## 1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

**Name:** Epoxy MS-907 Plus
Two Part Adhesive
Part A

**Product Use:** Resin part of a two-part adhesive

**MANUFACTURER/DISTRIBUTOR:**

**Miller-Stephenson Chemical**
**55 Backus Ave.**
**Danbury, Conn. 06810 USA**
**(203) 743-4447**

**Emergency Phone Number:**
**(800) 424-9300**

## 2. HAZARDS IDENTIFICATION

**Hazard classification**
Skin Corrosion/Irritation: Category 1C
Serious Eye Damage/Eye Irritation: Category 1
Skin Sensitization: Category 1
Carcinogenicity: Category 2
Reproductive toxicity: Category 1B
Hazardous to the aquatic environment, long-term hazard: Category 2

**Carcinogenicity:** This product contains titanium dioxide which IARC has classified as a Group 2B carcinogen (possibly carcinogenic to humans). Evidence is based on animal testing as a result of long-term inhalation at high concentrations of respirable amounts of titanium dioxide. Because this product is in liquid or paste form, it does not pose a dust hazard; therefore, this classification is not relevant. (Note: sanding of this product will create a possible dust hazard).

**Label elements:**
**Signal word**
Danger
**Pictograms**

**Hazard Statements**
Causes serious skin burns and eye damage.
May cause an allergic skin reaction.
Suspected of causing cancer.
May damage fertility or the unborn child.
Toxic to aquatic life with long lasting effects.

**Precautionary Statements**
**Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves. Wear eye or face protection. Wear protective clothing
Avoid release to the environment.
Avoid breathing dust.
Wash hands thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
**Response:**
Collect spillage.
IF exposed or concerned: Get medical attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician.
IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician.
IF ON SKIN: Wash with plenty of soap and water. 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. Immediately call a POISON CENTER or physician.
**Storage:** Store locked up.
**Disposal**: Dispose of the contents and/or container according to local, regional, national and international regulations.

## 3. INGREDIENTS

| Material (s) | CAS No. | Approximate % |
|---|---|---|
| Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenylene-oxymethylene)]bis-,homopolymer | 25085-99-8 | 60 – 80 |
| Proprietary ingredient 1 | | ≥5 - ≤10 |
| 1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-polymer with 2-(chloromethyl)oxirane | 30499-70-8 | ≤15 |
| Titanium dioxide | 13463-67-7 | 1 – 5 |

## 4. FIRST AID MEASURES

**Inhalation:** Get medical attention immediately. Call a poison center or physician. Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen and if not breathing, give artificial respiration, which must be provided by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as collar, tie, belt or waistband.

**Eye:** Get medical attention immediately. Call a poison center and physician. Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the eyelids. Check to remove contact lenses. Chemical burns must be treated immediately by a physician.

**Skin:** Get medical attention immediately. Call a poison center or physician. Wash skin with plenty of soap and water. Remove contaminated clothing and shoes while wearing gloves. Continue rinsing for at least 20 minutes. Chemical burns must be treated immediately by a physician. Wash clothing and shoes thoroughly before reuse.

**Oral:** Get medical attention immediately. Call a poison center or physician. Wash mouth out with water. 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 amounts 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 to prevent from entering the lungs. Chemical burns must be treated immediately by a physician. Never give anything to an unconscious person. Maintain an open airway. Loosen tight clothing such as collar, tie, belt or waistband.

**Most important symptoms/effects, acute and delayed:**
**Potential acute health effects:**
**Eye contact:** Causes serious eye damage.
**Inhalation:** No known significant effects or critical hazards.
**Skin contact:** Causes severe burns. May cause an allergic skin reaction.
**Ingestion:** No known significant effects or critical hazards.
**Over-exposure signs/symptoms:**
**Eye contact:** Adverse symptoms may include the following: pain or irritation, watering, redness.
**Inhalation:** Adverse symptoms may include the following: reduced fetal weight, increases in fetal deaths, skeletal malformations.
**Skin contact:** Adverse symptoms may include the following: pain or irritation, redness, blistering may occur, reduced fetal weight, increase in fetal deaths, skeletal malformations.
**Ingestion:** Adverse symptoms may include the following: stomach pains, reduced fetal weight, increase in fetal deaths, skeletal malformations.
**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.
**Protection of first-aiders:** No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus (SCBA). It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

