCRA Section 313 Toxic Release Inventory (TRI) (40 CFR 372)

This product contains the following EPCRA section 313 chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know-Act of 1986 (40 CFR 372):

CAS No	%[weight]	Name
822-06-0	<0.2	hexamethylene diisocyanate

This information must be included in all SDSs that are copied and distributed for this material.

Additional Federal Regulatory Information

Not Applicable

State Regulations

US. California Proposition 65

None Reported

Additional State Regulatory Information

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (aluminium hydroxide; hexamethylene diisocyanate)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (zeolites)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (hexamethylene diisocyanate polymer)
Vietnam - NCI	Yes
Russia - FBEPH	Yes
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	12/07/2023
Initial Date	01/19/2022

SDS Version Summary

Version	Date of Update	Sections Updated

Continued...

Version	Date of Update	Sections Updated
3.4	12/06/2023	Physical and chemical properties - Appearance, Toxicological information - Chronic Health, Hazards identification - Classification, Composition / information on ingredients - Ingredients

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. Risks may be determined by reference to Exposures Scenarios.

Powered by AuthorITe, from Chemwatch.

end of SDS

MarineWeld™ Syringe - Part A

J-B Weld Company, LLC

Version No: **4.4**
Safety Data Sheet according to WHMIS 2015 requirements

Issue Date: **12/07/2023**
Print Date: **12/07/2023**
S.GHS.CAN.EN

SECTION 1 Identification

Product Identifier

Product name	MarineWeld™ Syringe - Part A
Synonyms	50172 MarineWeld™ Syringe Part A
Other means of identification	UFI:GGXF-64NM-V00E-8GF0

Recommended use of the chemical and restrictions on use

Relevant identified uses	Use according to the manufacturers directions

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	**J-B Weld Company, LLC**
Address	400 CMH Road Sulphur Springs, TX 75482 United States
Telephone	903-885-7696
Fax	903-885-5911
Website	www.jbweld.com
Email	info@jbweld.com

Emergency phone number

Association / Organisation	**InfoTrac**
Emergency telephone numbers	**For US and Canada (24 hour): 1-800-535-5053**
Other emergency telephone numbers	**Not Available**

SECTION 2 Hazard(s) identification

Classification of the substance or mixture



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Canadian WHMIS Symbols



Classification	Sensitisation (Skin) Category 1, Acute Toxicity (Inhalation) Category 4, Sensitisation (Respiratory) Category 1

Label elements

Hazard pictogram(s)	
Signal word	**Danger**

Page 1 continued...

Hazard statement(s)

H317	May cause an allergic skin reaction.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Physical and Health hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

P261	Avoid breathing mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves and protective clothing.
P284	[In case of inadequate ventilation] wear respiratory protection.
P272	Contaminated work clothing should not be allowed out of the workplace.

Precautionary statement(s) Response

P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physician/first aider.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P312	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

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
28182-81-2	75-80	hexamethylene diisocyanate polymer
21645-51-2	10-15	aluminium hydroxide
822-06-0	<0.2	hexamethylene diisocyanate
1318-02-1	1-5	zeolites

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with eyes: ▸ Wash out immediately with water. ▸ If irritation continues, seek medical attention. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: ▸ Immediately remove all contaminated clothing, including footwear. ▸ Flush skin and hair with running water (and soap if available). ▸ Seek medical attention in event of irritation. For thermal burns: ▸ Decontaminate area around burn. ▸ Consider the use of cold packs and topical antibiotics. For first-degree burns (affecting top layer of skin) ▸ Hold burned skin under cool (not cold) running water or immerse in cool water until pain subsides. ▸ Use compresses if running water is not available. ▸ Cover with sterile non-adhesive bandage or clean cloth. ▸ Do NOT apply butter or ointments; this may cause infection. ▸ Give over-the counter pain relievers if pain increases or swelling, redness, fever occur. For second-degree burns (affecting top two layers of skin) ▸ Cool the burn by immerse in cold running water for 10-15 minutes. ▸ Use compresses if running water is not available. ▸ Do NOT apply ice as this may lower body temperature and cause further damage. ▸ Do NOT break blisters or apply butter or ointments; this may cause infection. ▸ Protect burn by cover loosely with sterile, nonstick bandage and secure in place with gauze or tape. To prevent shock: (unless the person has a head, neck, or leg injury, or it would cause discomfort): ▸ Lay the person flat. ▸ Elevate feet about 12 inches.

Continued...

	▸ Elevate burn area above heart level, if possible. ▸ Cover the person with coat or blanket. ▸ Seek medical assistance. For third-degree burns Seek immediate medical or emergency assistance. In the mean time: ▸ Protect burn area cover loosely with sterile, nonstick bandage or, for large areas, a sheet or other material that will not leave lint in wound. ▸ Separate burned toes and fingers with dry, sterile dressings. ▸ Do not soak burn in water or apply ointments or butter; this may cause infection. ▸ To prevent shock see above. ▸ For an airway burn, do not place pillow under the person's head when the person is lying down. This can close the airway. ▸ Have a person with a facial burn sit up. ▸ Check pulse and breathing to monitor for shock until emergency help arrives.
Inhalation	▸ 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. 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.
Ingestion	▸ 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

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 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 Fire-fighting 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.
- Cooling with flooding quantities of water reduces this risk.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).

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

Special protective equipment and precautions for fire-fighters

Fire Fighting	▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ Wear full body protective clothing with breathing apparatus. ▸ Prevent, by any means available, spillage from entering drains or water course.
Fire/Explosion Hazard	- Combustible. - Moderate fire hazard when exposed to heat or flame. - When heated to high temperatures decomposes rapidly generating vapour which pressures and may then rupture containers with release of flammable and highly toxic isocyanate vapour. Combustion products include: carbon dioxide (CO_2) isocyanates hydrogen cyanide and minor amounts of nitrogen oxides (NOx) other pyrolysis products typical of burning organic material. May emit corrosive fumes. When heated at high temperatures many isocyanates decompose rapidly generating a vapour which pressurises containers, possibly to the point of rupture. Release of toxic and/or flammable isocyanate vapours may then occur

Continued...

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	▸ Remove all ignition sources. ▸ Clean up all spills immediately. ▸ Avoid breathing vapours and contact with skin and eyes.
Major Spills	▸ Liquid Isocyanates and high isocyanate vapour concentrations will penetrate seals on self contained breathing apparatus - SCBA should be used inside encapsulating suit where this exposure may occur. For isocyanate spills of less than 40 litres (2 m2): ▸ 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. ▸ Put on personal protective equipment (suitable respiratory protection, face and eye protection, protective suit, gloves and impermeable boots). ▸ Avoid contamination with water, alkalies and detergent solutions. ▸ Material reacts with water and generates gas, pressurises containers with even drum rupture resulting. ▸ **DO NOT** reseal container if contamination is suspected. Moderate hazard. ▸ Clear area of personnel and move upwind. ▸ Alert Fire Brigade 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	▸ Avoid all personal contact, including inhalation. ▸ Wear protective clothing when risk of exposure occurs. ▸ Use in a well-ventilated area. ▸ **DO NOT** allow clothing wet with material to stay in contact with skin
Other information	Consider storage under inert gas. for commercial quantities of isocyanates: · Isocyanates should be stored in adequately bunded areas. Nothing else should be kept within the same bunding. Pre-polymers need not be segregated. ▸ Store in original containers. ▸ Keep containers securely sealed. ▸ No smoking, naked lights or ignition sources.

Conditions for safe storage, including any incompatibilities

Suitable container	▸ Metal can or drum ▸ Packaging as recommended by manufacturer. ▸ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	· 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. Upon treatment with an alcohol, an isocyanate forms a urethane linkage. ▸ 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. ▸ For example, in 'open vessel processes' (with man-hole size openings, in an industrial setting), substances with exothermic decomposition energies below 500 J/g are unlikely to present a danger, whilst those in 'closed vessel processes' (opening is a safety valve or bursting disk) present some danger where the decomposition energy exceeds 150 J/g.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Canada - British Columbia Occupational Exposure Limits	hexamethylene diisocyanate polymer	Diisocyanates, not elsewhere specified, NOS	0.005 ppm	Not Available	0.01 ppm	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	aluminium hydroxide	Aluminum and compounds (as Al): Metal dust	10 mg/m3	20 mg/m3	Not Available	Not Available

Continued...

