



SAFETY DATA SHEET

Issuing Date 12-Nov 2014

Revision Date 12-Nov-2014

Revision Number 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product SDS Name Marine Epoxy Resin - Syringe - Part A

J-B Weld FG SKU Part Numbers Covered

50172

J-B Weld Product Names Covered

MarineWeld™ Syringe

J-B Weld Product Type

Epoxy

Recommended use of the chemical and restrictions on use

Recommended Use General Purpose Adhesive

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Name J-B WELD COMPANY,LLC

Supplier Address 1130 COMO ST
SULPHUR SPRINGS, TX 75482
USA

Emergency Telephone Numbers

Transportation Emergencies: Chemtrec (24 hour transportation emergency response info):
800-424-9300 or 703-527-3887

Poison/Medical Emergencies: Poison Control Centers (24 hour emergency poison / medical
response info): 800-222-1222

Supplier Email info@jbweld.com

Supplier Phone Number 903-885-7696

2. HAZARDS IDENTIFICATION

OSHA/HCS status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture **GHS label elements**

SKIN CORROSION/IRRITATION - Category 2
SKIN SENSITIZATION - Category 1



Hazard pictograms **Signal word** **Hazard statements**

Warning!
Causes skin irritation.
May cause an allergic skin reaction.

Precautionary statements

Prevention

Wear protective gloves. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response

IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention.

Storage

Not applicable.

Disposal

Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified

None known.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/mixture

Mixture

Ingredient name	% by weight	CAS number
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	1-5	68609-97-2

Canada

Name	CAS number	CAS number
barium sulfate	7727-43-7	5-10
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	68609-97-2	1-5

Occupational exposure limits, if available, are listed in Section 8.

4. FIRST AID MEASURES

Description of necessary first aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact

Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Eye contact

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Ingestion

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Inhalation	No known significant effects or critical hazards.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Inhalation	No specific data.
Skin contact	Adverse symptoms may include the following: irritation redness
Eye contact	Adverse symptoms may include the following: pain or irritation watering redness
Ingestion	No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments No specific treatment.

See toxicological information (Section 11)

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	None known.

Specific hazards arising from the chemical In a fire or if heated, a pressure increase will occur and the container may burst

National Fire Protection Association (U.S.A.)

Health		Flammability
		Instability/Reactivity
		Special

Hazardous thermal decomposition products

Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
sulfur oxides
halogenated compounds
metal oxide/oxides

Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. HANDLING AND STORAGE

Conditions for safe storage, including any incompatibilities

Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Occupational exposure limits No exposure limit value known.

Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other	Notations
barium sulfate	US ACGIH 4/2014	-	5	-	-	-	-	-	-	-	[a]
	AB 4/2009	-	10	-	-	-	-	-	-	-	[b]
	BC 4/2014	-	3	-	-	-	-	-	-	-	[c]
	ON 1/2013	-	10	-	-	-	-	-	-	-	[d]
	QC 1/2014	-	5	-	-	-	-	-	-	-	[e]
		-	10	-	-	-	-	-	-	-	

Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection

Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin protection

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid.
Color	Translucent. White.
Odor	Ethereal.
Odor threshold	Not available.
pH	Not available.
Melting point	Not available.
Boiling point	Not available.
Flash point	Closed cup: >93.3°C (>199.9°F) [Setaflash.] [Product does not sustain combustion.]
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	Not available.
Vapor density	Not available
Relative density	1.2
Solubility	Easily soluble in the following materials: methanol and acetone. Insoluble in the following materials: cold water and hot water.
Solubility in water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	>200°C (>392°F)
Viscosity	Not available.

10. STABILITY AND REACTIVITY

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	No specific data.
Incompatible materials	No specific data.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	LD50 Oral	Rat	17100 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	Skin – Moderate irritant	Rabbit	-	24 hour 500 microliters	-

Sensitization

No specific data.

Mutagenicity

No specific data.

Carcinogenicity

No specific data.

Reproductive toxicity

No specific data.

Teratogenicity

No specific data.

Specific target organ toxicity (single exposure)

No specific data.

Specific target organ toxicity (repeated exposure)

No specific data.

Aspiration hazard

No specific data.

Information on the likely routes of exposure

Not available.

Potential acute health effects

Eye contact

Causes serious eye irritation.

Inhalation

No known significant effects or critical hazards.

Skin contact

Causes skin irritation. May cause an allergic skin reaction.

Ingestion

Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation No specific data.

Skin contact Adverse symptoms may include the following:
irritation
redness

Ingestion No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Long term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Potential chronic health effects

No specific data.

General Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Teratogenicity No known significant effects or critical hazards.

Developmental effects No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

No specific data.