## 5. FIRE FIGHTING MEASURES

**Flash Point:** Not Available

**Autoignition Temperature:** Not Available **Flammable Limits in Air, % by Vol.:** Not Available

**Suitable Extinguishing Media:** Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media:** None known.

**Special hazards:** This material is toxic to aquatic life with long lasting effects. Fire water contaminate with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous thermal decomposition products:** Decomposition products may include the following materials: Carbon dioxide, Carbon monoxide, Halogenated compounds, Metal oxides.

**Special Fire Fighting Instruction:** 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. 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:** Only emergency responders with specialize clothing is required to deal with the spillage. No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**Environmental precautions:** Prevent product from entering drains, sewers or open waters. Inform the authorities if the product has caused environmental pollution (sewers, waterways, soil or air). May be harmful to the environment if released in large quantities. Collect spillage.

**Clean-up methods:** Ensure adequate ventilation. Wear appropriate personal protective equipment. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed labeled waste container. Store container until ready for disposal.

## 7. HANDLING AND STORAGE

**Precautions for safe handling:** Use the appropriate personal protective equipment. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only the adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers could be hazardous, because of residue. Do not reuse container. Do not eat, drink or smoke when using this material. Wash hands after handling.

**Conditions for safe storage:** Store in accordance with local regulations. Store in original container protected from sunlight in a dry, cool, well ventilated area away from incompatible materials (Section 10), food and drink. Keep container tightly closed until ready for use.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

| **Exposure Limits (TWA):** | **TLV (ACGIH)** | **PEL (OSHA)** |
|---|---|---|
| Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenylene-oxymethylene)]bis-,homopolymer None | None | None |
| Proprietary ingredient 1 | None | None |
| 1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-polymer with 2-(chloromethyl)oxirane | None | None |
| Titanium dioxide | 10 mg/m$^3$ 8 hrs. | 15 mg/m$^3$ 8 hrs. Form: Total dust |

**Engineering controls:** Use local exhaust ventilation to maintain worker exposure below established exposure limits.

**Hygiene measures:** Wash hands, and face thoroughly after handling and before eating, smoking, and using the lavatory and at the end of work. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure the eyewash stations and safety showers are close to the workstation location.

**Respiratory protection:** Use a NIOSH approved air-purifying respirator if the potential to exceed established exposure limits exists.

**Skin protection:** Chemical resistant, impermeable gloves. The breakthrough of any glove material may be different for different glove manufacturers. The protective time of the gloves cannot be accurately estimated. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by specialist before handling this product.

**Eye/face protection:** Safety goggles or safety glasses with side shields.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Boiling Point:** N.A.

**VOC:** See section 9 of part B for VOC content

**Relative Density:** N.A.

**Vapor Pressure (mmHg):** N.A.

**Vapor Density (Air=1):** N.A.

**Solubility in $H_2O$:** N.A.

**pH Information:** N.A.

**Evaporation Rate (Ether=1):** N.A.

**Form:** Paste

**Appearance:** Viscous white paste

**Color:** White

**Odor:** Slight sweet

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable.

**Hazardous reactions:** Under normal conditions of storage and use, hazardous reactions will not occur.

**Hazardous decomposition products:** Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**Incompatibility:** Oxidizing materials.

