

SAFETY DATA SHEET

1. Identification

| | | |
|---|--|-------------------------------|
| Product identifier | MX-80 | |
| Other means of identification | | |
| CAS number | 1302-78-9 | |
| Recommended use | Bentonite has a variety of uses. It can be used as a rheology modifier, binding agent, adsorbent, hydraulic-barrier, and filler. | |
| Recommended restrictions | None known. | |
| Manufacturer/Importer/Supplier/Distributor information | | |
| Manufacturer | | |
| Company name | CETCO, an MTI Company | |
| Address | 2870 Forbs Avenue Hoffman Estates, IL 60192 United States | |
| Telephone | General Information | 800 527-9948 |
| Website | http://www.cetco.com/ | |
| E-mail | safetydata@mineralstech.com | |
| Emergency phone number | Emergency | 1.866.519.4752/1 760 476 3962 |
| Supplier | Not available. | |

2. Hazard identification

| | | |
|------------------------------|---|-------------|
| Physical hazards | Not classified. | |
| Health hazards | Carcinogenicity | Category 1A |
| | Specific target organ toxicity, repeated exposure | Category 1 |
| Environmental hazards | Not classified. | |

Label elements



| | |
|---------------------------------|---|
| Signal word | Danger |
| Hazard statement | May cause cancer. Causes damage to organs through prolonged or repeated exposure. |
| Precautionary statement | |
| Prevention | Keep out of reach of children. Read label before use. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. |
| Response | If medical advice is needed, have product container or label at hand. IF SWALLOWED: Call a POISON CENTER/doctor// if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. IF exposed or concerned: Call a POISON CENTER/doctor/. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. |
| Storage | Store away from incompatible materials. |
| Disposal | Dispose of waste and residues in accordance with local authority requirements. Dispose of contents/container in accordance with local/regional/national/international regulations. |
| Other hazards | Material can be slippery when wet |
| Supplemental information | None. |

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|--|--------------------------|------------|----|
| QUARTZ (SIO ₂) | | 14808-60-7 | 6 |
| CRISTOBALITE | | 14464-46-1 | 2 |
| Other components below reportable levels | | | 92 |

CLP: Regulation No. 1272/2008.

DSD: Directive 67/548/EEC.

M: M-factor

vPvB: very persistent and very bioaccumulative substance.

PBT: persistent, bioaccumulative and toxic substance.

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret. #: This substance has been assigned Community workplace exposure limit(s).

Composition comments Bentonite contains naturally occurring crystalline silica (not listed in Annex I of Directive 67/548/EEC) in quantities less than 6%. Not applicable to consumer products. Occupational Exposure Limits for constituents are listed in Section 8. The full text for all R- and H-phrases is displayed in section 16.

4. First-aid measures

Inhalation

Move to fresh air. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention, if needed. Call a physician if symptoms develop or persist.

Skin contact

Remove contaminated clothing. Remove and isolate contaminated clothing and shoes. Immediately flush skin with plenty of water. Wash with plenty of soap and water. Wash off with soap and water. Rinse skin with water/shower. Get medical attention immediately. Get medical attention if irritation develops and persists. If skin irritation occurs: Get medical advice/attention. For minor skin contact, avoid spreading material on unaffected skin. Wash contaminated clothing before reuse. Wash clothing separately before reuse.

Eye contact

Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Rinse with water. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Continue rinsing. Get medical attention immediately. Get medical attention if irritation develops and persists.

Ingestion

Rinse mouth. Rinse mouth thoroughly. If ingestion of a large amount does occur, call a poison control center immediately. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Dusts may irritate the respiratory tract, skin and eyes. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information

IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media

Use any media suitable for the surrounding fires.

Unsuitable extinguishing media

Not applicable, non-combustible.

Specific hazards arising from the chemical

During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Material can be slippery when wet. Firefighters should wear full protective gear.

Fire fighting equipment/instructions

Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards

This material will not burn. Material can be slippery when wet No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Material can be slippery when wet. Wear appropriate protective equipment and clothing during clean-up. Do not breathe dust. Wear a dust mask if dust is generated above exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

Large Spills: Stop the flow of material, if this is without risk. Absorb in vermiculite, dry sand or earth and place into containers. Collect dust using a vacuum cleaner equipped with HEPA filter.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Avoid the generation of dusts during clean-up. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Provide adequate ventilation. Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Use personal protective equipment as required. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Wash thoroughly after handling. Avoid release to the environment. Handle and open container with care. Observe good industrial hygiene practices. Practice good housekeeping.

