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

Product identifier

Product SDS Name       Epoxy Putty Stick – High Heat

J-B Weld FG SKU Part Numbers Covered

8297, 8297F

J-B Weld Product Names Covered

HighHeat™ (all sizes)

J-B Weld Product Type

Epoxy Putty Stick

Recommended use of the chemical and restrictions on use

Recommended Use       Adhesive & Repair

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

For UK Branch: J-B Weld UK,

Unit 30, Bidavon Industrial Estate
Bidford-Upon-Avon,
Warwickshire, UK
B50 4JN

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

For UK Branch: J-B Weld UK,

UK: info@jb-weld.co.uk

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

SKIN SENSITIZATION – Category 1

GHS label elements

Hazard pictograms

Signal word
Warning!

Hazard statements
Causes skin and eye irritation. May cause an allergic skin reaction.

Precautionary statements

General
Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention
Wear protective gloves. Wear eye or face protection. Avoid breathing dust. 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. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical 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

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>% by weight</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cristobalite</td>
<td>10-30</td>
<td>14464-46-1</td>
</tr>
<tr>
<td>crystalline silica non-respirable</td>
<td>10-30</td>
<td>14808-60-7</td>
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</table>

Canada

<table>
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<tr>
<th>Name</th>
<th>CAS number</th>
<th>%</th>
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<tr>
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<tr>
<td>3,6-diazaoctanethylenediamin</td>
<td>112-24-3</td>
<td>0.1-1</td>
</tr>
</tbody>
</table>

Occupational exposure limits, if available, are listed in Section 8.
4. FIRST AID MEASURES

Description of necessary first aid measure

Inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is regular 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. 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. 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 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 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
Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact
May cause an allergic skin reaction.

Eye contact
No known significant effects or critical hazards.

Ingestion
No known significant effects or critical hazards.

Over-exposure signs/symptoms

Inhalation
No specific data.

Skin contact
Adverse symptoms may include the following: irritation redness

Eye contact
No specific data
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 No specific fire or explosion hazard.

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

Flammability

Health Instability/Reactivity

Special

Hazardous thermal decomposition products Decomposition products may include the following materials:
Carbon dioxide
Carbon monoxide
Nitrogen 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 a positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Avoid generation of dust. Do not breathe dust. Evacuate personnel to safe areas.

Other Information Refer to protective measures listed in Sections 7 and 8.
Environmental Precautions

Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so.

Pick up and transfer to properly labeled containers.

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

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 measure.
### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Control parameters

**Occupational exposure limits**

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>CAS #</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>cristobalite</td>
<td>14464-46-1</td>
<td><strong>OSHA PEL Z3 (United States, 9/2005)</strong>. Notes: 1/2[250/(%SiO2+5)]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 250 MPPCF / 2 x (%SiO2+5) 8 hours. Form: Respirable</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>OSHA PEL Z3 (United States, 9/2005)</strong>. Notes: 1/2[10/(%SiO2+2)]</td>
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<tr>
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<td></td>
<td>TWA: 10 MG/M3 / 2 x (%SiO2+2) 8 hours. Form: Respirable</td>
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<tr>
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<td><strong>OSHA PEL 1989 (United States, 3/1989)</strong>.</td>
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<tr>
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<td></td>
<td>TWA: 0.05 mg/m³, (as quartz) 8 hours. Form: Respirable dust</td>
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<tr>
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<td><strong>ACGIH TLV (United States, 3/2012)</strong>.</td>
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<tr>
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<td>TWA: 0.025 mg/m³ 8 hours. Form: Respirable fraction</td>
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<td><strong>NIOSH REL (United States, 1/2013)</strong>.</td>
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<td>TWA: 0.05 mg/m³ 10 hours. Form: respirable dust</td>
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<td><strong>OSHA PEL Z3 (United States, 9/2005)</strong>. Notes: 1/2[30/(%SiO2+2)]</td>
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<td>TWA: 30 MG/M3 / 2 x (%SiO2+2) 8 hours. Form: Total dust.</td>
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<td>TWA: 250 MPPCF / (%SiO2+5) 8 hours. Form: Respirable</td>
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**Canada**

<table>
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<tr>
<th>Occupational exposure limits</th>
<th>TWA (8 hours)</th>
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<td>-</td>
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<td>[1]</td>
</tr>
</tbody>
</table>

