Steel Reinforced Epoxy Resin - Syringe - Part A

SECTION 1: Identification

Product identifier

Product name: Steel Reinforced Epoxy Resin - Syringe - Part A
Product code: 50165CAN, 50176CAN

Recommended use of the product and restriction on use

Relevant identified uses: Adhesive Part A
Uses advised against: Not determined or not applicable.
Reasons why uses advised against: Not determined or not applicable.

Manufacturer or supplier details

Manufacturer:
North America
J-B Weld Company, LLC
400 CMH Road
Sulphur Springs, TX 75482
903-885-7696
info@jbweld.com

Emergency telephone number:

North America
InfoTrac
352-323-3500

SECTION 2: Hazard identification

GHS classification:

Skin irritation, category 2
Eye irritation, category 2A
Skin sensitization, category 1

Label elements

Hazard pictograms:

Signal word: Warning

Hazard statements:

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

Precautionary statements:

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 Wash hands thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

P321 Specific treatment (see supplemental first aid instructions on this label).
P302+P352 IF ON SKIN: Wash with plenty of water/soap.
P362+P364 Take off contaminated clothing and wash it before reuse.
P333+P313 If skin irritation or a rash occurs: Get medical advice/attention
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists get medical advice/attention
P501 Dispose of contents/container in accordance with local regulations.

Hazards not otherwise classified: None

SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 1333-86-4	Bounded Carbon Black	0.1-1
CAS number: 14807-96-6	Talc	1-5
CAS number: 14808-60-7	Silica, crystalline quartz	0.03
CAS number: 2425-79-8	1,4-bis(2,3 epoxypropoxy)butane	5-10
CAS number: 2530-83-8	(3-Glycidoxypropyl)trimethoxysilane	0.5-1.5
CAS number: 25068-38-6	Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxiran	30-60
CAS number: 28064-14-4	Poly[(phenyl glycidyl ether)-co-formaldehyde]	15-40
CAS number: 106-89-8	1-chloro-2,3-epoxypropane	<0.01

Additional Information:
The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with the Canadian Hazardous Products Regulation and WHMIS 2015.

SECTION 4: First-aid measures

Description of first-aid measures

General notes:
Not determined or not available.

After inhalation:
If inhaled, remove person to fresh air and place in a position comfortable for breathing. Keep person at rest. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. If experiencing respiratory symptoms, seek medical advice/attention

After skin contact:

Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse. If symptoms develop or persist, seek medical advice/attention

After eye contact:

Rinse eyes with plenty of gently flowing lukewarm water for 15 minutes. Remove contact lenses if present and easy to do so. Protect unexposed eye. If symptoms develop or persist, seek medical advice/attention

After ingestion:

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. If symptoms develop or persist, seek medical advice/attention

Most important symptoms and effects, both acute and delayed

Acute symptoms and effects:

Causes eye irritation. Symptoms include corneal redness, tearing, burning, and inflammation
Causes skin irritation and may cause an allergic skin reaction. Symptoms may include irritation, redness, pain, rash, inflammation, itching, burning and dermatitis

Delayed symptoms and effects:

Effects are dependent on exposure (dose, concentration, contact time)

Immediate medical attention and special treatment

Specific treatment:

Not determined or not available.

Notes for the doctor:

Treat symptomatically

SECTION 5: Fire-fighting measures

Extinguishing media

Suitable extinguishing media:

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

Unsuitable extinguishing media:

Not determined or not applicable.

Specific hazards during fire-fighting:

Thermal decomposition can lead to release of irritating gases and vapors

Special protective equipment for firefighters:

Use typical firefighting equipment, self-contained breathing apparatus, special tightly sealed suit

Special precautions:

Carbon monoxide and carbon dioxide may form upon combustion
Heating causes a rise in pressure, risk of bursting and combustion

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation
Ensure air handling systems are operational

Wear protective eye wear, gloves and clothing
Wear recommended personal protective equipment (see Section 8)

Environmental precautions:

Should not be released into the environment
Prevent from reaching drains, sewer or waterway

Methods and material for containment and cleaning up:

Wear protective eye wear, gloves and clothing
Sweep or scoop up solid material while minimizing dust generation
Dispose of contents / container in accordance with local regulations

Reference to other sections:

Section 8: Personal Protective Equipment

SECTION 7: Handling and storage

Precautions for safe handling:

Use only with adequate ventilation.
Avoid breathing dust.
Do not eat, drink, smoke or use personal products when handling chemical substances.
Wear recommended personal protective equipment (see Section 8).

Conditions for safe storage, including any incompatibilities:

Keep container tightly sealed.
Keep container dry.
Store in a cool, well-ventilated area.

SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
Canada	Bounded Carbon Black	1333-86-4	Alberta: TWA 3.5 mg/m³
	Bounded Carbon Black	1333-86-4	British Columbia: TWA 3.0 mg/m³
	Bounded Carbon Black	1333-86-4	Manitoba: TWA 3.0 mg/m³
	Bounded Carbon Black	1333-86-4	Ontario: TWA 3.0 mg/m³ (Source: ACGIH)
	Bounded Carbon Black	1333-86-4	Quebec: TWA 3.5 mg/m³
	Bounded Carbon Black	1333-86-4	Saskatchewan: 3.5 mg/m³ (8 hour); 7.0 mg/m³ (15 min)
	Silica, crystalline quartz	14808-60-7	Alberta OELs - 8-Hour TWA Exposure Limit: 0.025 mg/m³ (respirable)
	Silica, crystalline quartz	14808-60-7	British Columbia OELs - 8-Hour TWA Exposure Value: 0.025 mg/m³ (respirable)
	Silica, crystalline quartz	14808-60-7	Manitoba OELs - 8-Hour TWA Exposure Limit: 0.025 mg/m³ (respirable fraction)

Steel Reinforced Epoxy Resin - Syringe - Part A

Country (Legal Basis)	Substance	Identifier	Permissible concentration
	Silica, crystalline quartz	14808-60-7	Ontario OELs - 8-Hour TWA Exposure Limit: 0.10 mg/m³ (respirable fraction)
	Silica, crystalline quartz	14808-60-7	Quebec OELs - 8-Hour TWA Exposure Value: 0.1 mg/m³ (respirable)
	Silica, crystalline quartz	14808-60-7	Saskatchewan OELs - 15 Minute Average Contamination Limit: 0.05 mg/m³ (respirable fraction)
	Talc	14807-96-6	Alberta OELs - 8- hour TWA Exposure Limit: 2 mg/m³
	Talc	14807-96-6	British Columbia OELs - 8-Hour TWA Exposure Value: 2 mg/m³ (respirable)
	Talc	14807-96-6	Manitoba OELs - 8-Hour Exposure Limit (TLV-TWA): 2 mg/m³ (respirable fraction)
	Talc	14807-96-6	Ontario OELs - 8-Hour TWA Exposure Value (TWA): 2 mg/m³ (respirable fraction)
	Talc	14807-96-6	Quebec OELs - 8-Hour TWA Exposure Value: 3 mg/m³ (respirable fraction)
	Talc	14807-96-6	Saskatchewan OELs - 8 Hour Average Contamination Limit: 2 mg/m³ (respirable fraction)
	1-chloro-2,3-epoxypropane	106-89-8	Ontario OELs - 8-hour TWA: 0.5 ppm
	1-chloro-2,3-epoxypropane	106-89-8	Quebec OELs - 8-hour TWA: 2 ppm (7.6 mg/m³)
	1-chloro-2,3-epoxypropane	106-89-8	Alberta OELs - 8-hour TWA: 0.5 ppm (1.9 mg/m³)
	1-chloro-2,3-epoxypropane	106-89-8	British Columbia - 8-hour TWA: 0.1 ppm
	1-chloro-2,3-epoxypropane	106-89-8	Manitoba OELs - 8-hour TWA: 0.5 ppm
	1-chloro-2,3-epoxypropane	106-89-8	Saskatchewan OELs - 15 minute average contamination limit: 1.5 ppm
	1-chloro-2,3-epoxypropane	106-89-8	Saskatchewan OELs - 8-hour average contamination limit: 0.5 ppm

Biological limit values:

No biological exposure limits noted for the ingredient(s).

Information on monitoring procedures:

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls.
Biological monitoring may also be appropriate for some substances.

Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

Personal protection equipment

Eye and face protection:
Safety goggles or glasses, or appropriate eye protection.

Skin and body protection:
Select glove material impermeable and resistant to the substance.
Wear appropriate clothing to prevent any possibility of skin contact.

Respiratory protection:
If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

General hygienic measures:
Avoid contact with skin, eyes and clothing.
Wash hands before breaks and at the end of work.
Wash contaminated clothing before reuse.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance (physical state, color):	Black paste
Odor:	Ethereal
Odor threshold:	Not determined or not available.
pH-value:	Not determined or not available.
Melting/Freezing point:	Not determined or not available.
Boiling point/range:	Not determined or not available.
Flash point:	Product does not sustain combustion.
Evaporation rate:	Not determined or not available.
Flammability (solid, gaseous):	Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge.
Explosion limit upper:	Not determined or not available.
Explosion limit lower:	Not determined or not available.
Vapor pressure:	Not determined or not available.
Vapor density:	1.199
Density:	Not determined or not available.
Relative density:	Not determined or not available.
Solubilities:	Not determined or not available.
Partition coefficient (n-octanol/water):	Not determined or not available.
Auto/Self-ignition temperature:	>200°C (>392°F)
Decomposition temperature:	Not determined or not available.
Dynamic viscosity:	Not determined or not available.