12. ECOLOGICAL INFORMATION

Toxicity

No specific data.

Persistence and degradability

No specific data.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	3.77	160 to 263	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) Not available.



Other adverse effects

No known significant effects or critical hazards.

13. DISPOSAL CONSIDERATIONS


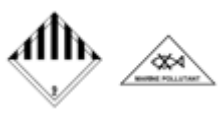



Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

RCRA classification

Not available.

14. TRANSPORT INFORMATION

	DOT Classification	TDG Classification	Mexico Classification	IMDG	IATA
UN Number	UN3082	UN3082	UN3082	UN3082	UN3082
UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s.. Marine pollutant	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. Marine pollutant.	SUBSTANCIA SOLIDA POTENCIALMENTE PELIGROSA PARA EL MEDIO AMBIENTE, N.E.P.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. Marine pollutant	Environmentally hazardous substance, liquid, n.o.s.
Transport hazard class(es)	9 	9 	9 	9 	9 
Packing group	III	III	III	III	III
Environmental hazards	Yes.	Yes.	Yes.	Yes.	Yes
Additional information	Non-bulk packages of this product are not regulated as hazardous materials unless transported by inland waterway. The marine pollutant mark is not required when transported on inland waterways in sizes of ≤5 L or ≤5 kg. <u>Limited quantity</u> Yes. <u>Special provisions</u>	The product is not regulated as a dangerous good when transported by road or rail. <u>Explosive Limit and Limited Quantity Index</u> 5 <u>Special provisions</u> 16	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. <u>Special provisions</u> 179, 274	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. <u>Emergency schedules (EmS)</u> F-A, S-F <u>Special provisions</u> 274, 335	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. <u>Passenger and Cargo Aircraft</u> Quantity limitation:450L Packaging instructions: 964 <u>Cargo Aircraft Only</u> Quantity limitation:450L Packaging instructions: 964

	8, 146, 335, IP3, T4, TP1, TP29				Limited Quantities – Passenger Aircraft Quantity limitation: 30 kg Packaging instructions: Y964 Special provisions A97, A158
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Special precautions for user

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

15. REGULATORY INFORMATION

U.S. Federal regulations

TSCA 8(a) PAIR: Siloxanes and Silicones, di-Me, reaction products with silica

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) Not listed

Clean Air Act Section 602 Class I Substances Not listed

Clean Air Act Section 602 Class II Substances Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ Not applicable.

SARA 311/312

Classification Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
oxirane, mono[(C12-14-alkyloxy)methyl] derivs	1-5	No.	No.	No.	Yes.	No.

State regulations

Massachusetts

The following components are listed: BARIUM SULFATE.

New York

None of the components are listed.

New Jersey

The following components are listed: BARIUM SULFATE, SULFURIC ACID, BARIUM SALT (1:1)

Pennsylvania

The following components are listed: BARIUM SULFATE

Minnesota Hazardous Substances

None of the components are listed.



Canada

WHMIS (Canada)

Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists

Canadian NPRI

None of the components are listed.

CEPA Toxic substances

None of the components are listed.

Canada Inventory

All components are listed or exempted.

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

International regulations

International lists

Australia inventory (AICS): All components are listed or exempted.

China inventory (IECSC): All components are listed or exempted.

Japan inventory: Not determined.

Korea inventory: All components are listed or exempted.

Malaysia Inventory (EHS Register): Not determined.

New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.

Philippines inventory (PICCS): All components are listed or exempted.

Taiwan inventory (CSNN): Not determined.

Substances of very high concern

None of the components are listed.

16. OTHER INFORMATION

Key to abbreviations

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships,

1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

UN = United Nations

Notice to reader

NON-WARRANTY: The information presented in this publication is based upon the research and experience of J-B Weld Company. No representation or warranty is made, however, concerning the accuracy or completeness of the information presented in this publication. J-B Weld Company makes no warranty or representation of any kind, express or implied, including without limitation any warranty of merchantability or fitness for any particular purpose, and no warranty or representation shall be implied by law or otherwise. Any products sold by J-B Weld Company are not warranted as suitable for any particular purpose to the buyer. The suitability of any products for any purpose particular to the buyer is for the buyer to determine. J-B Weld Company assumes no responsibility for the selection of products suitable to the particular purposes of any particular buyer. J-B Weld Company shall in no event be liable for any special, incidental, or consequential damages.