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	aluminium hydroxide	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified: Respirable fraction++	3 mg/m3	6 mg/m3	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	aluminium hydroxide	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified: Inhalable fraction++	10 mg/m3	20 mg/m3	Not Available	Not Available
Canada - Manitoba Occupational Exposure Limits	aluminium hydroxide	Not Available	1 mg/m3	Not Available	Not Available	TLV® Basis: Pneumoconiosis; LRT irr; neurotoxicity
Canada - Prince Edward Island Occupational Exposure Limits	aluminium hydroxide	Aluminum metal and insoluble compounds	1 mg/m3	Not Available	Not Available	TLV® Basis: Pneumoconiosis; LRT irr; neurotoxicity
Canada - British Columbia Occupational Exposure Limits	aluminium hydroxide	Aluminum metal and insoluble compounds, Respirable	1.0 mg/m3	Not Available	Not Available	Not Available
Canada - Ontario Occupational Exposure Limits	aluminium hydroxide	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified (PNOS) (Respirable fraction)	3 mg/m3	Not Available	Not Available	(R) Respirable fraction: means that size fraction of the airborne particulate deposited in the gas-exchange region of the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets the ACGIH particle size-selective sampling criteria for airborne particulate matter; and (b) has the cut point of 4 µm at 50 per cent collection efficiency.
Canada - Ontario Occupational Exposure Limits	aluminium hydroxide	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified (PNOS) (Inhalable fraction)	10 mg/m3	Not Available	Not Available	(I) Inhalable fraction: means that size fraction of the airborne particulate deposited anywhere in the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets the ACGIH particle size-selective sampling criteria for airborne particulate matter; and (b) has the cut point of 100 µm at 50 per cent collection efficiency.
Canada - Nova Scotia Occupational Exposure Limits	aluminium hydroxide	Particles (Insoluble or Poorly Soluble) [NOS] Inhalable particles	10 mg/m3	Not Available	Not Available	See Appendix B current TLV/BEI Book
Canada - Nova Scotia Occupational Exposure Limits	aluminium hydroxide	Particles (Insoluble or Poorly Soluble) [NOS] Respirable particles	3 mg/m3	Not Available	Not Available	See Appendix B current TLV/BEI Book
Canada - Nova Scotia Occupational Exposure Limits	aluminium hydroxide	Aluminum - Insoluble compounds	1 mg/m3	Not Available	Not Available	TLV Basis: Pneumoconiosis; lower respiratory tract irritation; neurotoxicity
Canada - Alberta Occupational Exposure Limits	aluminium hydroxide	Particulate Not Otherwise Regulated: Total	10 mg/m3	Not Available	Not Available	3 - Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required.
Canada - Alberta Occupational Exposure Limits	aluminium hydroxide	Particulate Not Otherwise Regulated: Respirable	3 mg/m3	Not Available	Not Available	3 - Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required.
Canada - Northwest Territories Occupational Exposure Limits	aluminium hydroxide	Aluminum and compounds (as Al): Metal dust	10 mg/m3	20 mg/m3	Not Available	Not Available
Canada - Northwest Territories Occupational Exposure Limits	aluminium hydroxide	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified: Inhalable fraction	10 mg/m3	20 mg/m3	Not Available	Not Available
Canada - Northwest Territories Occupational Exposure Limits	aluminium hydroxide	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified: Respirable fraction	3 mg/m3	6 mg/m3	Not Available	Not Available
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	aluminium hydroxide	Particulates Not Otherwise Classified (PNOC) - Total dust	10 mg/m3	Not Available	Not Available	Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1%.
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	aluminium hydroxide	Aluminum and its compounds - Respirable dust	5 mg/m3	Not Available	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	zeolites	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified: Respirable fraction++	3 mg/m3	6 mg/m3	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	zeolites	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified: Inhalable fraction++	10 mg/m3	20 mg/m3	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	zeolites	Aluminum and compounds (as Al): Metal dust	10 mg/m3	20 mg/m3	Not Available	Not Available
Canada - Ontario Occupational Exposure Limits	zeolites	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified (PNOS) (Inhalable	10 mg/m3	Not Available	Not Available	(I) Inhalable fraction: means that size fraction of the airborne particulate deposited anywhere in the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets

Continued...

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
		fraction)				the ACGIH particle size-selective sampling criteria for airborne particulate matter; and (b) has the cut point of 100 µm at 50 per cent collection efficiency.
Canada - Ontario Occupational Exposure Limits	zeolites	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified (PNOS) (Respirable fraction)	3 mg/m3	Not Available	Not Available	(R) Respirable fraction: means that size fraction of the airborne particulate deposited in the gas-exchange region of the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets the ACGIH particle size-selective sampling criteria for airborne particulate matter; and (b) has the cut point of 4 µm at 50 per cent collection efficiency.
Canada - Nova Scotia Occupational Exposure Limits	zeolites	Particles (Insoluble or Poorly Soluble) [NOS] Inhalable particles	10 mg/m3	Not Available	Not Available	See Appendix B current TLV/BEI Book
Canada - Nova Scotia Occupational Exposure Limits	zeolites	Particles (Insoluble or Poorly Soluble) [NOS] Respirable particles	3 mg/m3	Not Available	Not Available	See Appendix B current TLV/BEI Book
Canada - Alberta Occupational Exposure Limits	zeolites	Particulate Not Otherwise Regulated: Respirable	3 mg/m3	Not Available	Not Available	3 - Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required.
Canada - Alberta Occupational Exposure Limits	zeolites	Particulate Not Otherwise Regulated: Total	10 mg/m3	Not Available	Not Available	3 - Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required.
Canada - Northwest Territories Occupational Exposure Limits	zeolites	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified: Inhalable fraction	10 mg/m3	20 mg/m3	Not Available	Not Available
Canada - Northwest Territories Occupational Exposure Limits	zeolites	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified: Respirable fraction	3 mg/m3	6 mg/m3	Not Available	Not Available
Canada - Northwest Territories Occupational Exposure Limits	zeolites	Aluminum and compounds (as Al): Metal dust	10 mg/m3	20 mg/m3	Not Available	Not Available
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	zeolites	Aluminum and its compounds - Respirable dust	5 mg/m3	Not Available	Not Available	Not Available
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	zeolites	Particulates Not Otherwise Classified (PNOC) - Total dust	10 mg/m3	Not Available	Not Available	Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1%.
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	hexamethylene diisocyanate	Hexamethylene diisocyanate	0.005 ppm	0.015 ppm	Not Available	Not Available
Canada - Manitoba Occupational Exposure Limits	hexamethylene diisocyanate	Not Available	0.005 ppm	Not Available	Not Available	TLV® Basis: URT irr; resp sens
Canada - Prince Edward Island Occupational Exposure Limits	hexamethylene diisocyanate	Hexamethylene diisocyanate	0.005 ppm	Not Available	Not Available	TLV® Basis: URT irr; resp sens
Canada - British Columbia Occupational Exposure Limits	hexamethylene diisocyanate	Hexamethylene diisocyanate (HDI)	0.005 ppm	Not Available	0.01 ppm	Not Available
Canada - Ontario Occupational Exposure Limits	hexamethylene diisocyanate	Isocyanates, organic compounds - Hexamethylene diisocyanate (HDI)	0.005 ppm	Not Available	0.02 ppm	* Denotes a chemical agent listed in Table 1 of Ontario Regulation 490/09 (Designated Substances) made under the Act. See clause 2 (2) (a) of this Regulation.
Canada - Nova Scotia Occupational Exposure Limits	hexamethylene diisocyanate	1,6-Hexamethylene diisocyanate [HDI]	0.005 ppm	Not Available	Not Available	TLV Basis: upper respiratory tract irritation; respiratory sensitization
Canada - Alberta Occupational Exposure Limits	hexamethylene diisocyanate	1,6-Hexamethylene diisocyanate	0.005 ppm / 0.03 mg/m3	Not Available	Not Available	Not Available
Canada - Northwest Territories Occupational Exposure Limits	hexamethylene diisocyanate	Hexamethylene diisocyanate	0.005 ppm	0.015 ppm	Not Available	Not Available
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	hexamethylene diisocyanate	Hexamethylene diisocyanate	0.005 ppm / 0.034 mg/m3	Not Available	Not Available	EM: A substance to which exposure must be reduced to a minimum S: SENSITIZER

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
hexamethylene diisocyanate polymer	7.8 mg/m3	86 mg/m3	510 mg/m3
aluminium hydroxide	8.7 mg/m3	73 mg/m3	440 mg/m3
zeolites	30 mg/m3	330 mg/m3	2,000 mg/m3
zeolites	30 mg/m3	330 mg/m3	2,000 mg/m3

Continued...

Ingredient	TEEL-1	TEEL-2	TEEL-3
hexamethylene diisocyanate	0.018 ppm	0.2 ppm	3 ppm

Ingredient	Original IDLH	Revised IDLH
hexamethylene diisocyanate polymer	Not Available	Not Available
aluminium hydroxide	Not Available	Not Available
zeolites	Not Available	Not Available
hexamethylene diisocyanate	Not Available	Not Available

Exposure controls

Appropriate engineering controls	▸ All processes in which isocyanates are used should be enclosed wherever possible. ▸ Total enclosure, accompanied by good general ventilation, should be used to keep atmospheric concentrations below the relevant exposure standards. ▸ If total enclosure of the process is not feasible, local exhaust ventilation may be necessary. 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. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk.
Individual protection measures, such as personal protective equipment	
Eye and face protection	▸ Safety glasses with side shields. ▸ Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent] ▸ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.
Skin protection	See Hand protection below
Hands/feet protection	**NOTE:** ▸ 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. ▸ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. 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. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice. ▸ Do NOT wear natural rubber (latex gloves). ▸ 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. ▸ Contaminated garments should be removed promptly and should not be re-used until they have been decontaminated. ▸ **DO NOT** use skin cream unless necessary and then use only minimum amount. ▸ Isocyanate vapour may be absorbed into skin cream and this increases hazard.
Body protection	See Other protection below
Other protection	All employees working with isocyanates must be informed of the hazards from exposure to the contaminant and the precautions necessary to prevent damage to their health. They should be made aware of the need to carry out their work so that as little contamination as possible is produced, and of the importance of the proper use of all safeguards against exposure to themselves and their fellow workers. Adequate training, both in the proper execution of the task and in the use of all associated engineering controls, as well as of any personal protective equipment, is essential. ▸ Overalls. ▸ P.V.C apron. ▸ Barrier cream.

Respiratory protection

Full face respirator with supplied air.

- Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

For spraying or operations which might generate aerosols:
Full face respirator with supplied air.

- In certain circumstances, personal protection of the individual employee is necessary. Personal protective devices should be regarded as being supplementary to substitution and engineering control and should not be used in preference to them as they do nothing to eliminate the hazard.
- However, in some situations, minimising exposure to isocyanates by enclosure and ventilation is not possible, and occupational exposure standards may be exceeded, particularly during on-site mixing of paints, spray-painting, foaming and maintenance of machine and ventilation systems. In these situations, air-line respirators or self-contained breathing apparatus complying with the appropriate nationals standard must be used.
- Organic vapour respirators with particulate pre- filters and powered, air-purifying respirators are NOT suitable.
- Personal protective equipment must be appropriately selected, individually fitted and workers trained in their correct use and maintenance. Personal protective equipment must be regularly checked and maintained to ensure that the worker is being protected.
- Air- line respirators or self-contained breathing apparatus complying with the appropriate national standard should be used during the clean-up of spills and the repair or clean-up of contaminated equipment and similar situations which cause emergency exposures to hazardous atmospheric concentrations of isocyanate.

SECTION 9 Physical and chemical properties

Continued...

Information on basic physical and chemical properties

Appearance	

Physical state	Liquid	**Relative density (Water = 1)**	1.3
Odour	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 (°C)**	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)	261	**Taste**	Not Available
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	Not Applicable	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Available
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 (1%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	▸ Unstable in the presence of incompatible materials. ▸ Product is considered stable. ▸ Hazardous polymerisation will not occur.
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	Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of vapours, fumes or aerosols, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress. 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. Gastrointestinal disturbances are characterised by nausea and vomiting.
Ingestion	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.
Skin Contact	Skin contact is not thought to produce harmful health effects (as classified under EC Directives using animal models). Systemic harm, however, has been identified following exposure of animals by at least one other route and the material may still produce health damage following entry through wounds, lesions or abrasions. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye	Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).
Chronic	Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems. Inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. This product contains a polymer with a functional group considered to be of high concern. Isothiocyanates may cause hypersensitivity of the skin and airways.