Steel Reinforced Epoxy Resin - Syringe - Part A

Kinematic viscosity:	Not determined or not available.
Explosive properties	Not determined or not available.
Oxidizing properties	Not determined or not available.

Other information

VOC Content (%)	<3%

SECTION 10: Stability and reactivity

Reactivity:
Does not react under normal conditions of use and storage.

Chemical stability:
Stable under normal conditions of use and storage.

Possibility of hazardous reactions:
None under normal conditions of use and storage.

Conditions to avoid:
Open flames, sparks and static discharge.

Incompatible materials:
None known.

Hazardous decomposition products:
None known.

SECTION 11: Toxicological information

Acute toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data:

Name	Route	Result
1,4-bis(2,3 epoxypropoxy)butane	dermal	LD50 - Rabbit - 1,130 mg/kg
1-chloro-2,3-epoxypropane	dermal	LD50 Dermal - Rabbit - 300 mg/kg
	inhalation	LC50 - Rat - 250 ppm - 8 h
	oral	LD50 - Rat - 90 mg/kg

Skin corrosion/irritation

Assessment:
Causes skin irritation

Product data:
No data available.

Substance data:

Name	Result
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxiran	Causes skin irritation.

Steel Reinforced Epoxy Resin - Syringe - Part A

Name	Result
Poly[(phenyl glycidyl ether)-co-formaldehyde]	Causes skin irritation
1,4-bis(2,3 epoxypropoxy)butane	Causes skin irritation.
1-chloro-2,3-epoxypropane	Corrosive to the skin.

Serious eye damage/irritation

Assessment:

Causes serious eye irritation

Product data:

No data available.

Substance data:

Name	Result
(3-Glycidoxypropyl)trimethoxysilane	Causes serious eye damage.
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxiran	Causes serious eye irritation.
Poly[(phenyl glycidyl ether)-co-formaldehyde]	Causes eye irritation
1,4-bis(2,3 epoxypropoxy)butane	Causes serious eye irritation.

Respiratory or skin sensitization

Assessment:

May cause an allergic skin reaction

Product data:

No data available.

Substance data:

Name	Result
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxiran	May cause an allergic skin reaction.
Poly[(phenyl glycidyl ether)-co-formaldehyde]	Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals
1,4-bis(2,3 epoxypropoxy)butane	May cause an allergic skin reaction.
1-chloro-2,3-epoxypropane	May cause sensitisation by skin contact.

Carcinogenicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data:

Name	Species	Result
Silica, crystalline quartz	Not applicable	Component may cause cancer.

Steel Reinforced Epoxy Resin - Syringe - Part A

Name	Species	Result
Bounded Carbon Black	Not applicable.	The carcinogenic classification only applies to airborne, unbound particles of respirable size.
1-chloro-2,3-epoxypropane	Not applicable	Suspected human carcinogen.

International Agency for Research on Cancer (IARC):

Name	Classification
Talc	Group 3 - Not classifiable as to its carcinogenicity to humans
Silica, crystalline quartz	Group 1 - Carcinogenic to humans
Bounded Carbon Black	Group 2B - Possibly carcinogenic to humans
1-chloro-2,3-epoxypropane	Group 2A - Probably carcinogenic to humans

National Toxicology Program (NTP):

Name	Classification
Silica, crystalline quartz	Known to be human carcinogens
1-chloro-2,3-epoxypropane	Reasonably anticipated to be human carcinogens

Germ cell mutagenicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Reproductive toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Specific target organ toxicity (single exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Specific target organ toxicity (repeated exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data:

Name	Result
Silica, crystalline quartz	Component affects the lungs through repeated exposure.

Aspiration toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Information on likely routes of exposure:
No data available.

Symptoms related to the physical, chemical and toxicological characteristics:
No data available.

Other information:
No data available.

SECTION 12: Ecological information

Acute (short-term) toxicity

Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Chronic (long-term) toxicity

Assessment: Based on available data, the classification criteria are not met.
Product data: No data available.
Substance data: No data available.

Persistence and degradability

Product data: No data available.
Substance data: No data available.

Bioaccumulative potential

Product data: No data available.
Substance data: No data available.

Mobility in soil

Product data: No data available.
Substance data: No data available.

Other adverse effects: No data available.

SECTION 13: Disposal considerations

Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities

SECTION 14: Transport information

Canadian Transportation of Dangerous Goods (TDG)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	In accordance with Section 1.45.1 (SOR/2008-34) of the TDG Regulations, this product is not regulated as a marine pollutant as it is transported solely on land by road vehicle or railway vehicle.