**Conditions to avoid:** No specific data.

## 11. TOXICOLOGICAL INFORMATION

**Proprietary ingredient 1**

**Oral Acute Toxicity:** LD50: 31 g/kg in Rat
**Skin Corrosion/Irritation:** Mild irritant in Rabbit, 500mg
**Serious Eye Irritation/ Eye Irritation:** No irritation, Rabbit

**Skin sensitization:** No data available
**Mutagenicity:** No data available
**Carcinogenicity:** Titanium dioxide – IARC classified as 2B.
**Reproductive Toxicity:** No data available
**Teragenicity:** No data available
**STOT-single exposure:** No data available
**STOT-repeated exposure:** No data available
**Aspiration toxicity:** No data available

**Information on the likely routes of exposure:** Dermal contact, Eye contact, Inhalation, Ingestion.
(**See section 4** for acute health effects, Over-exposure signs/symptoms)

**Delayed and immediate effects. Also, chronic effects from short and long term exposure**
**Short term exposure**
**Potential immediate effects:** No known significant effects or critical hazards.
**Potential delayed effects:** No known significant effects or critical hazards.
**Long term exposure**
**Potential immediate effects:** No known significant effects or critical hazards.
**Potential delayed effects:** No known significant effects or critical hazards.
**Potential chronic health effects**
**General:** Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
**Carcinogenicity:** Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
**Mutagencity:** No known significant effects or critical hazards.
**Teratogenicity:** May damage the unborn child.
**Developmental effects:** No known significant effects or critical hazards.
**Fertility effects:** May damage fertility.

## 12. ECOLOGICAL INFORMATION

**Toxicity**
**Titanium dioxide**
96 hour Acute LC50 in Fundulus heteroclitus (Fish): >1000000 µg/l Marine water

**Persistence and degradability**
There is no data available.

**Proprietary ingredient 1**
**Bioaccumulative potential:** $LogP_{ow}$: 6.1; Potential: high

**Mobility in Soil:** Not available.

**Other adverse effects:** No known significant effects or critical hazards.

## 13. DISPOSAL CONSIDERATIONS

The generation of waste would be avoided or minimized whenever possible. Disposal of this product, solutions and any by-products should comply with the requirements of the environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contactor. 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 possible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues.

## 14. TRANSPORT INFORMATION

### U.S. DOT
Not Regulated

**IATA**

**Proper Shipping Name:** ENVIRONMENTALLY HAZARDOUS SUSBTANCE, SOLID, N.O.S. (Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-,homopolymer, 1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)- polymer with 2-(chloromethyl)oxirane).
**Hazard Class:** 9
**Identification No.** UN3077
**Packing Group:** III
**Environmental hazard:** Yes

**IMDG**

**Proper Shipping Name:** ENVIRONMENTALLY HAZARDOUS SUSBTANCE, SOLID, N.O.S. (Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-,homopolymer, 1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)- polymer with 2-(chloromethyl)oxirane). Marine pollutant (Oxirane, 2,2'-[(1methylethylidene)bis(4,1phenyleneoxymethylene)] bis,homopolymer, 1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)- polymer with 2-(chloromethyl)oxirane)
**Hazard Class:** 9
**Identification No.** UN3077
**Packing Group:** III
**Environmental hazard:** Yes

**Additional information**
The limited quantity exception can be used for the transportation of this item
**IMDG:** The marine pollutant mark is not required when transported in sizes ≤5 L or ≤ 5 kg.

## 15. REGULATORY INFORMATION

**United States Regulatory Information**

**TSCA:** All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
**SARA Section 302/304:** No products were found
**SARA Section 311/312:**
**Classification:** Skin Corrosion/Irritation: Category 1C
Serious Eye Damage/Eye Irritation: Category 1
Skin Sensitization: Category 1
Carcinogenicity: Category 2
Reproductive toxicity: Category 1B

**SARA 313:** No data available.
**California Proposition 65:** This product contains a chemical known to the State of California to cause cancer.
(Titanium dioxide)

## 16. OTHER INFORMATION

**FOR INDUSTRIAL USE ONLY**

**REVISION DATE: SEPTEMBER 2018**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user.

## 1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

**Name:** Epoxy MS-907 Plus
Two Part Adhesive
Part B

**Product Use:** Hardener part of a two-part adhesive

**MANUFACTURER/DISTRIBUTOR:**

**Miller-Stephenson Chemical**
**55 Backus Ave.**
**Danbury, Conn. 06810 USA**
**(203) 743-4447**

**Emergency Phone Number:**
**(800) 424-9300**

## 2. HAZARDS IDENTIFICATION

**Hazard classification**
Acute Toxicity, oral: Category 4
Skin Corrosion/Irritation: Category 1B
Serious Eye Damage/Eye Irritation: Category 1
Skin Sensitization: Category 1
Reproductive toxicity: Category 1B
Hazardous to the aquatic environment, acute hazard: Category 1
Hazardous to the aquatic environment, long-term hazard: Category 1

**Label elements:**
**Signal word**
Danger

**Pictograms**

**Hazard Statements**
Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May damage fertility or the unborn child.
Very toxic to aquatic life with long lasting effects.