Continued...

	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. 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. Reaction products will be a variety of polyureas and macromolecular conjugates with for example mucus, proteins and cell components. There are reports of lung damage due to excessive inhalation of alumina dust. Ingestion of large amounts of aluminium hydroxide for prolonged periods may cause phosphate depletion, especially if phosphate intake is low. This may cause loss of appetite, muscle weakness, muscular disease and even softening of the bones. Animal testing shows that polymeric MDI can damage the nasal cavities and lungs, causing inflammation.and increased cell growth. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. 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.

MarineWeld™ Syringe - Part A	
TOXICITY	**IRRITATION**
Not Available	Not Available

hexamethylene diisocyanate polymer	
TOXICITY	**IRRITATION**
dermal (rat) LD50: >2000 mg/kg[1]	Skin (rabbit): 500 mg - moderate
Inhalation(Rat) LC50: 0.052-0.5 mg/L4h[1]	
Oral (Rat) LD50: >2000 mg/kg[1]	

aluminium hydroxide	
TOXICITY	**IRRITATION**
Inhalation(Rat) LC50: >2.3 mg/l4h[1]	Eye: no adverse effect observed (not irritating)[1]
Oral (Rat) LD50: >2000 mg/kg[1]	Skin: no adverse effect observed (not irritating)[1]

zeolites	
TOXICITY	**IRRITATION**
Dermal (rabbit) LD50: >2000 mg/kg[2]	Not Available
Inhalation(Rat) LC50: >0.5 mg/l4h[2]	
Oral (Rat) LD50: >2000 mg/kg[1]	

hexamethylene diisocyanate	
TOXICITY	**IRRITATION**
Dermal (rabbit) LD50: 593 mg/kg[2]	Eye: adverse effect observed (irritating)[1]
Inhalation(Rat) LC50: 0.06 mg/L4h[2]	Skin: adverse effect observed (corrosive)[1]
Oral (Mouse) LD50; 350 mg/kg[2]	Skin: adverse effect observed (irritating)[1]

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*

HEXAMETHYLENE DIISOCYANATE POLYMER	* Bayer SDS ** Ardex SDS The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. 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.
ZEOLITES	Inhalation (-) LC50: >18.3 mg/l/1hr for sodium aluminosilicate, zeolite A: Skin (rabbit): non-irritating Eye (rabbit): slight [Grace]
HEXAMETHYLENE DIISOCYANATE	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. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Aromatic and aliphatic diisocyanates may cause airway toxicity and skin sensitization. Monomers and prepolymers exhibit similar respiratory effect. Of the several members of diisocyanates tested on experimental animals by inhalation and oral exposure, some caused cancer while others produced a harmless outcome. For 1,6-hexamethylene diisocyanate (HDI): Exposures to HDI are often associated with exposures to its prepolymers, one of which is widely used as a hardener in automobile and airplane paints. Both the prepolymers and the native substance may cause asthma. HDI is corrosive to the skin and eye, and will sensitise the skin and airway.
MarineWeld™ Syringe - Part A & HEXAMETHYLENE DIISOCYANATE POLYMER & HEXAMETHYLENE DIISOCYANATE	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. Some people may be genetically more prone than others, and exposure to other irritants may aggravate 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. 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. 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.

Continued...

HEXAMETHYLENE DIISOCYANATE POLYMER & ALUMINIUM HYDROXIDE & HEXAMETHYLENE DIISOCYANATE	No significant acute toxicological data identified in literature search.

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

MarineWeld™ Syringe - Part A

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

hexamethylene diisocyanate polymer

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	>1000mg/l	Not Available
EC50	48h	Crustacea	>100mg/l	Not Available
LC50	96h	Fish	>100mg/l	Not Available
EC50(ECx)	48h	Crustacea	>100mg/l	Not Available

aluminium hydroxide

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	0.017mg/L	2
EC50	48h	Crustacea	>0.065mg/l	4
EC50	96h	Algae or other aquatic plants	0.005mg/L	2
NOEC(ECx)	72h	Algae or other aquatic plants	>100mg/l	1
LC50	96h	Fish	0.57mg/l	2

zeolites

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	>1000mg/l	2
EC50	48h	Crustacea	100-1800mg/l	1
EC50	96h	Algae or other aquatic plants	18mg/l	1
ErC50	72h	Algae or other aquatic plants	18mg/l	1
LC50	96h	Fish	1000mg/l	1
EC10(ECx)	96h	Algae or other aquatic plants	4.9mg/l	1

hexamethylene diisocyanate

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	>77.4mg/l	2
EC0(ECx)	24h	Crustacea	<0.33mg/l	1
LC50	96h	Fish	22mg/l	1

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 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. The resulting polyurea is more or less inert and, due to its molecular size, not bioavailable.
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. They are also used in the production of adhesives, elastomers, and coatings.
DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
hexamethylene diisocyanate polymer	HIGH	HIGH
hexamethylene diisocyanate	LOW	LOW

Continued...

Bioaccumulative potential

Ingredient	Bioaccumulation
hexamethylene diisocyanate polymer	LOW (LogKOW = 7.5795)
hexamethylene diisocyanate	LOW (LogKOW = 3.1956)

Mobility in soil

Ingredient	Mobility
hexamethylene diisocyanate polymer	LOW (KOC = 18560000)
hexamethylene diisocyanate	LOW (KOC = 5864)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	▸ Containers may still present a chemical hazard/ danger when empty. ▸ Return to supplier for reuse/ recycling if possible. Otherwise: ▸ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. ▸ **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. ▸ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ▸ **DO NOT** recycle spilled material. ▸ Consult State Land Waste Management Authority for disposal. ▸ Neutralise spill material carefully and decontaminate empty containers and spill residues with 10% ammonia solution plus detergent or a proprietary decontaminant prior to disposal.

SECTION 14 Transport information

Labels Required

Marine Pollutant	NO

Land transport (TDG): 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

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

Not Applicable

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

Product name	Group
hexamethylene diisocyanate polymer	Not Available
aluminium hydroxide	Not Available
zeolites	Not Available
hexamethylene diisocyanate	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
hexamethylene diisocyanate polymer	Not Available
aluminium hydroxide	Not Available
zeolites	Not Available
hexamethylene diisocyanate	Not Available

SECTION 15 Regulatory information

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

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

hexamethylene diisocyanate polymer is found on the following regulatory lists

Canada Categorization decisions for all DSL substances | Canada Non-Domestic Substances List (NDSL)
Canada Domestic Substances List (DSL)

Continued...

aluminium hydroxide is found on the following regulatory lists

Canada Categorization decisions for all DSL substances
Canada Domestic Substances List (DSL)
Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS GHS
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

zeolites is found on the following regulatory lists

Canada Categorization decisions for all DSL substances
Canada Domestic Substances List (DSL)
Canada Non-Domestic Substances List (NDSL)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

hexamethylene diisocyanate is found on the following regulatory lists

Canada Categorization decisions for all DSL substances
Canada Domestic Substances List (DSL)
Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS GHS

Additional Regulatory Information

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (aluminium hydroxide; hexamethylene diisocyanate)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (zeolites)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (hexamethylene diisocyanate polymer)
Vietnam - NCI	Yes
Russia - FBEPH	Yes
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	12/07/2023
Initial Date	01/19/2022

SDS Version Summary

Version	Date of Update	Sections Updated
3.4	12/06/2023	Physical and chemical properties - Appearance, Toxicological information - Chronic Health, Hazards identification - Classification, Composition / information on ingredients - Ingredients

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. Risks may be determined by reference to Exposures Scenarios.

Powered by AuthorITe, from Chemwatch.

end of SDS

MarineWeld™ Syringe - Part A

J-B Weld Company, LLC

Version Num: **4.4**
Fiche de données de sécurité selon les exigences du SIMDUT 2015

Date d'émission: **12/07/2023**
Date d'impression: **12/07/2023**
S.GHS.CAN.FR

SECTION 1 Identification

Identificateur de produit

Nom du produit	MarineWeld™ Syringe - Part A
Synonymes	50172 MarineWeld™ Syringe Part A
Autres moyens d'identification	UFI:GGXF-64NM-V00E-8GF0

Utilisation recommandée de la substance chimique et les restrictions sur l'utilisation

Utilisations identifiées pertinentes	

Nom, adresse et numéro de téléphone du fabricant du produit chimique, importateur et autre partie responsable

Nom commercial de l'entreprise	**J-B Weld Company, LLC**
Adresse	400 CMH Road Sulphur Springs, TX 75482 United States
Téléphone	903-885-7696
Fax	903-885-5911
Site Internet	www.jbweld.com
Courriel	info@jbweld.com

Numéros de téléphone d'urgence

Association / Organisation	**InfoTrac**
Numéro de téléphone d'appel d'urgence	**For US and Canada (24 hour): 1-800-535-5053**
Autres numéros de téléphone d'urgence	**Pas Disponible**

SECTION 2 Identification des dangers

Classification de la substance ou du mélange



Remarque : Les numéros de catégorie de danger trouvés dans la classification SGH à la section 2 de ces FDS ne doivent PAS être utilisés pour remplir le losange NFPA 704. Bleu = Santé Rouge = Feu Jaune = Réactivité Blanc = Spécial (oxydant ou substance réactive à l'eau)

Symboles SIMDUT canadiennes



Classification	Sensibilisation cutanée, catégories de danger 1, Toxicité aiguë (par inhalation), catégories de danger 4, Sensibilisation respiratoire, catégories de danger 1

Éléments d'étiquetage

Pictogramme(s) de danger	

Mention d'avertissement	**Danger**

Déclaration(s) sur les risques

H317	Peut provoquer une allergie cutanée.
H332	Nocif par inhalation.
H334	Peut provoquer des symptômes allergiques ou d'asthme ou des difficultés respiratoires par inhalation.