Steel Reinforced Epoxy Resin - Syringe - Part A

Special precautions for user	None
Additional Information	Non-bulk packages of this product are not regulated as hazardous materials unless transported by inland waterway. This product is not regulated as a hazardous material as it is transported in sizes of ≤5 kg or ≤5 L and the packagings meet the general provisions of Section 1.17 (SOR/2008-34) of the TDG Regulations.

International Maritime Dangerous Goods (IMDG)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	This material is shipped in quantities of less than 5 kg or 5 L and as such does not need to be marked as an Environmentally Hazardous Substance.
Special precautions for user	None
Additional Information	This product is not regulated as a dangerous good as it is transported in sizes of ≤5 L or ≤5 kg and the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. Additionally, this product transported solely on land by road vehicle or railway vehicle.

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	This material is shipped in quantities of less than 5 kg or 5 L and as such does not need to be marked as an Environmentally Hazardous Substance.
Special precautions for user	None
Additional Information	This product is not regulated as a dangerous good as it is transported in sizes of ≤5 L or ≤5 kg and the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8. Additionally, this product transported solely on land by road vehicle or railway vehicle.

SECTION 15: Regulatory information

Canada regulations

Domestic substances list (DSL):

25068-38-6	Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxiran	Listed
28064-14-4	Poly[(phenyl glycidyl ether)-co-formaldehyde]	Listed
2425-79-8	1,4-bis(2,3 epoxypropoxy)butane	Listed

2530-83-8	(3-Glycidoxypropyl)trimethoxysilane	Listed
14807-96-6	Talc	Listed
14808-60-7	Silica, crystalline quartz	Listed
1333-86-4	Bounded Carbon Black	Listed
106-89-8	1-chloro-2,3-epoxypropane	Listed

Non-domestic substances list (NDSL): None of the ingredients are listed.

SECTION 16: Other information

Abbreviations and Acronyms: None

Disclaimer:

This product has been classified in accordance with the Canadian Hazardous Products Regulations and WHMIS 2015. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation and disposal and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

Initial preparation date: 07.12.2019

End of Safety Data Sheet

Steel Reinforced Epoxy Hardener - Fast Cure - Part B

SECTION 1: Identification

Product identifier

Product name: Steel Reinforced Epoxy Hardener - Fast Cure - Part B

Product code: 50176CAN

Recommended use of the product and restriction on use

Relevant identified uses: Not determined or not applicable.

Uses advised against: Not determined or not applicable.

Reasons why uses advised against: Not determined or not applicable.

Manufacturer or supplier details

Manufacturer:
North America
J-B Weld Company, LLC
400 CMH Road
Sulphur Springs, TX 75482
903-885-7696
info@jbweld.com

Emergency telephone number:

North America
InfoTrac
1-800-535-5053 (24 hour)

SECTION 2: Hazard identification

GHS classification:

Serious eye damage, category 1
Skin irritation, category 2
Skin sensitization, category 1

Label elements

Hazard pictograms:

Signal word: Danger

Hazard statements:

H318 Causes serious eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.

Precautionary statements:

P264 Wash hands thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P321 Specific treatment (see supplemental first aid instructions on this label).
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P362+P364 Take off contaminated clothing and wash it before reuse.
P333+P313 If skin irritation or a rash occurs: Get medical advice/attention
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor/physician.
P501 Dispose of contents/container in accordance with local regulations.

Hazards not otherwise classified: None

SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 14807-96-6	Talc	1-5
CAS number: 14808-60-7	Silica, crystalline quartz	0.02
CAS number: 112-57-2	1,2-Ethanediamine, N1-(2-aminoethyl)-N2-[2-[(2-aminoethyl)amino]ethyl]-	0.1-1
CAS number: 112-24-3	Triethylenetetramine	0.1-1
CAS number: 13463-67-7	Titanium Dioxide	0.1-1
CAS number: 90-72-2	2,4,6-tris(dimethylaminomethyl)phenol	5-10
CAS number: 21645-51-2	Aluminum hydroxide	0.02
CAS number: 7631-86-9	Silicon Dioxide	0.02
CAS number: 1314-23-4	Zirconium dioxide	0.01
CAS number: 72244-98-5	Poly(oxy(methyl-1,2-ethanediyl)), alpha-hydro-omega-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptopropyl ether	45-70
CAS number: 68131-73-7	Amines, polyethylenepoly-; HEP	1-5
CAS number: 4067-16-7	3,6,9,12-tetra-azatetradecamethylenediamine; Pentaethylenehexamine	1-5

Additional Information:

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with the Canadian Hazardous Products Regulation and WHMIS 2015.
CAS # 14808-60-7 is classified as a carcinogen in its inhalable form. Since the substance in this product is not inhalable, the product itself is not classified as a carcinogen in the form presented.