End of Safety Data Sheet





SAFETY DATA SHEET

Issuing Date 13-Nov 2014

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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product SDS Name Marine Epoxy Hardener – Syringe – Part B

J-B Weld FG SKU Part Numbers Covered

50172

J-B Weld Product Names Covered

MarineWeld™ Syringe

J-B Weld Product Type

Epoxy

Recommended use of the chemical and restrictions on use

Recommended Use General Purpose Adhesive

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Name J-B WELD COMPANY,LLC

Supplier Address 1130 COMO ST
SULPHUR SPRINGS, TX 75482
USA

Emergency Telephone Numbers Transportation Emergencies: Chemtrec (24 hour transportation emergency response info):
800-424-9300 or 703-527-3887

Poison/Medical Emergencies: Poison Control Centers (24 hour emergency poison / medical response info): 800-222-1222

Supplier Email info@jbweld.com

Supplier Phone Number 903-885-7696

2. HAZARDS IDENTIFICATION

OSHA/HCS status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).



**Classification of the
substance or mixture**
GHS label elements

ACUTE TOXICITY: ORAL - Category 4
ACUTE TOXICITY: DERMAL - Category 4



Hazard pictograms

Signal word

Hazard statements

Warning!

Harmful if swallowed or in contact with skin.

Precautionary statements

Prevention

Wear protective gloves. Wear protective clothing. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response

IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Wash contaminated clothing before reuse.

Storage

Disposal

Not applicable.

Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazards not otherwise
classified**

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/mixture

Mixture

Ingredient name	% by weight	CAS number
benzyltrimethylamine	5-10	103-83-3

Canada

Name	CAS number	%
barium sulfate	7727-43-7	5-10
benzyltrimethylamine	103-83-3	5-10
titanium dioxide	13463-67-7	5-10

Occupational exposure limits, if available, are listed in Section 8.

4. FIRST AID MEASURES

Description of necessary first aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Skin contact	Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Eye contact	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
Ingestion	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Inhalation	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Skin contact	Harmful in contact with skin
Eye contact	No known significant effects or critical hazards.
Ingestion	Harmful if swallowed

Over-exposure signs / symptoms

Inhalation	No specific data
Skin contact	No specific data
Eye contact	No specific data
Ingestion	No specific data

Indication of immediate medical attention and special treatment needed, if necessary.

Notes to physician In case of inhalation of decomposition products in fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments No specific treatment.

See toxicological information (Section 11)

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media None known.

Specific hazards arising from the chemical In a fire or if heated, a pressure increase will occur and the container may burst.

National Fire Protection Association (U.S.A.)



Hazardous thermal decomposition products Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
metal oxide/oxides

Special protective actions for fire-fighters Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry, material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. HANDLING AND STORAGE

Conditions for safe storage, including any incompatibilities

Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational exposure limits

No exposure limit value known.

Canada

<u>Occupational exposure limits</u>		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/ m ³	Other	ppm	mg/ m ³	Other	ppm	mg/ m ³	Other	Notations
titanium dioxide	US ACGIH 4/2014	-	10	-	-	-	-	-	-	-	
	AB 4/2009	-	10	-	-	-	-	-	-	-	
	BC 4/2014	-	3	-	-	-	-	-	-	-	[a]
		-	10	-	-	-	-	-	-	-	[b]
barium sulfate	ON 1/2013	-	10	-	-	-	-	-	-	-	
	QC 1/2014	-	10	-	-	-	-	-	-	-	[c]
	US ACGIH 4/2014	-	5	-	-	-	-	-	-	-	[d]
	AB 4/2009	-	10	-	-	-	-	-	-	-	[a]
	BC 4/2014	-	3	-	-	-	-	-	-	-	[b]
		-	10	-	-	-	-	-	-	-	
	ON 1/2013	-	10	-	-	-	-	-	-	-	
	QC 1/2014	-	5	-	-	-	-	-	-	-	[e]
		-	10	-	-	-	-	-	-	-	[c]

Form: [a]Respirable dust [b]Total dust [c]Total dust. [d]Inhalable fraction [e]Respirable dust.

Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection

Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin protection

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Eye/face protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid.
Color	White.
Odor	Pungent. [Strong]
Odor threshold	Not available.
pH	Not available.
Melting point	Not available.
Boiling point	Not available.
Flash point	Closed cup: >93.3°C (>199.9°F) [Setaflash.] [Product does not sustain combustion.]
Evaporation rate	Not available.
Flammability 9solid, gas)	Not available.
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	1.27
Solubility	Insoluble in the following materials: cold water and hot water
Solubility in water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	>200°C (>392°F)
Viscosity	Not available.

10. STABILITY AND REACTIVITY

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	No specific data.
Incompatible materials	No specific data.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
benzyltrimethylamine	LD50 Dermal	Rabbit	1660 mg/kg	-
	LD50 Oral	Rat	265 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
benzyltrimethylamine	Eyes – Severe irritant	Rabbit	-	5 milligrams	-
	Skin – Severe irritant	Rabbit	-	4 hours 500 milligrams	-

Sensitization

No specific data.