Danger physique et risque pour la santé non classé ailleurs

Sans Objet

Déclarations de Sécurité: Prévention

P261	Éviter de respirer les brouillards/ vapeurs/aérosols.
P271	Utiliser seulement en plein air ou dans un endroit bien ventilé.
P280	Porter des gants de protection et des vêtements de protection.
P284	[Lorsque la ventilation du local est insuffisante] porter un équipement de protection respiratoire.
P272	Les vêtements de travail contaminés ne devraient pas sortir du lieu de travail

Déclarations de Sécurité: Réponse

P304+P340	EN CAS D'INHALATION: Transporter la personne à l'extérieur et la maintenir dans une position où elle peut confortablement respirer.
P342+P311	En cas de symptômes respiratoires: Appeler un CENTRE ANTIPOISON/un médecin/ un secouriste
P302+P352	EN CAS DE CONTACT AVEC LA PEAU: Laver abondamment à l'eau et au savon.
P312	Appeler un CENTRE ANTIPOISON/un médecin en cas de malaise.
P333+P313	En cas d'irritation ou d'éruption cutanée: consulter un médecin.
P362+P364	Enlever les vêtements contaminés et les laver avant réutilisation.

Déclarations de Sécurité: Stockage

Sans Objet

Déclarations de Sécurité: Élimination

P501	Éliminer le contenu/récipient dans un centre de collecte des déchets dangereux ou spéciaux autorisé conformément à toute réglementation locale.

SECTION 3 Composition/informations sur les composants

Substances

Voir la section ci-dessous pour la composition des mélanges

Mélanges

Numéro CAS	%[poids]	Nom
28182-81-2	75-80	Diisocyanate d'hexane-1,6-diyle homopolymérisé
21645-51-2	10-15	ALUMINE ET ALUMINE HYDRATÉE Al(OH)3
822-06-0	<0.2	1,6-diisocyanatohexane
1318-02-1	1-5	zéolithes

SECTION 4 Premiers secours

Description des premiers secours

Contact avec les yeux	Si ce produit entre en contact avec les yeux : ▸ Rincez la région touchée à l'eau. ▸ Si l'irritation persiste, consultez un médecin. ▸ Seule une personne qualifiée peut ôter les lentilles de contact après une blessure de l'œil.
Contact avec la peau	Si le produit entre en contact avec la peau: ▸ Retirer immédiatement tous les vêtements contaminés, chaussures incluses. ▸ Laver les zones affectées à grand eau (et avec du savon si disponible). ▸ Rechercher un avis médical en cas d'irritation. Pour les brûlures thermiques: ▸ Décontaminer la zone autour de brûlure. ▸ Envisager l'utilisation de compresses froides et des antibiotiques topiques. Pour les brûlures au premier degré (affectant la couche supérieure de la peau) ▸ peau de maintien brûlé sous fraîche (pas froide) l'eau courante ou plonger dans l'eau froide jusqu'à ce que la douleur diminue. ▸ Utiliser des compresses si l'eau courante ne sont pas disponibles. ▸ Couvrir avec un bandage non adhésif stérile ou un chiffon propre. ▸ Ne pas appliquer le beurre ou onguents; cela peut causer une infection. ▸ Donnez over-the releveurs douleur contre si la douleur augmente ou enflure, rougeur, fièvre se produisent. Pour les brûlures au deuxième degré (affectant deux couches supérieures de la peau) ▸ Laisser refroidir la brûlure par plonger dans l'eau courante froide pendant 10-15 minutes. ▸ Utiliser des compresses si l'eau courante ne sont pas disponibles. ▸ Ne pas appliquer de la glace car cela peut abaisser la température du corps et causer d'autres dommages. ▸ Ne pas briser les ampoules ou appliquer du beurre ou onguents; cela peut causer une infection. ▸ Protéger la brûlure par la couverture lâchement avec un bandage, anti-adhésif stérile et fixer en place avec de la gaze ou d'une bande.

Suite...

	Pour éviter tout choc: (à moins que la personne a une tête, le cou ou blessure à la jambe, ou il causer de l'inconfort): ▸ Poser le plat personne. ▸ Élevez pieds environ 12 pouces. ▸ Elevate brûler zone au-dessus du niveau du cœur, si possible. ▸ Couvrir la personne avec le manteau ou une couverture. ▸ Consulter un médecin. Pour les brûlures au troisième degré ▸ De demander une assistance médicale urgente et immédiate. Pendant ce temps: ▸ Protéger la couverture de la zone de brûlure sans serrer avec un bandage, anti-adhésif stérile ou, pour les grandes surfaces, une feuille ou tout autre matériel qui ne laissera pas les peluches dans la plaie. ▸ Séparer les orteils et les doigts brûlés avec des pansements stériles secs. ▸ Ne pas faire tremper les brûler dans l'eau ou appliquer des onguents ou de beurre; cela peut causer une infection. ▸ Pour éviter les chocs voir ci-dessus. ▸ Pour une brûlure des voies respiratoires, ne placez pas oreiller sous la tête de la personne lorsque la personne est allongée. Cela peut fermer les voies respiratoires. ▸ Avoir une personne avec une brûlure du visage s'asseoir. ▸ Vérifiez pouls et la respiration pour surveiller le choc jusqu'à l'arrivée des secours d'urgence.
Inhalation	▸ Si des fumées ou des produits de combustion sont inhalés : Déplacer à l'air frais. ▸ Coucher le patient sur le sol. Conserver-le au chaud et lui permettre de se reposer. ▸ Les prothèses telles que les fausses dents, qui pourraient bloquer les voies respiratoires, doivent être retirées si possible avant d'entamer les procédures de premiers soins. ▸ Si la respiration est stoppée, s'assurer que les voies respiratoires sont dégagées et entamer une reanimation, de préférence à l'aide d'un appareil respiratoir autonome à demande de valve, un masque avec ballonnet et valve ou un masque de poche comme appris. Réaliser une RCP si nécessaire. ▸ Transporter à l'hôpital ou chez un docteur.
Ingestion	▸ Donnez un verre d'eau immédiatement. ▸ Les premiers soins ne sont généralement pas nécessaires. En cas de doute, contactez un centre anti-poisons ou un médecin.

Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires

Pour des expositions chroniques et sous-chroniques aux isocyanates:
- Le produit peut être un sensibilisateur pulmonaire potentiel qui provoque des spasmes de bronches même chez les patients sans hyperactivité respiratoire antérieure.
- Les symptômes cliniques d'une exposition incluent une irritation des muqueuses des voies respiratoires et gastriques.
- Une irritation conjonctivale, une inflammation de la peau (érythème) et des perturbations gastro-intestinales apparaissent rapidement après une exposition.
- Les symptômes pulmonaires incluent une toux, une brûlure, une douleur sous-sternale et une dyspnée.
- Quelques sensibilités croisées apparaissent entre les différents isocyanates.
- Un œdème pulmonaire non-cardiogénique et des spasmes des bronches sont les conséquences les plus sérieuses d'une exposition. Les patients très marqués symptomatiquement devraient recevoir de l'oxygène, un support de ventilation et une intraveineuse.
- Le traitement de l'asthme inclut des sympathomimétiques inhalés (épinéphrine [adrénaline], terbutaline) et des stéroïdes.
- Du charbon activé (1 g/kg) et un purgatif (sorbitol, citrate de magnésium) peuvent être utile pour une ingestion.
- Les mydriatiques, les analgésiques systémiques et les antibiotiques typiques (Sulamyd) peuvent être utiles pour des abrasions de la cornée.
- Il n'ay a pas de thérapie efficace pour les ouvriers sensibilisés.

[Ellenhorn and Barceloux; Medical Toxicology]
REMARQUE : Les isocyanates provoquent une restriction des voies respiratoires chez les individus naïfs avec un degré de réponse dépendant de la concentration et de la durée d'exposition. Ils induisent une contraction musculaire modérée qui conduit à des épisodes de bronchoconstriction. Des changements aigus de la fonction des poumons, tels que la diminution du FEV1, peuvent ne pas représenter une sensibilité.
[Karol Jin, Frontiers in Molecular Toxicology, pp 56-61, 1992]

SECTION 5 Mesures de lutte contre l'incendie

Moyens d'extinction

- De petites quantités d'eau au contact de liquide chaud peuvent réagir violemment avec la génération d'un volume important de mousse collante chaude semi-solide en expansion rapide.
- Présente un risque additionnel quand la lutte incendie est dans un espace confiné.
- Refroidir avec grandes quantités d'eau réduit ce risque.
- Mousse.
- Poudre chimique sèche.
- BCF (lorsque le règlement le permet).

Dangers particuliers résultant de la substance ou du mélange

Incompatibilité au feu	Évitez la contamination avec des agents oxydants, c'est-à-dire des nitrates, des acides oxydants, des agents de blanchiment au chlore, du chlore de piscine, etc., car une inflammation peut en résulter

Équipement de protection spécial et précautions particulières pour les pompiers

Lutte Incendie	▸ Alerter les pompiers et leur indiquer l'endroit et la nature du risque. ▸ Porter un vêtement de protection complet avec un appareil respiratoire. ▸ Prévenir par tous les moyens, les éclaboussures d'entrer dans les drains et voies d'eau.
Risque D'Incendie/Explosion	▸ Combustible. ▸ Risque d'incendie modéré si exposé à la chaleur ou à une flamme. ▸ Quand chauffé à de hautes températures, se décompose rapidement en générant une vapeur qui augmente la pression et peut rompre les containers avec une libération de vapeur d'isocyanates inflammable et fortement toxique. Les produits de combustion comprennent: dioxyde de carbone (CO_2) isocyanates cyanure d'hydrogène et des quantités mineures de oxydes d'azote (NOx) d'autres produits de pyrolyse typiques de la combustion des matières organiques.

Suite...

	Peut émettre des fumées corrosives. S'ils sont chauffés à des températures élevées, de nombreux isocyanates se décomposent rapidement en créant une vapeur qui exerce une pression sur les conteneurs, éventuellement jusqu'au point de rupture. Il peut en résulter la libération de gaz d'isocyanate toxiques et/ou inflammables.