SECTION 4: First-aid measures

Description of first-aid measures

General notes:

Not determined or not available.

After inhalation:

If inhaled, remove person to fresh air and place in a position comfortable for breathing. Keep person at rest. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. If experiencing respiratory symptoms, seek medical advice/attention

After skin contact:

Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse. If symptoms develop or persist, seek medical advice/attention

After eye contact:

Immediately rinse eyes with plenty of gently flowing lukewarm water for 15 minutes. Remove contact lenses if present and easy to do so. Protect unexposed eye. Seek immediate medical attention, preferably from an ophthalmologist

After ingestion:

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. If symptoms develop or persist, seek medical advice/attention

Most important symptoms and effects, both acute and delayed

Acute symptoms and effects:

Dermal exposure may cause an allergic skin reaction. Symptoms may include irritation, redness, pain, rash, inflammation, itching, burning and dermatitis
Eye contact may result in irritation, redness, pain, inflammation, itching, burning, tearing, corneal damage and loss of vision
Skin contact may result in redness, pain, burning and inflammation

Delayed symptoms and effects:

Effects are dependent on exposure (dose, concentration, contact time)

Immediate medical attention and special treatment

Specific treatment:

In case of eye contact, seek prompt medical attention while rinsing is continued

Notes for the doctor:

Treat symptomatically

SECTION 5: Fire-fighting measures

Extinguishing media

Suitable extinguishing media:

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

Unsuitable extinguishing media:

Not determined or not applicable.

Specific hazards during fire-fighting:

Thermal decomposition can lead to release of irritating gases and vapors

Special protective equipment for firefighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode

Special precautions:

Carbon monoxide and carbon dioxide may form upon combustion
Heating causes a rise in pressure, risk of bursting and combustion

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation
Ensure air handling systems are operational
Wear protective eye wear, gloves and clothing
Wear recommended personal protective equipment (see Section 8)

Environmental precautions:

Should not be released into the environment
Prevent from reaching drains, sewer or waterway

Methods and material for containment and cleaning up:

Wear protective eye wear, gloves and clothing
Sweep or scoop up solid material while minimizing dust generation
Dispose of contents / container in accordance with local regulations

Reference to other sections:

Section 8: Personal Protective Equipment

SECTION 7: Handling and storage

Precautions for safe handling:

Use only with adequate ventilation.
Avoid breathing dust.
Do not eat, drink, smoke or use personal products when handling chemical substances.
Wear recommended personal protective equipment (see Section 8).

Conditions for safe storage, including any incompatibilities:

Keep container tightly sealed.
Keep container dry.
Store in a cool, well-ventilated area.

SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
Canada	Triethylenetetramine	112-24-3	Ontario: 8-hour TWA 3.0 mg/m³ (0.5 ppm)
	Silicon Dioxide	7631-86-9	British Columbia OELs - 8-Hour TWA Exposure Value: 4 mg/m³ (Silica, amorphous, precipitated and gel, Total)
	Silicon Dioxide	7631-86-9	British Columbia OELs - 8-Hour TWA Exposure Value: 1.5 mg/m³ (Silica, amorphous, precipitated and gel, Respirable)
	Silicon Dioxide	7631-86-9	Quebec OELs - 8-Hour TWA Exposure Value: 6 mg/m³ (Respirable dust)
	Titanium Dioxide	13463-67-7	Alberta OEL: TWA 10 mg/m³ 8-hr
	Silica, crystalline quartz	14808-60-7	Alberta OELs - 8-Hour TWA Exposure Limit: 0.025 mg/m³ (respirable)
	Silica, crystalline quartz	14808-60-7	British Columbia OELs - 8-Hour TWA Exposure Value: 0.025 mg/m³ (respirable)
	Titanium Dioxide	13463-67-7	British Columbia OEL: TWA 10 mg/m³ (Total dust) 8-hr
	Titanium Dioxide	13463-67-7	British Columbia OEL: TWA 3.0 mg/m³ (Respirable fraction) 8-hr
	Silica, crystalline quartz	14808-60-7	Manitoba OELs - 8-Hour TWA Exposure Limit: 0.025 mg/m³ (respirable fraction)
	Titanium Dioxide	13463-67-7	Manitoba OEL: TLV-TWA 10 mg/m³ 8-hr
	Silica, crystalline quartz	14808-60-7	Ontario OELs - 8-Hour TWA Exposure Limit: 0.10 mg/m³ (respirable fraction)
	Silica, crystalline quartz	14808-60-7	Quebec OELs - 8-Hour TWA Exposure Value: 0.1 mg/m³ (respirable)
	Titanium Dioxide	13463-67-7	Ontario OEL: TWA 10 mg/m³ 8-hr
	Titanium Dioxide	13463-67-7	Quebec OEL: TWA 10 mg/m³ 8-hr
	Silica, crystalline quartz	14808-60-7	Saskatchewan OELs - 15 Minute Average Contamination Limit: 0.05 mg/m³ (respirable fraction)
	Titanium Dioxide	13463-67-7	Saskatchewan OEL: TWA 10 mg/m³ 8-hr
	Zirconium dioxide	1314-23-4	Alberta OELs - 8-Hour TWA Exposure Limit: 5 mg/m³
	Titanium Dioxide	13463-67-7	Saskatchewan OEL: TWA 20 mg/m³ 15-min