Conditions for safe storage, including any incompatibilities

Store in original tightly closed container. Keep container tightly closed. Store in a well-ventilated place. Keep out of the reach of children. Use care in handling/storage.

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

| Components | Type | Value | Form |
|---|------|-------------------------|----------------------|
| CRISTOBALITE (CAS 14464-46-1) | TWA | 0.025 mg/m ³ | Respirable fraction. |
| QUARTZ (SiO ₂) (CAS 14808-60-7) | TWA | 0.025 mg/m ³ | Respirable fraction. |

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

| Components | Type | Value | Form |
|---|------|-------------------------|-----------------------|
| CRISTOBALITE (CAS 14464-46-1) | TWA | 0.025 mg/m ³ | Respirable. |
| | | 0.025 mg/m ³ | Respirable particles. |
| QUARTZ (SiO ₂) (CAS 14808-60-7) | TWA | 0.025 mg/m ³ | Respirable particles. |
| Constituents | Type | Value | Form |
| INERT OR NUISANCE DUSTS (CAS SEQ250) | TWA | 3 mg/m ³ | Respirable particles. |
| | | 10 mg/m ³ | Total particulate. |

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

| Components | Type | Value | Form |
|-------------------------------|------|-------------------------|----------------------|
| CRISTOBALITE (CAS 14464-46-1) | TWA | 0.025 mg/m ³ | Respirable fraction. |

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

| Components | Type | Value | Form |
|--------------------------------------|------|-------------|----------------------|
| QUARTZ (SIO2) (CAS 14808-60-7) | TWA | 0.025 mg/m3 | Respirable fraction. |
| Constituents | Type | Value | Form |
| INERT OR NUISANCE DUSTS (CAS SEQ250) | TWA | 3 mg/m3 | Respirable fraction. |
| | | 10 mg/m3 | Total dust. |

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

| Components | Type | Value | Form |
|--------------------------------|------|-------------|----------------------|
| CRISTOBALITE (CAS 14464-46-1) | TWA | 0.025 mg/m3 | Respirable fraction. |
| QUARTZ (SIO2) (CAS 14808-60-7) | TWA | 0.025 mg/m3 | Respirable fraction. |

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

| Components | Type | Value | Form |
|--------------------------------------|------|------------|----------------------|
| CRISTOBALITE (CAS 14464-46-1) | TWA | 0.05 mg/m3 | Respirable fraction. |
| QUARTZ (SIO2) (CAS 14808-60-7) | TWA | 0.1 mg/m3 | Respirable fraction. |
| Constituents | Type | Value | Form |
| INERT OR NUISANCE DUSTS (CAS SEQ250) | TWA | 3 mg/m3 | Respirable fraction. |
| | | 10 mg/m3 | Inhalable fraction. |

Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety)

| Components | Type | Value | Form |
|--------------------------------------|------|------------|------------------|
| CRISTOBALITE (CAS 14464-46-1) | TWA | 0.05 mg/m3 | Respirable dust. |
| QUARTZ (SIO2) (CAS 14808-60-7) | TWA | 0.1 mg/m3 | Respirable dust. |
| Constituents | Type | Value | Form |
| INERT OR NUISANCE DUSTS (CAS SEQ250) | TWA | 10 mg/m3 | Total dust. |

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)

| Components | Type | Value | Form |
|--------------------------------------|-----------|------------|----------------------|
| CRISTOBALITE (CAS 14464-46-1) | 15 minute | 10 mg/m3 | Inhalable fraction. |
| | 8 hour | 0.05 mg/m3 | Respirable fraction. |
| QUARTZ (SIO2) (CAS 14808-60-7) | 8 hour | 0.05 mg/m3 | Respirable fraction. |
| Constituents | Type | Value | Form |
| INERT OR NUISANCE DUSTS (CAS SEQ250) | 15 minute | 6 mg/m3 | Respirable fraction. |
| | | 20 mg/m3 | Inhalable fraction. |
| | 8 hour | 3 mg/m3 | Respirable fraction. |
| | | 10 mg/m3 | Inhalable fraction. |