SECTION 6 Mesures à prendre en cas de dispersion accidentelle

Précautions individuelles, équipement de protection et procédures d'urgence

Voir l'article 8

Précautions pour la protection de l'environnement

Voir section 12

Méthodes et matériel de confinement et de nettoyage

Eclaboussures Mineures	▸ Retirer toutes les sources d'allumage. ▸ Nettoyer immédiatement toutes les éclaboussures. ▸ Eviter de respirer les vapeurs et éviter un contact des yeux et de la peau.
Eclaboussures Majeures	▸ Les Isocyanates liquides et les fortes concentrations de gaz isocyanate perceront le joints d'étanchéité des appareils respiratoires individuels auto dépendants- Le SCBA devra être utilisé à l'intérieur du vêtement de blocage lorsque cette exposition à lieu. Traiter les éclaboussures d'isocyanates avec des quantités suffisantes de préparation de décontaminant pour isocyanate. Typiquement, une telle préparation peut consister en : sciure : 20 parts par unité de poids, terre d'infusoires : 40 parts par unité de poids plus {ammoniaque (s.g. 0 ;880) 8% v/v de {surfactant non-ionique 2% v/v {eau 90 % v/v Laisser reposer pendant 24 heures. ▸ Eviter une contamination par de l'eau, des alcalis et des solutions de détergents. ▸ Le produit réagit avec l'eau et génère des gaz, pressurise les containers résultant même dans la rupture des cylindres. ▸ **NE PAS** refermer un container si une contamination est suspectée. Risque modéré. ▸ Vider la zone de son personnel et se déplacer contre le vent. ▸ Alerter les pompiers et leurs indiquer l'endroit et la nature du risque.

Le conseil sur l'équipement de protection individuel est contenu dans la rubrique 8 de la FDS.

SECTION 7 Manipulation et stockage

Précautions à prendre pour une manipulation sans danger

Manipulation Sure	▸ Evitez tout contact de la personne, même l'inhalation. ▸ Mettez des vêtements de protection qui protègent lorsqu'il y a risque d'exposition. Travaillez dans un endroit bien aéré. **NE PAS** permettre des vêtements humidifiés par le produit de demeurer en contact avec la peau.
Autres Données	▸ Conserver dans les containers d'origine. ▸ Conserver les containers scellés. ▸ Ne pas fumer, pas de lumière à nu ni de source d'allumage.

Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités

Container adapté	Vérifier que tous les containers sont clairement étiquetés et sans fuite.
Incompatibilite de Stockage	Eviter une réaction avce l'eau, les alcools, les bases fortes, les alcalis, les composés métalliques et les solutions de détergents. Les réactions avec l'eau peuvent générer un volume important de mousse, de dioxyde de carbone (CO2)et de chaleur. La production du mousse dans une espace confiné peut engendrer des pressions. Une plage d'énergies de décomposition exothermique pour les isocyanates a été donnée à 20-30 kJ/mol. La relation entre l'énergie de décomposition et les risques de la procédure ont été le sujet de discussions ; il est suggéré que les valeurs de l'énergie libérée par unité de masse (J/g), plutôt que sur une base molaire, soient utilisées pour l'évaluation. Par exemple, dans les 'processus en récipients ouverts' (avec des ouvertures de la taille d'un homme, dans un environnement industriel), les substances avec des énergies de décomposition exothermiques inférieures à 500 J/g ne présentent généralement pas de danger, tandis que celles dans des 'processus en récipients clos' (l'ouverture est une valve de sécurité ou un disque de rupture) présentent certains dangers dans le cas sou l'énergie de décomposition excède 150 J/g.

SECTION 8 Contrôles de l'exposition/protection individuelle

Paramètres de contrôle

Valeurs limites d'exposition professionnelle (VLEP)

DONNEES SUR LES INGREDIENTS

Source	Composant	Nom du produit	VME	STEL	pic	Notes
Canada - Colombie-Britannique Limites D'Exposition Professionnelle	Diisocyanate d'hexane-1,6-diyle homopolymérisé	Diisocyanates, not elsewhere specified, NOS	0.005 ppm	Pas Disponible	0.01 ppm	Pas Disponible
Canada - Saskatchewan sur la santé et la sécurité au travail - des limites de contamination	ALUMINE ET ALUMINE HYDRATÉE AI(OH)3	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified: Respirable fraction++	3 mg/m3	6 mg/m3	Pas Disponible	Pas Disponible
Canada - Saskatchewan sur la santé et la sécurité au travail - des limites de contamination	ALUMINE ET ALUMINE HYDRATÉE AI(OH)3	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified: Inhalable fraction++	10 mg/m3	20 mg/m3	Pas Disponible	Pas Disponible

Suite...

Source	Composant	Nom du produit	VME	STEL	pic	Notes
Canada - Saskatchewan sur la santé et la sécurité au travail - des limites de contamination	ALUMINE ET ALUMINE HYDRATÉE Al(OH)3	Aluminum and compounds (as Al): Metal dust	10 mg/m3	20 mg/m3	Pas Disponible	Pas Disponible
Canada - Manitoba Limites d'exposition professionnelle	ALUMINE ET ALUMINE HYDRATÉE Al(OH)3	Pas Disponible	1 mg/m3	Pas Disponible	Pas Disponible	TLV® Basis: Pneumoconiosis; LRT irr; neurotoxicity
Canada - Île-du-Prince-Édouard Limites d'exposition professionnelle	ALUMINE ET ALUMINE HYDRATÉE Al(OH)3	Aluminum metal and insoluble compounds	1 mg/m3	Pas Disponible	Pas Disponible	TLV® Basis: Pneumoconiosis; LRT irr; neurotoxicity
Canada - Colombie-Britannique Limites D'Exposition Professionnelle	ALUMINE ET ALUMINE HYDRATÉE Al(OH)3	Aluminum metal and insoluble compounds, Respirable	1.0 mg/m3	Pas Disponible	Pas Disponible	Pas Disponible
Canada - Limites d'exposition professionnelle en Ontario	ALUMINE ET ALUMINE HYDRATÉE Al(OH)3	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified (PNOS) (Inhalable fraction)	10 mg/m3	Pas Disponible	Pas Disponible	(I) Inhalable fraction: means that size fraction of the airborne particulate deposited anywhere in the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets the ACGIH particle size-selective sampling criteria for airborne particulate matter; and (b) has the cut point of 100 µm at 50 per cent collection efficiency.
Canada - Limites d'exposition professionnelle en Ontario	ALUMINE ET ALUMINE HYDRATÉE Al(OH)3	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified (PNOS) (Respirable fraction)	3 mg/m3	Pas Disponible	Pas Disponible	(R) Respirable fraction: means that size fraction of the airborne particulate deposited in the gas-exchange region of the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets the ACGIH particle size-selective sampling criteria for airborne particulate matter; and (b) has the cut point of 4 µm at 50 per cent collection efficiency.
Canada - Nouvelle-Écosse Limites d'exposition professionnelle	ALUMINE ET ALUMINE HYDRATÉE Al(OH)3	Particles (Insoluble or Poorly Soluble) [NOS] Inhalable particles	10 mg/m3	Pas Disponible	Pas Disponible	See Appendix B current TLV/BEI Book
Canada - Nouvelle-Écosse Limites d'exposition professionnelle	ALUMINE ET ALUMINE HYDRATÉE Al(OH)3	Aluminum - Insoluble compounds	1 mg/m3	Pas Disponible	Pas Disponible	TLV Basis: Pneumoconiosis; lower respiratory tract irritation; neurotoxicity
Canada - Nouvelle-Écosse Limites d'exposition professionnelle	ALUMINE ET ALUMINE HYDRATÉE Al(OH)3	Particles (Insoluble or Poorly Soluble) [NOS] Respirable particles	3 mg/m3	Pas Disponible	Pas Disponible	See Appendix B current TLV/BEI Book
Canada - Limites d'exposition professionnelle sur les Territoires du Nord-Ouest	ALUMINE ET ALUMINE HYDRATÉE Al(OH)3	Aluminium et composés (comme Al) : Alkyles, non spécifiés autrement	2 mg/m3	4 mg/m3	Pas Disponible	Pas Disponible
Canada - Limites d'exposition professionnelle sur les Territoires du Nord-Ouest	ALUMINE ET ALUMINE HYDRATÉE Al(OH)3	Aluminium et composés (comme Al) : Poussière de métal	10 mg/m3	20 mg/m3	Pas Disponible	Pas Disponible
Canada - Limites d'exposition professionnelle de l'Alberta	ALUMINE ET ALUMINE HYDRATÉE Al(OH)3	Particulate Not Otherwise Regulated: Respirable	3 mg/m3	Pas Disponible	Pas Disponible	3 - Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required.
Canada - Limites d'exposition professionnelle de l'Alberta	ALUMINE ET ALUMINE HYDRATÉE Al(OH)3	Particulate Not Otherwise Regulated: Total	10 mg/m3	Pas Disponible	Pas Disponible	3 - Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required.
Canada - Valeurs d'exposition admissibles aux contaminants de l'air au Quebec	ALUMINE ET ALUMINE HYDRATÉE Al(OH)3	Aluminium et ses composés - la poussière respirable	5 mg/m3	Pas Disponible	Pas Disponible	Pas Disponible
Canada - Valeurs d'exposition admissibles aux contaminants de l'air au Quebec	ALUMINE ET ALUMINE HYDRATÉE Al(OH)3	Poussières non-classifiées autrement (PNCA) - la poussière totale	10 mg/m3	Pas Disponible	Pas Disponible	Note 1: La norme correspond à la poussière ne contenant pas d'amiante et dont le pourcentage de silice cristalline est inférieur à 1%.
Canada - Saskatchewan sur la santé et la sécurité au travail - des limites de contamination	zéolithes	Aluminum and compounds (as Al): Metal dust	10 mg/m3	20 mg/m3	Pas Disponible	Pas Disponible
Canada - Saskatchewan sur la santé et la sécurité au travail - des limites de contamination	zéolithes	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified: Respirable fraction++	3 mg/m3	6 mg/m3	Pas Disponible	Pas Disponible
Canada - Saskatchewan sur la santé et la sécurité au travail - des limites de contamination	zéolithes	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified: Inhalable fraction++	10 mg/m3	20 mg/m3	Pas Disponible	Pas Disponible
Canada - Limites d'exposition professionnelle en Ontario	zéolithes	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified (PNOS) (Respirable fraction)	3 mg/m3	Pas Disponible	Pas Disponible	(R) Respirable fraction: means that size fraction of the airborne particulate deposited in the gas-exchange region of the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets the ACGIH particle

Suite...