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Country (Legal Basis)	Substance	Identifier	Permissible concentration
	Zirconium dioxide	1314-23-4	Alberta OELs -15-minute STEL: 10 mg/m³
	Zirconium dioxide	1314-23-4	Manitoba OELs - 8-Hour Exposure Limit (TLV-TWA): 5 mg/m³
	Zirconium dioxide	1314-23-4	Manitoba OELs - 15-minute STEL: 10 mg/m³
	Zirconium dioxide	1314-23-4	Ontario OELs - 8-Hour TWA Exposure Value (TWA): 5 mg/m³
	Zirconium dioxide	1314-23-4	Ontario OELs - 15-minute STEL (STEL): 10 mg/m³
	Zirconium dioxide	1314-23-4	Quebec OELs - 8-Hour TWA Exposure Value: 5 mg/m³
	Zirconium dioxide	1314-23-4	Quebec OELs - 15-minute STEL: 10 mg/m³
	Zirconium dioxide	1314-23-4	Saskatchewan OELs - 8 hour average contamination limit: 5 mg/m³
	Zirconium dioxide	1314-23-4	Saskatchewan OELs - 15 minute average contamination limit: 10 mg/m³
	Talc	14807-96-6	Alberta OELs - 8- hour TWA Exposure Limit: 2 mg/m³
	Talc	14807-96-6	British Columbia OELs - 8-Hour TWA Exposure Value: 2 mg/m³ (respirable)
	Talc	14807-96-6	Manitoba OELs - 8-Hour Exposure Limit (TLV-TWA): 2 mg/m³ (respirable fraction)
	Talc	14807-96-6	Ontario OELs - 8-Hour TWA Exposure Value (TWA): 2 mg/m³ (respirable fraction)
	Talc	14807-96-6	Quebec OELs - 8-Hour TWA Exposure Value: 3 mg/m³ (respirable fraction)
	Talc	14807-96-6	Saskatchewan OELs - 8 Hour Average Contamination Limit: 2 mg/m³ (respirable fraction)
	Aluminum hydroxide	21645-51-2	Alberta OELs - 8-Hour TWA Exposure Limit: 10 mg/m³
	Aluminum hydroxide	21645-51-2	Alberta OELs - 8-Hour TWA Exposure Limit: 3 mg/m³ (Respirable)
	Aluminum hydroxide	21645-51-2	British Columbia OELs - 8-Hour TWA Exposure Value: 1 mg/m³ (Respirable)
	Aluminum hydroxide	21645-51-2	British Columbia OELs - 8-Hour TWA Exposure Value: 10 mg/m³ (Total Dust)

Country (Legal Basis)	Substance	Identifier	Permissible concentration
	Aluminum hydroxide	21645-51-2	British Columbia OELs - 8-Hour TWA Exposure Value: 3 mg/m³ (Respirable Fraction)
	Aluminum hydroxide	21645-51-2	Manitoba OELs - Hour Exposure Limit (TLV-TWA): 1 mg/m³ (Respirable fraction)
	Aluminum hydroxide	21645-51-2	Ontario OELs - 8-Hour TWA Exposure Value (TWA): 1 mg/m³ (Respirabe fraction)
	Aluminum hydroxide	21645-51-2	Ontario OELs - 8-Hour TWA Exposure Value (TWA): 10 mg/m³ (Particles (poorly soluble or insoluble) not otherwise classified, Inhalable fraction)
	Aluminum hydroxide	21645-51-2	Ontario OELs - 8-Hour TWA Exposure Value (TWA): 3 mg/m³ (Particles (poorly soluble or insoluble) not otherwise classified, Respirable fraction)
	Aluminum hydroxide	21645-51-2	Quebec OELs - 8-Hour TWA Exposure Value: 10 mg/m³ (Total dust)
	Aluminum hydroxide	21645-51-2	Saskatchewan OELs - 8 Hour Average Contamination Limit: 10 mg/m³ (Metal dust and compounds as Al)
	Aluminum hydroxide	21645-51-2	Saskatchewan OELs - 15 minute average contamination limit: 20 mg/m³ (Metal dust and compounds as Al)
	Aluminum hydroxide	21645-51-2	Saskatchewan OELs - 8 hour average contamination limit: 3 mg/m³ (Particles (poorly soluble or insoluble) not otherwise classified, Respirable fraction)
	Aluminum hydroxide	21645-51-2	Saskatchewan OELs - 15 minute average contamination limit: 6 mg/m³ (Particles (poorly soluble or insoluble) not otherwise classified, Respirable fraction)

Biological limit values:

No biological exposure limits noted for the ingredient(s).