Biological limit values

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

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| Appropriate engineering controls | Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits. Eye wash facilities and emergency shower must be available when handling this product. |
| Individual protection measures, such as personal protective equipment | |
| Eye/face protection | Wear safety glasses with side shields (or goggles). If contact is likely, safety glasses with side shields are recommended. Eye wash fountain is recommended. |
| Skin protection | |
| Hand protection | Suitable gloves can be recommended by the glove supplier. Not normally needed. |
| Other | Wear appropriate chemical resistant clothing. Wear chemical protective equipment that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Use of protective coveralls and long sleeves is recommended. |
| Respiratory protection | In the case of respirable dust and/or fumes, use self-contained breathing apparatus. Dust mask. In case of inadequate ventilation, use respiratory protection. |
| Thermal hazards | Wear appropriate thermal protective clothing, when necessary. |
| General hygiene considerations | When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |

9. Physical and chemical properties

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|---|---------------------------------------|
| Appearance | Lump, granular or fine powder. |
| Physical state | Solid. |
| Form | Powder. Various. |
| Color | Various. |
| Odor | None. |
| Odor threshold | Not applicable. |
| pH | 8.5 - 11 |
| Melting point/freezing point | > 842 °F (> 450 °C) / Not applicable. |
| Initial boiling point and boiling range | Not applicable. |
| Flash point | Not applicable. |
| Evaporation rate | Not applicable. |
| Flammability (solid, gas) | This product is not flammable. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | Not applicable. |
| Flammability limit - lower (%) temperature | Not applicable. |
| Flammability limit - upper (%) | Not applicable. |
| Flammability limit - upper (%) temperature | Not applicable. |
| Explosive limit - lower (%) | Not applicable. |
| Explosive limit - lower (%) temperature | Not applicable. |
| Explosive limit - upper (%) | Not applicable. |
| Explosive limit - upper (%) temperature | Not applicable. |
| Vapor pressure | Not applicable. |
| Vapor density | Not applicable. |
| Relative density | 2.6 g/cm ³ |

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| Solubility(ies) | |
| Solubility (water) | < 0.9 mg/l |
| Partition coefficient (n-octanol/water) | Not applicable. |
| Auto-ignition temperature | Not applicable. |
| Decomposition temperature | > 932 °F (> 500 °C) |
| Viscosity | Not applicable. |
| Viscosity temperature | Not applicable. |
| Other information | |
| Bulk density | 0.9 - 1.4 g/cm ³ |
| Explosive limit | Not applicable. |
| Explosive properties | Not explosive. Not explosive |
| Explosivity | Not applicable. |
| Fire point | Not applicable. |
| Flame extension | Not applicable. |
| Flame projection | Not applicable. |
| Flammability | Not applicable. |
| Flammability (flash back) | Not applicable. |
| Flammability (Heat of combustion) | Not applicable. |
| Flammability (Train fire) | Not applicable. |
| Flammability class | Not applicable. |
| Flash point class | Not flammable |
| Molecular formula | UVCB Substance |
| Molecular weight | Not applicable. |
| Oxidizing properties | Not oxidizing. None. |
| Percent volatile | 0 % |
| pH in aqueous solution | 8.5 - 11 |
| Specific gravity | Not applicable. |
| VOC | 0 % |

10. Stability and reactivity

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| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| Conditions to avoid | Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials. |
| Incompatible materials | Strong oxidizing agents. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

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|---------------------|---|
| Inhalation | May cause damage to organs through prolonged or repeated exposure by inhalation. Dust may irritate respiratory system. Prolonged inhalation may be harmful. |
| Skin contact | Causes skin irritation. Dust or powder may irritate the skin. |
| Eye contact | Dust may irritate the eyes. Direct contact with eyes may cause temporary irritation. |
| Ingestion | May cause discomfort if swallowed. Expected to be a low ingestion hazard. However, ingestion is not likely to be a primary route of occupational exposure. |

Symptoms related to the physical, chemical and toxicological characteristics Dusts may irritate the respiratory tract, skin and eyes. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity

| Components | Species | Test Results |
|-------------------------------|---------|---------------|
| CRISTOBALITE (CAS 14464-46-1) | | |
| <u>Acute</u> | | |
| Oral | | |
| LD50 | Rat | > 22500 mg/kg |

* Estimates for product may be based on additional component data not shown.