**Form:** [a]Respirable particulate [b]Respirable [c]Respirable fraction: means that size fraction of the airborne particulate deposited in the gas-exchange region of the respiratory tract and collected during air sampling with a particle size–selective device that, (a) meets the ACGIH particle size–selective sampling criteria for airborne particulate matter; and (b) has the cut point of 4 µm at 50 per cent collection efficiency. [d]The value is for particulate matter containing no asbestos and < 1 per cent crystalline silica. [e]Respirable dust. [f]Inhalable fraction [g]Respirable fibers: length greater than 5 µm; aspect ratio equal to or greater than 3:1 as determined by the membrane filter method at 400-450X magnification (4-mm objective) phase contrast illumination. [h]Fibres[i]Fibres, total particulate [j]Inhalable [k]Fiber [l]Inhalable fraction: means that size fraction of the airborne particulate deposited anywhere in the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets the ACGIH particle size-selective sampling criteria for airborne particulate matter; and (b) has the cut point of 100 µm at 50 per cent collection efficiency. [m]Respirable fibres: length > 5µm; aspect ratio ≥ 3:1, as determined by the membrane filter method at 400-450 times magnification (4-mm objective), using phase-contrast illumination. [n]RESPIRABLE FIBRES (other than respirable asbestos fibres): Objects, other than respirable asbestos fibres, longer than 5 µm, having a diameter of less than 3 µm and a ratio of length to diameter of more than 3 :1. [o]Total dust. [p]Respirable fraction [q]Total dust

**Appropriate engineering controls**  
No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

**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: safety glasses with sideshields.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Physical and Chemical Properties</th>
<th>Value</th>
<th>Remarks/Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical State</strong></td>
<td>Solid</td>
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<tr>
<td><strong>Appearance</strong></td>
<td>Metallic. Gray-Beige</td>
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<tr>
<td><strong>Color</strong></td>
<td>Metallic. Gray-Beige</td>
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<tr>
<td>Flammability (solid, gas)</td>
<td>Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge.</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
<td>None known</td>
</tr>
</tbody>
</table>
Specific Gravity: 1.741
Water Solubility: Insoluble in water
Solubility in other solvents: None known
Partition coefficient: n-octanol/water: No data available
Autoignition temperature: No data available
Decomposition temperature: >200° C
Kinematic viscosity: No data available
Dynamic viscosity: No data available
Explosive properties: No data available
Oxidizing Properties: No data available
Softening Point: No data available
VOC Content (%): 0
Particle Size: No data available
Particle Size Distribution: No data available

10. STABILITY AND REACTIVITY

Reactivity
No data available.

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous Polymerization
Hazardous polymerization does not occur.

Conditions to avoid
Excessive heat.

Incompatible materials

Hazardous Decomposition Products
Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity: No specific data.
Irritation/Corrosion: No specific data
Sensitization: No specific data.
Mutagenicity: No specific data.
Carcinogenicity: No specific data.
Classification

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>OSHA</th>
<th>IARC</th>
<th>NTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>cristobalite</td>
<td>-</td>
<td>1</td>
<td>Known to be a human carcinogen.</td>
</tr>
<tr>
<td>Crystalline silica non-respirable</td>
<td>-</td>
<td>1</td>
<td>Known to be a human carcinogen.</td>
</tr>
</tbody>
</table>

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                  May cause an allergic skin reaction.
Ingestion                     No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics
Eye contact                   No specific data
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
No specific data.

Mobility in soil

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

Other adverse effects
No known significant effects or critical hazards.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods
This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging
Dispose of contents/containers in accordance with local regulations.

14. TRANSPORT INFORMATION

DOT
Proper Shipping Name
NON REGULATED
Hazard Class
N/A
Marine Pollutant
This product contains a chemical which is listed as a marine pollutant according to DOT

TDG
Not regulated

MEX
Not regulated

ICAO
Not regulated

IATA
Proper Shipping Name
NON REGULATED
Hazard Class
N/A

IMDG/IMO
Hazard Class
N/A
Marine Pollutant
Product is a marine pollutant according to the criteria set by IMDG/IMO

RID
Not regulated

ADR
Not regulated

ADN
Not regulated
15. REGULATORY INFORMATION

United States

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

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Fire hazard</th>
<th>Sudden release of pressure</th>
<th>Reactive</th>
<th>Immediate (acute) health hazard</th>
<th>Delayed (chronic) health hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cristobalite crystalline silica non-respirable</td>
<td>10-30</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes</td>
</tr>
</tbody>
</table>

State regulations

Massachusetts
The following components are listed: SOAPSTONE; MINERAL WOOL FIBER

New York
None of the components are listed.

New Jersey
The following components are listed: SOAPSTONE, SILICA, QUARTZ; QUARTZ (SiO2); FERROSILICON; FERROFERMEN

Pennsylvania
The following components are listed: SOAPSTONE DUST, QUARTZ (SiO2)

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

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Cancer</th>
<th>Reproductive</th>
<th>No significant risk level</th>
<th>Maximum acceptable dosage level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talc, not containing asbestiform fibres cristobalite</td>
<td>Yes.</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>Crystalline silica non-respirable</td>
<td>Yes.</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
</tbody>
</table>
Canada

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

International lists

Australia inventory (AICS):  All components are listed or exempted.
China inventory (IECSC):  Not determined.
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
UN = United Nations

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End of Safety Data Sheet