Source	Composant	Nom du produit	VME	STEL	pic	Notes
						size-selective sampling criteria for airborne particulate matter; and (b) has the cut point of 4 µm at 50 per cent collection efficiency.
Canada - Limites d'exposition professionnelle en Ontario	zéolithes	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified (PNOS) (Inhalable fraction)	10 mg/m3	Pas Disponible	Pas Disponible	(I) Inhalable fraction: means that size fraction of the airborne particulate deposited anywhere in the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets the ACGIH particle size-selective sampling criteria for airborne particulate matter; and (b) has the cut point of 100 µm at 50 per cent collection efficiency.
Canada - Nouvelle-Écosse Limites d'exposition professionnelle	zéolithes	Particles (Insoluble or Poorly Soluble) [NOS] Inhalable particles	10 mg/m3	Pas Disponible	Pas Disponible	See Appendix B current TLV/BEI Book
Canada - Nouvelle-Écosse Limites d'exposition professionnelle	zéolithes	Particles (Insoluble or Poorly Soluble) [NOS] Respirable particles	3 mg/m3	Pas Disponible	Pas Disponible	See Appendix B current TLV/BEI Book
Canada - Limites d'exposition professionnelle sur les Territoires du Nord-Ouest	zéolithes	Aluminium et composés (comme Al) : Alkyles, non spécifiés autrement	2 mg/m3	4 mg/m3	Pas Disponible	Pas Disponible
Canada - Limites d'exposition professionnelle sur les Territoires du Nord-Ouest	zéolithes	Aluminium et composés (comme Al) : Poussière de métal	10 mg/m3	20 mg/m3	Pas Disponible	Pas Disponible
Canada - Limites d'exposition professionnelle de l'Alberta	zéolithes	Particulate Not Otherwise Regulated: Respirable	3 mg/m3	Pas Disponible	Pas Disponible	3 - Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required.
Canada - Limites d'exposition professionnelle de l'Alberta	zéolithes	Particulate Not Otherwise Regulated: Total	10 mg/m3	Pas Disponible	Pas Disponible	3 - Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required.
Canada - Valeurs d'exposition admissibles aux contaminants de l'air au Quebec	zéolithes	Aluminium et ses composés - la poussière respirable	5 mg/m3	Pas Disponible	Pas Disponible	Pas Disponible
Canada - Valeurs d'exposition admissibles aux contaminants de l'air au Quebec	zéolithes	Poussières non-classifiées autrement (PNCA) - la poussière totale	10 mg/m3	Pas Disponible	Pas Disponible	Note 1: La norme correspond à la poussière ne contenant pas d'amiante et dont le pourcentage de silice cristalline est inférieur à 1%.
Canada - Saskatchewan sur la santé et la sécurité au travail - des limites de contamination	1,6-diisocyanatohexane	Hexamethylene diisocyanate	0.005 ppm	0.015 ppm	Pas Disponible	Pas Disponible
Canada - Manitoba Limites d'exposition professionnelle	1,6-diisocyanatohexane	Pas Disponible	0.005 ppm	Pas Disponible	Pas Disponible	TLV® Basis: URT irr; resp sens
Canada - Île-du-Prince-Édouard Limites d'exposition professionnelle	1,6-diisocyanatohexane	Hexamethylene diisocyanate	0.005 ppm	Pas Disponible	Pas Disponible	TLV® Basis: URT irr; resp sens
Canada - Colombie-Britannique Limites D'Exposition Professionnelle	1,6-diisocyanatohexane	Hexamethylene diisocyanate (HDI)	0.005 ppm	Pas Disponible	0.01 ppm	Pas Disponible
Canada - Limites d'exposition professionnelle en Ontario	1,6-diisocyanatohexane	Isocyanates, organic compounds - Hexamethylene diisocyanate (HDI)	0.005 ppm	Pas Disponible	0.02 ppm	* Denotes a chemical agent listed in Table 1 of Ontario Regulation 490/09 (Designated Substances) made under the Act. See clause 2 (2) (a) of this Regulation.
Canada - Nouvelle-Écosse Limites d'exposition professionnelle	1,6-diisocyanatohexane	1,6-Hexamethylene diisocyanate [HDI]	0.005 ppm	Pas Disponible	Pas Disponible	TLV Basis: upper respiratory tract irritation; respiratory sensitization
Canada - Limites d'exposition professionnelle sur les Territoires du Nord-Ouest	1,6-diisocyanatohexane	Diisocyanate d'hexaméthylène	0.005 ppm	0.015 ppm	Pas Disponible	Pas Disponible
Canada - Limites d'exposition professionnelle de l'Alberta	1,6-diisocyanatohexane	1,6-Hexamethylene diisocyanate	0.005 ppm / 0.03 mg/m3	Pas Disponible	Pas Disponible	Pas Disponible
Canada - Valeurs d'exposition admissibles aux contaminants de l'air au Quebec	1,6-diisocyanatohexane	Diisocyanate d'hexaméthylène	0,005 ppm / 0,034 mg/m3	Pas Disponible	Pas Disponible	EM: une substance dont l'exposition doit être réduite au minimum S: SENSIBILISANT

Limites d'urgence

Composant	TEEL-1	TEEL-2	TEEL-3
Diisocyanate d'hexane-1,6-diyle homopolymérisé	7.8 mg/m3	86 mg/m3	510 mg/m3

Suite...

Composant	TEEL-1	TEEL-2	TEEL-3
ALUMINE ET ALUMINE HYDRATÉE AI(OH)3	8.7 mg/m3	73 mg/m3	440 mg/m3
zéolithes	30 mg/m3	330 mg/m3	2,000 mg/m3
zéolithes	30 mg/m3	330 mg/m3	2,000 mg/m3
1,6-diisocyanatohexane	0.018 ppm	0.2 ppm	3 ppm

Composant	IDLH originale	IDLH révisé
Diisocyanate d'hexane-1,6-diyle homopolymérisé	Pas Disponible	Pas Disponible
ALUMINE ET ALUMINE HYDRATÉE AI(OH)3	Pas Disponible	Pas Disponible
zéolithes	Pas Disponible	Pas Disponible
1,6-diisocyanatohexane	Pas Disponible	Pas Disponible

Contrôles de l'exposition

Contrôles techniques appropriés	L'aspersion de produit ou le mélange de produit avec d'autres éléments doit être réalisé dans des conditions conformes aux réglementations locales. Une ventilation d'extraction locale ainsi qu'un appareil intégral à respiration d'air pur (hotte ou casque) sont habituellement requis. Le personnel non-protégé doit quitter la zone d'aspersion.
Mesures de protection individuelle, telles que les équipements de protection individuelle	
Protection des yeux/du visage.	‣ Lunettes de sécurité avec protections latérales ‣ Lunettes chimiques. [AS/NZS 1337.1, EN166 ou équivalent national] ‣ Les lentilles de contact peuvent présenter un danger particulier; les lentilles de contact souples peuvent absorber et concentrer les irritants. Un document de politique écrit, décrivant le port de lentilles ou les restrictions d'utilisation, doit être créé pour chaque lieu de travail ou tâche.
Protection de la peau	Voir protection Main ci-dessous
Protection des mains / pieds	**NOTE:** Le produit peut provoquer une sensibilisation de la peau chez les individus prédisposés. Une attention doit être prise, quand la personne retire ses gants de protection et ses équipements de protection, afin d'éviter un possible contact avec la peau. Le choix de gants appropriés ne dépend pas seulement du matériau, mais aussi d'autres critères de qualité qui peuvent varier d'un fabricant à l'autre. Lorsque le produit chimique est une préparation de plusieurs substances, la résistance des matériaux des gants ne peut pas être calculée à l'avance et doit donc être contrôlée avant l'application. La rupture exacte dans le temps des substances doit être obtenue auprès du fabricant des gants de protection et et doit être observé lors du choix final. ‣ Ne PAS porter de caoutchouc naturel (gants en latex). Remarque: Le caoutchouc naturel, le néoprène, le PCV peuvent être affectés par les isocyanates.
Protection corporelle	Voir Autre protection ci-dessous
Autres protections	‣ Tenue complète. ‣ Tablier en P.V.C. ‣ Crème protectrice.

Protection respiratoire

Respirateur approvisionné en air couvrant tout le visage. Nombre total de CP : 582

Les masques à cartouches ne doivent jamais être utilisés pour entrer en urgence dans une zone ou entrer dans des zones à concentration inconnue de vapeur ou de teneur en oxygène. Le porteur doit être averti de quitter immédiatement la zone contaminée en cas de détection d'une odeur à travers le respirateur. L'odeur peut indiquer que le masque ne fonctionne pas convenablement, que la concentration en vapeur est trop élevée ou que le masque n'est pas convenablement ajusté. En raison de ces contraintes, seule une utilisation restreinte des maques à cartouches est considérée comme appropriée.
Respirateur approvisionné en air couvrant tout le visage. Nombre total de CP : 582

SECTION 9 Propriétés physiques et chimiques

Informations sur les propriétés physiques et chimiques essentielles

Aspect	

État Physique	liquide	**Densité relative (l'eau = 1)**	1.3
Odeur	Pas Disponible	**Coefficient de partition n-octanol / eau**	Pas Disponible
Seuil pour les odeurs	Pas Disponible	**Température d'auto-allumage (°C)**	Pas Disponible
pH (comme fourni)	Pas Disponible	**Température de décomposition**	Pas Disponible
Point de fusion / point de congélation (° C)	Pas Disponible	**Viscosité (cSt)**	Pas Disponible
Point d'ébullition initial et plage d'ébullition (° C)	Pas Disponible	**Poids Moléculaire (g/mol)**	Pas Disponible
Point d'éclair (°C)	261	**goût**	Pas Disponible

Suite...