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|--|--|
| Skin corrosion/irritation | Prolonged skin contact may cause temporary irritation. Causes skin irritation. Due to partial or complete lack of data the classification is not possible. |
| Serious eye damage/eye irritation | Direct contact with eyes may cause temporary irritation. Due to partial or complete lack of data the classification is not possible. None known. |

Respiratory or skin sensitization

Canada - Alberta OELs: Irritant

CRISTOBALITE (CAS 14464-46-1) Irritant

Respiratory sensitization Not a respiratory sensitizer. Due to partial or complete lack of data the classification is not possible.

Skin sensitization None known. This product is not expected to cause skin sensitization. Due to partial or complete lack of data the classification is not possible.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. Due to partial or complete lack of data the classification is not possible.

Carcinogenicity In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003) According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. May cause cancer. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled. Due to partial or complete lack of data the classification is not possible.

ACGIH Carcinogens

CRISTOBALITE (CAS 14464-46-1) A2 Suspected human carcinogen.

QUARTZ (SiO₂) (CAS 14808-60-7) A2 Suspected human carcinogen.

Canada - Alberta OELs: Carcinogen category

CRISTOBALITE (CAS 14464-46-1) Suspected human carcinogen.

QUARTZ (SiO₂) (CAS 14808-60-7) Suspected human carcinogen.

Canada - Manitoba OELs: carcinogenicity

CRISTOBALITE (CAS 14464-46-1) Suspected human carcinogen.

QUARTZ (SiO₂) (CAS 14808-60-7) Suspected human carcinogen.

Canada - Quebec OELs: Carcinogen category

CRISTOBALITE (CAS 14464-46-1) Detected carcinogenic effect in animals.

QUARTZ (SiO₂) (CAS 14808-60-7) Suspected carcinogenic effect in humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

CRISTOBALITE (CAS 14464-46-1) 1 Carcinogenic to humans.

QUARTZ (SiO₂) (CAS 14808-60-7) 1 Carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

CRISTOBALITE (CAS 14464-46-1) Known To Be Human Carcinogen.

QUARTZ (SiO₂) (CAS 14808-60-7) Reasonably Anticipated to be a Human Carcinogen.

QUARTZ (SiO₂) (CAS 14808-60-7) Known To Be Human Carcinogen.

Reproductive toxicity Not classified. This product is not expected to cause reproductive or developmental effects. Due to partial or complete lack of data the classification is not possible.

Specific target organ toxicity - single exposure Due to partial or complete lack of data the classification is not possible. Not classified.

Specific target organ toxicity - repeated exposure Not classified. Causes damage to organs through prolonged or repeated exposure. Due to partial or complete lack of data the classification is not possible.

Aspiration hazard Not an aspiration hazard. Due to partial or complete lack of data the classification is not possible.

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|----------------------------|--|
| Chronic effects | Not expected to be hazardous by WHMIS criteria. Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. |
| Further information | This product has no known adverse effect on human health. |

12. Ecological information

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|--------------------------------------|---|
| Ecotoxicity | Contains a substance which causes risk of hazardous effects to the environment. Not expected to be harmful to aquatic organisms. The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. |
| Persistence and degradability | No data is available on the degradability of this product. |
| Bioaccumulative potential | No data available. |
| Mobility in soil | No data available. |
| Other adverse effects | No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component. |

13. Disposal considerations

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|--|--|
| Disposal instructions | Contract with a disposal operator licensed by the Law on Disposal and Cleaning. Do not allow this material to drain into sewers/water supplies. Dispose of contents/container in accordance with local/regional/national/international regulations. Dispose in accordance with all applicable regulations. Dispose of contents/container (in accordance with related regulations). When your own wastewater treatment plant is not available, collect entire waste and then charge to a licensed industrial waste management professional with manifests for industrial waste. |
| Local disposal regulations | Dispose in accordance with all applicable regulations. |
| Hazardous waste code | The waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| Waste from residues / unused products | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Not applicable. |
| Contaminated packaging | Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. |

14. Transport information

| | |
|---|-----------------------------------|
| TDG | Not regulated as dangerous goods. |
| IATA | Not regulated as dangerous goods. |
| IMDG | Not regulated as dangerous goods. |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not applicable. |

15. Regulatory information

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|--|--|
| Canadian regulations | This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all the information required by the CPR. |
| Controlled Drugs and Substances Act | Not regulated. |
| Export Control List (CEPA 1999, Schedule 3) | Not listed. |
| Greenhouse Gases | Not listed. |
| Precursor Control Regulations | Not regulated. |

| | |
|----------------------------------|--|
| International regulations | The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006. The product does not need to be labelled in accordance with EC directives or respective national laws. Regulation (EU) No 453/2010 amending Regulation (EC) No 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). Regulation (EC) No 1272/2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. |
|----------------------------------|--|