Information on monitoring procedures:

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls.
Biological monitoring may also be appropriate for some substances.

Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and

mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

Personal protection equipment

Eye and face protection:
Safety goggles or glasses, or appropriate eye protection.

Skin and body protection:
Select glove material impermeable and resistant to the substance.
Wear appropriate clothing to prevent any possibility of skin contact.

Respiratory protection:
If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

General hygienic measures:
Avoid contact with skin, eyes and clothing.
Wash hands before breaks and at the end of work.
Wash contaminated clothing before reuse.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance (physical state, color):	White solid
Odor:	Pungent. Sulfurous. (Strong)
Odor threshold:	Not determined or not available.
pH-value:	Not determined or not available.
Melting/Freezing point:	Not determined or not available.
Boiling point/range:	Not determined or not available.
Flash point:	Closed cup: >93.3°C (>199.9°F) [Setaflash]. Product does not sustain combustion.
Evaporation rate:	Not determined or not available.
Flammability (solid, gaseous):	Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge.
Explosion limit upper:	Not determined or not available.
Explosion limit lower:	Not determined or not available.
Vapor pressure:	Not determined or not available.
Vapor density:	1.199
Density:	Not determined or not available.
Relative density:	1.2
Solubilities:	Not determined or not available.
Partition coefficient (n-octanol/water):	Not determined or not available.
Auto/Self-ignition temperature:	>200°C (>392°F)
Decomposition temperature:	>200°C (>392°F)
Dynamic viscosity:	Not determined or not available.
Kinematic viscosity:	Not determined or not available.

Explosive properties	Not determined or not available.
Oxidizing properties	Not determined or not available.

Other information

VOC Content (%)	<3%

SECTION 10: Stability and reactivity

Reactivity:
Does not react under normal conditions of use and storage.

Chemical stability:
Stable under normal conditions of use and storage.

Possibility of hazardous reactions:
None under normal conditions of use and storage.

Conditions to avoid:
Open flames, sparks and static discharge.

Incompatible materials:
None known.

Hazardous decomposition products:
None known.

SECTION 11: Toxicological information

Acute toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data:

Name	Route	Result
2,4,6-tris(dimethylaminomethyl)phenol	oral	LD50 - Rat - 1,200 mg/kg
Aluminum hydroxide	oral	LD50 Rat: >5000 mg/kg
	inhalation	LC50 (4 h): 888 - 2,300 mg/m^3 air (rat)

Skin corrosion/irritation

Assessment:
Causes skin irritation

Product data:
Skin testing was performed per the OECD 435 methods using the Corrositex testing process, indicating the product is non-corrosive to skin.

Substance data:

Name	Result
1,2-Ethanediamine, N1-(2-aminoethyl)-N2-[2-[(2-aminoethyl)amino]ethyl]-	Causes severe skin burns and eye damage.
2,4,6-tris(dimethylaminomethyl)phenol	Causes skin irritation.
Amines, polyethylenepoly-; HEP	Causes severe skin burns and eye damage.
3,6,9,12-tetra-azatetradecamethylenediamine ; Pentaethylenehexamine	Causes severe skin burns and eye damage.
Triethylenetetramine	Causes severe skin burns and eye damage.

Serious eye damage/irritation

Assessment:

Causes serious eye damage

Product data:

No data available.

Substance data:

Name	Result
2,4,6-tris(dimethylaminomethyl)phenol	Causes serious eye irritation.

Respiratory or skin sensitization

Assessment:

May cause an allergic skin reaction

Product data:

No data available.

Substance data:

Name	Result
Poly(oxy(methyl-1,2-ethanediyl)), alpha-hydro-omega-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptopropyl ether	May cause an allergic skin reaction.
Amines, polyethylenepoly-; HEP	May cause an allergic skin reaction.
1,2-Ethanediamine, N1-(2-aminoethyl)-N2-[2-[(2-aminoethyl)amino]ethyl]-	May cause an allergic skin reaction.
3,6,9,12-tetra-azatetradecamethylenediamine ; Pentaethylenehexamine	May cause an allergic skin reaction.
Triethylenetetramine	May cause an allergic skin reaction.

Carcinogenicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data:

Name	Species	Result
Titanium Dioxide	Not applicable.	Airborne, unbound particles of respirable size are known to cause cancer.
Silica, crystalline quartz	Not applicable	Component may cause cancer.