Taux d'évaporation	Pas Disponible	**Propriétés explosives**	Pas Disponible
Inflammabilité	Sans Objet	**Propriétés oxydantes**	Pas Disponible
Limite supérieure d'explosivité	Pas Disponible	**La tension de surface (dyn/cm or mN/m)**	Pas Disponible
Limite inférieure d'explosivité (LIE)	Pas Disponible	**Composé volatile (%vol)**	Pas Disponible
Pression de vapeur (kPa)	Pas Disponible	**Groupe du Gaz**	Pas Disponible
Hydrosolubilité	Non miscible	**pH en solution (1%)**	Pas Disponible
Densité de vapeur (Air = 1)	Pas Disponible	**Composés organiques volatils g/L**	Pas Disponible

SECTION 10 Stabilité et réactivité

Réactivité	Voir section 7
Stabilité chimique	▸ Présence de matériaux incompatibles. ▸ Le produit est considéré stable. ▸ Une polymérisation dangereuse n'aura pas lieu.
Possibilité de réactions dangereuses	Voir section 7
Conditions à éviter	Voir section 7
Matières incompatibles	Voir section 7
Produits de décomposition dangereux	Voir Section 5

SECTION 11 Informations toxicologiques

Informations sur les effets toxicologiques

Inhalé	L'inhalation de vapeurs d'aérosols (brumes ou fumées), générées par le produit durant une manipulation normale, peut être nocive. Le produit n'est pas connu pour produire des irritations respiratoires (tels que classifiées par les directives CE se basant sur des modèles animaux). Néanmoins, l'inhalation de fumées, vapeurs ou aérosols, particulièrement lors de périodes prolongées, peut engendrer des désagréments respiratoires et occasionnellement, des détresses. La vapeur/brouillard peut être fortement irritante pour les voies respiratoires supérieures et les poumons ; une réponse peut être suffisamment sévère pour produire une bronchite et un œdème pulmonaire. De possibles symptômes neurologiques apparaissant d'une exposition aux isocyanates incluent maux de tête, insomnie, euphorie, ataxie, anxiété, névrose, dépression et paranoïa. Des perturbations gastro-intestinales sont caractérisées par une nausée et des vomissements.
Ingestion	Le produit n'est pas connu pour produire des effets négatifs sur la santé suite à son ingestion (tel que classifié dans les directives CE utilisant des animaux). Néanmoins, les effets négatifs systématiques sont apparus suivant l'exposition d'animaux à au moins une autre manière et une bonne hygiène nécessite que les expositions soient maintenues à un minimum.
Contact avec la peau	Un contact avec la peau n'est pas reconnu comme produisant des effets nocifs pour la santé (tel que classé par les directives CE utilisant des modèles animaux). Des dommages systémiques, toutefois, ont été identifiées après une exposition d'animaux par au moins une autre voie et le produit peut encore produire des dommages pour la santé après une absorption à travers des blessures, lésions, ou abrasions. La pratique d'une bonne hygiène requiert que les expositions soient maintenues à un minimum et que des gants adaptés soient utilisés lors d'actes professionnels. Le coupures ouvertes, une peau irritée ou abrasive ne devrait pas être exposé à ce produit. Une entrée dans le système sanguin, via par exemple, des coupures, des abrasions ou des lésions, peut produire des blessures systémiques avec des effets nocifs. Examiner les peau avant l'utilisation du produit et s'assurer que les dommages externes sont correctement protégés.
Yeux	Bien que le liquide ne soit pas reconnu comme irritant (classifié ainsi par la directive CE), un contact direct avec les yeux peut provoquer des désagréments passagers caractérisé par des pleurs ou des rougeurs de la conjonctivite (comme pour des brûlures dues au vent).
Chronique	Une exposition professionnelle répétée ou prolongée est susceptible de produire des effets cumulatifs sur la santé impliquant des organes ou des systèmes biochimiques. Des preuves pratiques montrent que l'inhalation du matériau est capable d'induire une réaction de sensibilisation chez un nombre substantiel d'individus à une fréquence plus élevée que celle attendue de la réponse d'une population normale. La sensibilisation pulmonaire, entraînant un dysfonctionnement des voies respiratoires hyperactives et une allergie pulmonaire, peut être accompagnée de fatigue, de malaise et de douleurs. Des symptômes significatifs d'exposition peuvent persister pendant de longues périodes, même après la fin de l'exposition. Selon des expériences, le contact de la peau avec le matériel peut soit induire une réaction de sensibilisation chez un certain nombre d'individus et/ou engendrer une réaction positive sur les animaux de laboratoire. Le produit contient un polymère avec un groupe réactif considéré comme de soucis élevé. Les isothiocyanates peuvent provoquer une hyper-sensibilité de la peau et des voies respiratoires. Les isothiocyanates aromatiques (possédant des anneaux benzéniques) peuvent posséder le potentiel de provoquer des cancers. Les personnes avec un historique d'asthme ou d'autres problèmes respiratoires ou qui sont connus comme étant sensibilisées ne devraient pas être engagées dans des travaux impliquant la manipulation d'isocyanates. [CCTRADE-Bayer, APMF] Les tests animaux montrent que les MDI polymériques peuvent endommager les cavités nasales et les poumons, provoquant une inflammation et augmentant la croissance des cellules. Sur la base d'expériences animales d'abord, le matériel peut avoir, selon au moins une des Classes étudiées, des effets carcinogènes ou mutagènes; selon les informations disponibles il n'existe toutefois que des données inappropriées pour faire une estimation satisfaisante. Les vapeurs d'isocyanates sont irritantes pour les voies respiratoires et peuvent causer leurs inflammations, avec un cornage, un halètement, une détresse sévère, et même une perte de conscience et des fluides dans les poumons. Les symptômes sur le système nerveux qui peuvent apparaître incluent des maux de tête, des perturbations du sommeil, une euphorie, une incoordination, une anxiété, une dépression et une paranoïa. Les effets digestifs incluent nausée et vomissement.

Suite...

MarineWeld™ Syringe - Part A	**TOXICITÉ** / Pas Disponible — **IRRITATION** / Pas Disponible
Diisocyanate d'hexane-1,6-diyle homopolymérisé	**TOXICITÉ** / Dermique (rat) LD50: >2000 mg/kg[1] — **IRRITATION** / Skin (rabbit): 500 mg - moderate Inhalation(Rat) LC50; 0.052-0.5 mg/L4h[1] Oral(Rat) LD50; >2000 mg/kg[1]
ALUMINE ET ALUMINE HYDRATÉE AI(OH)3	**TOXICITÉ** / Inhalation(Rat) LC50; >2.3 mg/l4h[1] — **IRRITATION** / Peau: aucun effet nocif observé (non irritant)[1] Oral(Rat) LD50; >2000 mg/kg[1] — Yeux: aucun effet nocif observé (non irritant)[1]
zéolithes	**TOXICITÉ** / Dermiquel (lapin) LD50: >2000 mg/kg[2] — **IRRITATION** / Pas Disponible Inhalation(Rat) LC50; >0.5 mg/l4h[2] Oral(Rat) LD50; >2000 mg/kg[1]
1,6-diisocyanatohexane	**TOXICITÉ** / Dermiquel (lapin) LD50: 593 mg/kg[2] — **IRRITATION** / Peau: aucun effet nocif observé (non irritant)[1] Inhalation(Rat) LC50; 0.06 mg/L4h[2] — Peau: effet nocif observé (irritant)[1] Oral(Souris) LD50; 350 mg/kg[2] — Yeux: effet nocif observé (irritant)[1]
Légende:	*1 Valeur obtenue substances Europe de l'ECHA enregistrés de -.. Toxicité aiguë 2 Valeur obtenue à partir de la fiche signalétique du fabricant, sauf les données spécifiées soient extraites du RTECS - Registre des effets toxiques des substances chimiques*

DIISOCYANATE D'HEXANE-1,6-DIYLE HOMOPOLYMÉRISÉ	Le produit peut produire une irritation modérée des yeux aboutissant à une inflammation. Une exposition prolongée ou répétée aux irritants peut produire des conjonctivites. Le produit peut causer une irritation de la peau après une exposition prolongée ou répétée et peut produire au contact de la peau des rougeurs, des tuméfactions, une production de vésicules, la formation d'écailles et un épaississement de la peau.
1,6-DIISOCYANATOHEXANE	Des symptômes de type asthmatique peuvent persister pendant des mois, voire des années, après la fin de l'exposition à la substance. Cela peut être dû à un état non allergique connu sous le nom de syndrome de dysfonctionnement réactif des voies aériennes (syndrome de Brooks) qui peut survenir à la suite d'une exposition à des niveaux élevés de composé très irritant. Les principaux critères de diagnostic du syndrome de Brooks comprennent l'absence de maladie respiratoire antérieure, chez un individu non atopique, avec apparition soudaine de symptômes persistants de type asthmatique dans les minutes ou les heures suivant une exposition documentée à l'irritant.
MarineWeld™ Syringe - Part A & DIISOCYANATE D'HEXANE-1,6-DIYLE HOMOPOLYMÉRISÉ & 1,6-DIISOCYANATOHEXANE	Une attention particulière est attirée sur la diathèse dite atopique qui se caractérise par une sensibilité accrue à la rhinite allergique, à l'asthme bronchique allergique et à l'eczéma atopique (neurodermatite) qui est associée à une augmentation de la synthèse des IgE. Les alvéolites allergiques exogènes sont introduit principalement par des imuno-complexes allergènes spécifiques de type IgG ; les réactions à médiations cellulaires (lymphocytes T) peuvent être impliqués. Une telle allergie est de type retardataire de 4 heures par rapport au début de l'exposition. Les informations suivantes concernent les allergènes de contact en tant que groupe et ne sont pas forcément spécifiques à ce produit. Les allergies de contact se manifestent rapidement par un eczéma de contact, plus rarement par de l'urticaire ou un œdème de Quincke. La pathogenèse de l'eczéma de contact implique une réaction immunitaire à médiation cellulaire (lymphocytes T) de type retardé. Les vapeurs d'isocyanates sont irritantes pour les voies respiratoires et peuvent causer leurs inflammations, avec un cornage, un halètement, une détresse sévère, et même une perte de conscience et des fluides dans les poumons. Les symptômes sur le système nerveux qui peuvent apparaître incluent des maux de tête, des perturbations du sommeil, une euphorie, une incoordination, une anxiété, une dépression et une paranoïa. Les effets digestifs incluent nausée et vomissement.
DIISOCYANATE D'HEXANE-1,6-DIYLE HOMOPOLYMÉRISÉ & ALUMINE ET ALUMINE HYDRATÉE AI(OH)3 & 1,6-DIISOCYANATOHEXANE	Aucune donnée toxicologique aiguë significative n'a été identifiée lors de la recherche bibliographique.

toxicité aiguë	✔	**Cancérogénicité**	✘
Irritation / corrosion	✘	**reproducteur**	✘
Lésions oculaires graves / irritation	✘	**STOT - exposition unique**	✘
Sensibilisation respiratoire ou cutanée	✔	**STOT - exposition répétée**	✘
Mutagénéïté	✘	**risque d'aspiration**	✘

Légende: ✘ *– Les données pas disponibles ou ne remplit pas les critères de classification*
✔ *– Données nécessaires à la classification disponible*

SECTION 12 Informations écologiques

Toxicité

Suite...