Mutagenicity

No specific data.

Carcinogenicity

No specific data.

Conclusion/Summary

IARC classified TiO₂ as a 2B carcinogen based in large part on several studies of the effects of the inhalation of TiO₂ on animals in which the TiO₂ particles were of various sizes. Particles defined as “ultrafine” have been shown to cause cancer in animals exposed to very high concentrations. A number of authorities have reviewed those studies and other involving exposure to ultrafine particles and have concluded that the effects result from overloading the respiratory system of the animals. The effects observed, according to the scientists, are not due to TiO₂ but are general responses to high levels of dust in the lungs. In addition, a carcinogenic effect of TiO₂ dust in the workers was not observed in several epidemiology studies on more than 20,000 TiO₂ industry workers in Europe and the USA, nor were other chronic diseases, including other respiratory diseases, associated with exposure to TiO₂ dust. Accordingly, we have concluded that our products should not be classified on the basis of the presence of TiO₂ in the products.

Reproductive toxicity

No specific data.



Teratogenicity

No specific data.

Specific target organ toxicity (single exposure)

No specific data.

Specific target organ toxicity (repeated exposure)

No specific data.

Aspiration hazard

No specific data.

Information on the likely routes of exposure

Not available.

Potential acute health effects

Eye contact

No known significant effects or critical hazards.

Inhalation

Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact

Harmful in contact with skin.

Ingestion

Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

No specific data

Inhalation

No specific data.

Skin contact

No specific data.

Ingestion

No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects

Not available.

Potential delayed effects

Not available.

Long term exposure

Potential immediate effects

Not available.

Potential delayed effects

Not available.

Potential chronic health effects

No specific data.

General

No known significant effects or critical hazards.

Carcinogenicity

No known significant effects or critical hazards.

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Developmental effects

No known significant effects or critical hazards.

Fertility effects

No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE Value
Oral	302.4 mg/kg
Dermal	1894.4 mg/kg

12. ECOLOGICAL INFORMATION

Toxicity

Product/ingredient name	Result	Species	Exposure
benzyltrimethylamine	Acute LC50 37800 µg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

No specific data.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
benzyltrimethylamine	1.98	14.13	low

Mobility in soil

Soil/water partition
coefficient (K_{oc})

Not available.

Other adverse effects

No known significant effects or critical hazards.

13. DISPOSAL CONSIDERATIONS

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

RCRA classification

Not available.



14. TRANSPORT INFORMATION

	DOT Classification	TDG Classification	Mexico Classification	IMDG	IATA
UN Number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	-	-	-	-	-

Special precautions for user

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

15. REGULATORY INFORMATION

United States

U.S. Federal regulations

TSCA 8(a) PAIR: Silixanes and Silicones, di-Me, reaction products with silica

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112

Not listed

(b) Hazardous Air Pollutants (HAPs)

Clean Air Act Section 602

Not listed

Class I Substances

Clean Air Act Section 602

Not listed

Class II Substances

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ

Not applicable.

SARA 311/312

Classification

Immediate (acute) health hazard



Composition / information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Benzyl dimethylamine	5-10	Yes.	No.	No.	Yes.	No.

State regulations

Massachusetts

The following components are listed: BARIUM SULFATE; TITANIUM DIOXIDE

New York

None of the components are listed.

New Jersey

The following components are listed: BARIUM SULFATE; SULFURIC ACID, BARIUM SALT (1:1); BENZYL DIMETHYLAMINE; BENZENEMETHANAMINE, N,N-DIMETHYL-; TITANIUM DIOXIDE; TITANIUM OXIDE (TiO₂)

Pennsylvania

The following components are listed: BARIUM SULFATE; TITANIUM OXIDE (TiO₂)

Minnesota Hazardous Substances

None of the components are listed.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
titanium dioxide	Yes.	No.	No.	No.

Canada

WHMIS (Canada)

Class D-1B: Material causing immediate and serious toxic effects (Toxic).

Class D-2A: Material causing other toxic effects (Very toxic).

Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists

Canadian NPRI

None of the components are listed.

CEPA Toxic substances

None of the components are listed.

Canada inventory

Not determined.

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

International regulations

Australia inventory 9 AICS): Not determined.

China inventory (IECSC): Not determined.

Japan inventory: Not determined.

Korea inventory: Not determined.

Malaysia inventory (EHS Register): Not determined.

New Zealand Inventory of Chemicals (NZIoC): Not determined.

Phillipines inventory (PICCS): Not determined.

Taiwan inventory (CSNN): Not determined.

Substances of very high concern None of the components are listed.



16. OTHER INFORMATION

Key to abbreviations

ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

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