International Agency for Research on Cancer (IARC):

Name	Classification
Talc	Group 3 - Not classifiable as to its carcinogenicity to humans
Titanium Dioxide	Group 2B
Silica, crystalline quartz	Group 1 - Carcinogenic to humans
Silicon Dioxide	Group 3 - Not classifiable as to its carcinogenicity to humans

National Toxicology Program (NTP):

Name	Classification
Silica, crystalline quartz	Known to be human carcinogens

Germ cell mutagenicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Reproductive toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Specific target organ toxicity (single exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Specific target organ toxicity (repeated exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data:

Name	Result
Silica, crystalline quartz	Component affects the lungs through repeated exposure.

Aspiration toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Information on likely routes of exposure:
Oral, dermal, inhalation, and ocular.

Symptoms related to the physical, chemical and toxicological characteristics:
See section 4 of this SDS.

Other information:
No data available.

SECTION 12: Ecological information

Acute (short-term) toxicity

Assessment:
Toxic to aquatic life

Product data: No data available.

Substance data:

Name	Result
Triethylenetetramine	LC50 - Daphnia magna (Water flea) - 33.9 mg/L - 48 h
Aluminum hydroxide	LC50 (16 days): 430 - 3,910 µg/L
	NOEC (33 days): 71.5 - 558.1 µg/L
	EC50 (48 h): 1.5 - 2.56 mg/L

Chronic (long-term) toxicity

Assessment: Toxic to aquatic life with long lasting effects.

Product data: No data available.

Substance data:

Name	Result
Poly(oxy(methyl-1,2-ethanediyl)), alpha-hydro-omega-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptopropyl ether	NOEC - Daphnia magna (Water flea) - 3.5 mg/L - 21 d

Persistence and degradability

Product data: No data available.
Substance data: No data available.

Bioaccumulative potential

Product data: No data available.
Substance data: No data available.

Mobility in soil

Product data: No data available.
Substance data: No data available.

Other adverse effects: No data available.

SECTION 13: Disposal considerations

Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities

SECTION 14: Transport information

Canadian Transportation of Dangerous Goods (TDG)

UN number	UN3077
UN proper shipping name	Environmentally hazardous substance, solid, N.O.S. (Amines, polyethylenepoly-; HEP)
UN transport hazard class(es)	9 
Packing group	III
Environmental hazards	Marine Pollutant (Amines, polyethylenepoly-; HEP)
Special precautions for user	None
Additional Information	This product is being shipped as a limited quantity, packaged in quantities below 5 kg, in accordance with the TDG Canada Regulations.

International Maritime Dangerous Goods (IMDG)

UN number	UN3077
UN proper shipping name	Environmentally hazardous substance, solid, N.O.S. (Amines, polyethylenepoly-; HEP)
UN transport hazard class(es)	9 
Packing group	III
Environmental hazards	Marine Pollutant (Amines, polyethylenepoly-; HEP)
Special precautions for user	None
Additional Information	This product is being shipped as a limited quantity, packaged in quantities below 5 kg, in accordance with the IMDG Code.

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	UN3077
UN proper shipping name	Environmentally hazardous substance, solid, N.O.S. (Amines, polyethylenepoly-; HEP)
UN transport hazard class(es)	9 
Packing group	III

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Environmental hazards	Marine Pollutant (Amines, polyethylenepoly-; HEP)
Special precautions for user	None
Additional Information	This product is being shipped as a limited quantity, packaged in quantities below 30 kg G, in accordance with IATA.

SECTION 15: Regulatory information

Canada regulations

Domestic substances list (DSL):

72244-98-5	Poly(oxy(methyl-1,2-ethanediyl)), alpha-hydro-omega-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptopropyl ether	Listed
90-72-2	2,4,6-tris(dimethylaminomethyl)phenol	Listed
68131-73-7	Amines, polyethylenepoly-; HEP	Listed
4067-16-7	3,6,9,12-tetra-azatetradecamethylenediamine; Pentaethylenehexamine	Listed
14807-96-6	Talc	Listed
13463-67-7	Titanium Dioxide	Listed
112-57-2	1,2-Ethanediamine, N1-(2-aminoethyl)-N2-[2-[(2-aminoethyl)amino]ethyl]-	Listed
112-24-3	Triethylenetetramine	Listed
14808-60-7	Silica, crystalline quartz	Listed
21645-51-2	Aluminum hydroxide	Listed
7631-86-9	Silicon Dioxide	Listed
1314-23-4	Zirconium dioxide	Listed

Non-domestic substances list (NDSL): None of the ingredients are listed.

SECTION 16: Other information

Abbreviations and Acronyms: None

Disclaimer:

This product has been classified in accordance with the Canadian Hazardous Products Regulations and WHMIS 2015. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation and disposal and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

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End of Safety Data Sheet