MarineWeld™ Syringe - Part A

ENDPOINT	Durée de l'essai (heures)	espèce	Valeur	source
Pas Disponible	Pas Disponible	Pas Disponible	Pas Disponible	Pas Disponible

Diisocyanate d'hexane-1,6-diyle homopolymérisé

ENDPOINT	Durée de l'essai (heures)	espèce	Valeur	source
EC50	72h	Les algues ou d'autres plantes aquatiques	>1000mg/l	Pas Disponible
EC50	48h	crustacés	>100mg/l	Pas Disponible
LC50	96h	Poisson	>100mg/l	Pas Disponible
EC50(ECx)	48h	crustacés	>100mg/l	Pas Disponible

ALUMINE ET ALUMINE HYDRATÉE Al(OH)3

ENDPOINT	Durée de l'essai (heures)	espèce	Valeur	source
EC50	72h	Les algues ou d'autres plantes aquatiques	0.017mg/L	2
EC50	48h	crustacés	>0.065mg/l	4
EC50	96h	Les algues ou d'autres plantes aquatiques	0.005mg/L	2
NOEC(ECx)	72h	Les algues ou d'autres plantes aquatiques	>100mg/l	1
LC50	96h	Poisson	0.57mg/l	2

zéolithes

ENDPOINT	Durée de l'essai (heures)	espèce	Valeur	source
EC50	72h	Les algues ou d'autres plantes aquatiques	>1000mg/l	2
EC50	48h	crustacés	100-1800mg/l	1
EC50	96h	Les algues ou d'autres plantes aquatiques	18mg/l	1
ErC50	72h	Les algues ou d'autres plantes aquatiques	18mg/l	1
LC50	96h	Poisson	1000mg/l	1
EC10(ECx)	96h	Les algues ou d'autres plantes aquatiques	4.9mg/l	1

1,6-diisocyanatohexane

ENDPOINT	Durée de l'essai (heures)	espèce	Valeur	source
EC50	72h	Les algues ou d'autres plantes aquatiques	>77.4mg/l	2
EC0(ECx)	24h	crustacés	<0.33mg/l	1
LC50	96h	Poisson	22mg/l	1

Légende: *Extrait de 1. Donnees de toxicite de IUCLID 2. Substances enregistrees par ECHA en Europe - informations ecotoxicologiques - Toxicite aquatique 4. Base de donnees ECOTOX de l'Agence de protection de l'environnement (EPA) des Etats-Unis- Donnees de toxicite aquatique 5. Donnees d'evaluation des risques aquatiques ECETOC 6. NITE (Japon) - Donnees de bioconcentration 7. METI (Japon) - Donnees de bioconcentration*

Ne pas laisser pénétrer dans la nappe phréatique, les eaux ou les canalisations.

Persistance et dégradabilité

Composant	Persistance: Eau/Sol	Persistance: l'air
Diisocyanate d'hexane-1,6-diyle homopolymérisé	HAUT	HAUT
1,6-diisocyanatohexane	BAS	BAS

Potentiel de bioaccumulation

Composant	Bioaccumulation
Diisocyanate d'hexane-1,6-diyle homopolymérisé	BAS (LogKOW = 7.5795)
1,6-diisocyanatohexane	BAS (LogKOW = 3.1956)

Mobilité dans le sol

Composant	Mobilité
Diisocyanate d'hexane-1,6-diyle homopolymérisé	BAS (KOC = 18560000)
1,6-diisocyanatohexane	BAS (KOC = 5864)

SECTION 13 Considérations relatives à l'élimination

Méthodes de traitement des déchets

Elimination du produit / emballage

- Les conteneurs peuvent encore présenter un danger / danger chimique lorsqu'ils sont vides.
- Retourner au fournisseur pour réutilisation / recyclage si possible.

Autrement:

- Si le conteneur ne peut pas être nettoyé suffisamment bien pour garantir qu'il ne reste pas de résidus ou si le conteneur ne peut pas être

Suite...

	utilisé pour stocker le même produit, perforer les conteneurs pour éviter leur réutilisation et les enfouir dans une décharge autorisée. Les législations concernant les exigences pour l'élimination des déchets peuvent être différentes suivant les pays, régions ou/ou territoires. Chaque utilisateur doit se conformer aux lois régissant la zone où il se trouve. Dans des cas particuliers, certains déchets doivent faire l'objet d'un suivi. NE PAS permettre à l'eau provenant du lavage ou de l'équipement de pénétrer dans les conduits d'eau. Il peut s'avérer nécessaire de collecter toute l'eau de lavage pour un traitement préalable avant l'élimination. Dans tous les cas, une élimination dans les égouts peut-être soumise à des lois et réglementations et ces dernières doivent être prises en compte de manière prioritaire.

SECTION 14 Informations relatives au transport

Etiquettes nécessaires

Polluant marin	aucun

Transport terrestre (TDG): NON REGLEMENTE PAR LE CODE DES TRANSPORTS CONCERNANT LES MARCHANDISES DANGEREUSES

Transport aérien (ICAO-IATA / DGR): NON REGLEMENTE PAR LE CODE DES TRANSPORTS CONCERNANT LES MARCHANDISES DANGEREUSES

Transport maritime (IMDG-Code / GGVSee): NON REGLEMENTE PAR LE CODE DES TRANSPORTS CONCERNANT LES MARCHANDISES DANGEREUSES

14.7.1. Transport en vrac conformément à l'annexe II de la convention Marpol et au recueil IBC

Sans Objet

14.7.2. Transport en vrac conformément à l'annexe V et MARPOL Code IMSBC

Nom du produit	Grouper
Diisocyanate d'hexane-1,6-diyle homopolymérisé	Pas Disponible
ALUMINE ET ALUMINE HYDRATÉE AI(OH)3	Pas Disponible
zéolithes	Pas Disponible
1,6-diisocyanatohexane	Pas Disponible

14.7.3. Transport en vrac conformément aux dispositions du Code IGC

Nom du produit	Type de navire
Diisocyanate d'hexane-1,6-diyle homopolymérisé	Pas Disponible
ALUMINE ET ALUMINE HYDRATÉE AI(OH)3	Pas Disponible
zéolithes	Pas Disponible
1,6-diisocyanatohexane	Pas Disponible

SECTION 15 Informations réglementaires

Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement

Ce produit a été classé conformément aux critères de danger du Règlement sur les produits dangereux et la FDS contient toutes les informations requises par le Règlement sur les produits dangereux.

Diisocyanate d'hexane-1,6-diyle homopolymérisé Est disponible dans les textes réglementaires suivants

Canada Catégorisation des décisions pour toutes les substances de la LIS
Canada Liste Intérieure des Substances (DSL)
Canada Non Liste Intérieure des Substances (LIS)

ALUMINE ET ALUMINE HYDRATÉE AI(OH)3 Est disponible dans les textes réglementaires suivants

Canada Catégorisation des décisions pour toutes les substances de la LIS
Canada Liste Intérieure des Substances (DSL)
Liste internationale OMS de la limite proposée d'exposition professionnelle (VLEP) Les valeurs pour les nanomatériaux manufacturés (MNMS)
Service d'index toxicologique du Canada - Système d'information sur les matières dangereuses utilisées au travail - SIMDUT SGH

zéolithes Est disponible dans les textes réglementaires suivants

Canada Catégorisation des décisions pour toutes les substances de la LIS
Canada Liste Intérieure des Substances (DSL)
Canada Non Liste Intérieure des Substances (LIS)
Centre international de recherche sur le cancer (CIRC) - Agents classifiés par les monographies de CIRC - N'est pas classé comme produit cancérogène
Liste internationale OMS de la limite proposée d'exposition professionnelle (VLEP) Les valeurs pour les nanomatériaux manufacturés (MNMS)

1,6-diisocyanatohexane Est disponible dans les textes réglementaires suivants

Canada Catégorisation des décisions pour toutes les substances de la LIS
Canada Liste Intérieure des Substances (DSL)
Service d'index toxicologique du Canada - Système d'information sur les matières dangereuses utilisées au travail - SIMDUT SGH

Informations Réglementaires Supplémentaires

N'est pas applicable

État de l'inventaire national

Inventaire national	Statut
Australie - AIIC / Australie non-utilisation industrielle	Oui

Suite...

Inventaire national	Statut
Canada - DSL	Oui
Canada - NDSL	Non (ALUMINE ET ALUMINE HYDRATÉE AI(OH)3; 1,6-diisocyanatohexane)
Chine - IECSC	Oui
Europe - EINEC / ELINCS / NLP	Oui
Japon - ENCS	Non (zéolithes)
Corée - KECI	Oui
Nouvelle-Zélande - NZIoC	Oui
Philippines - PICCS	Oui
É.-U.A. - TSCA	Oui
Taiwan - TCSI	Oui
Mexique - INSQ	Non (Diisocyanate d'hexane-1,6-diyle homopolymérisé)
Vietnam - NCI	Oui
Russie - FBEPH	Oui
Légende:	*Oui = Tous les ingrédients figurent dans l'inventaire* *Non = Un ou plusieurs des ingrédients répertoriés dans le CAS ne figurent pas dans l'inventaire. Ces ingrédients peuvent être exemptés ou devront être enregistrés.*

SECTION 16 Autres informations

date de révision	12/07/2023
date initiale	01/19/2022

Résumé de la version SDS

Version	Date de mise à jour	Sections mises à jour
3.4	12/06/2023	Propriétés physiques et chimiques - Aspect, Informations toxicologiques - Santé chronique, Identification des dangers - Classification, Composition/informations sur les composants - Ingrédients

autres informations

La classification de la préparation et de ses composants individuels est basée sur des sources officielles et faisant autorité, ainsi que sur un examen indépendant par le comité de classification de Chemwatch en utilisant des références bibliographiques disponibles.
La fiche de données de sécurité (SDS) est un outil de communication des dangers et doit être utilisée pour aider à l'évaluation des risques. De nombreux facteurs déterminent si les dangers signalés représentent des risques sur le lieu de travail ou dans d'autres environnements. Les risques peuvent être déterminés en fonction des scénarios d'exposition.

Alimenté par AuthorITe, de Chemwatch.