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|--|-------------------------------|
| Australia | Australian Inventory of Industrial Chemicals (AICIS) | No |
| Canada | Domestic Substances List (DSL) | No |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | No |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | No |
| New Zealand | New Zealand Inventory | No |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
| Taiwan | Taiwan Chemical Substance Inventory (TCSI) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | No |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

| | |
|----------------------------|---|
| Issue date | 22-July-2018 |
| Revision date | 14-December-2021 |
| Version # | 04 |
| Further information | HMIS® is a registered trade and service mark of the NPCA. |

References

ACGIH
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices
EPA: ACQUIRE database
HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity
National Toxicology Program (NTP) Report on Carcinogens
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents
Korea. Accidental Release Prevention Substances (Presidential Decree of Toxic Chemical Control Law, Executive Order No. 19203)
Korea. Dangerous Substances Threshold Quantity (Presidential Decree of Dangerous Substances Safety Management Act No. 18406, Schedule 1)
Korea. Harmful Substances Prohibited from Manufacturing (Presidential Decree on the Industrial Safety and Health Act (No. 13053), Article 29)
Korea. Harmful Substances Requiring Permission for Manufacture or Use (Presidential Decree on the Industrial Safety and Health Act (No. 13053), Article 30)
Korea. Non-Toxic Chemicals List (National Institute of Environment Research (NIER) Public Notice No. 1997-10, as amended)
Korea. Observational Chemicals (Ministerial Decree of TCCL Article 6)
Korea. OELs. Regulation for Permitted Concentration of Hazardous Substances (Ministry of Labor (MOL) Public Notice No. 1986-45, as amended)
Korea. Prohibited Chemical Substances (TCCL Article 11)
Korea. Regulated volatile organic compounds (VOCs) (MOE Notice No. 2001-36, March 8, 2001, as amended)
Korea. Restricted Chemical Substances (TCCL Article 11)
Korea. Toxic Chemical Control Law (TCCL), Existing Chemicals Inventory (KECI)
Korea. Toxic Chemical Control Law (TCCL), pre-1997 List
Korea. Toxic Chemicals (TCCL Article 10)
Korea. Toxic Release Inventory (TRI) Chemicals (TCCL Article 14)
Taiwan. Dangerous Materials (Rules on Hazard Communication of Dangerous Materials and Toxic Materials)
Taiwan. Industrial Precursor Chemicals (Categories and Regulations Governing Inspection and Declaration of Industrial Precursor Chemicals, MOEA Decree No. 87, as amended)
Taiwan. OELs. (Standards on Workplace Atmosphere of Dangerous and Hazardous Materials)
Taiwan. Toxic Chemical Substances (TCS) (List of Toxic Chemical Substances announced by the Environmental Protection Administration)
Taiwan. Toxic Materials (Rules on Hazard Communication of Dangerous Materials and Toxic Materials)
Japan Society for Occupational Health, Recommendation of Occupational Exposure Limits
Japan Chemical Industry Association (JCIA) GHS Guideline, June 2012
JIS Z 7252:2014 Classification of chemicals based on "Globally Harmonized System of Classification and Labelling of Chemicals (GHS)"
JIS Z 7253:2012 Hazard communication of chemicals based on GHS – Labelling and Safety Data Sheet (SDS)
GOST 30333-2007 Chemical production safety passport. General requirements.
GOST 31340-2013 Labeling of chemicals. General requirements.
GOST 32419-2013 Classification of chemical products. General requirements.
GOST 32424-2013 Classification of chemicals for environmental hazards. General principles.
GOST 12.1.007-76 Occupational safety standard system. Noxious substances. Classification and general safety requirements.
GOST 12.1.044-89. Occupational safety standards system. Fire and explosion hazard of substances and materials. Nomenclature of substances and materials. Nomenclature of indices and methods of their determination.
GOST 19433-88. Dangerous goods. Classification and marking.
GOST 12.1.004-91. Occupational safety standards system. Fire safety. General requirements.

Disclaimer

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Revision information

Product and Company Identification: Alternate Trade Names

Disposal considerations: Disposal instructions