**Precautionary Statements**
**Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves. Wear eye or face protection. Wear protective clothing
Avoid release to the environment.
Avoid breathing dust.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
**Response:**
Collect spillage.
IF exposed or concerned: Get medical attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician.
IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician.
IF ON SKIN: Wash with plenty of soap and water. 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. Immediately call a POISON CENTER or physician.
**Storage:** Store locked up.
**Disposal**: Dispose of the contents and container according to local, regional, national and international regulations.

## 3. INGREDIENTS

| Material (s) | CAS No. | Approximate % |
|---|---|---|
| 4-Nonylphenol, Branched | 84852-15-3 | 4 – 20 |
| 2-Piperazin-1-Yiethylamine | 140-31-8 | 10 – 20 |
| 2,2'-Ethylenedioxydiethyl bis(2-ethylhexanoate) | 94-28-0 | 4 – 20 |
| 2,4,6-tris (Dimthylaminomethyl)phenol | 90-72-2 | 4 – 10 |
| Ethanediol | 107-21-1 | 1 – 5 |
| 3,6-Diazaoctanethylenediamine | 112-24-3 | 1 – 5 |
| Benzyl alcohol | 100-51-6 | 1 – 4 |
| bis[(Dimethylamino)methyl] phenol | 71074-89-0 | 0.1 – 0.6 |
| Silica, amorphous, fumed, cryst.-free | 112945-52-5 | 1 – 5 |
| Phenol, 2-nonyl-, branched | 91672-41-2 | 1 – 5 |
| 2-(2-Aminoethylamino) Ethanol | 111-41-1 | 0 – 2 |

## 4. FIRST AID MEASURES

**Inhalation:** Get medical attention immediately. Call a poison center or physician. Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen and if not breathing, give artificial respiration, which must be provided by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Exposed person may need to be kept under medical attention for 48 hours.

**Eye:** Get medical attention immediately. Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the eyelids. Check to remove contact lenses. Chemical burns must be treated immediately by a physician.

**Skin:** Get medical attention immediately. Call a poison center or physician. Immediately wash skin with plenty of soap and water. Remove contaminated clothing and shoes while wearing gloves. Continue rinsing for at least 20 minutes. Chemical burns must be treated immediately by a physician. Wash clothing and shoes thoroughly before reuse.

**Oral:** Get medical attention immediately. Call a poison center or physician. Wash mouth out with water. 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 amounts 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 to prevent from entering the lungs. Chemical burns must be treated immediately by a physician. Never give anything to an unconscious person.

**Most important symptoms/effects, acute and delayed:**
**Potential acute health effects:**
**Eye contact:** Causes serious eye damage.
**Inhalation:** No known significant effects or critical hazards.
**Skin contact:** Causes severe burns. May cause an allergic skin reaction.
**Ingestion:** Harmful if swallowed.
**Over-exposure signs/symptoms:**
**Eye contact:** Adverse symptoms may include the following: pain or irritation, watering, redness.
**Inhalation:** Adverse symptoms may include the following: reduced fetal weight, increases in fetal deaths, skeletal malformations.
**Skin contact:** Adverse symptoms may include the following: pain or irritation, redness, blistering may occur, reduced fetal weight, increase in fetal deaths, skeletal malformations.
**Ingestion:** Adverse symptoms may include the following: stomach pains, reduced fetal weight, increase in fetal deaths, skeletal malformations.
**Indication of immediate medical attention and special treatment needed, if necessary:**
**Notes to physician:** In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be under medical observation for 48 hours.
**Specific treatments:** No specific treatment.
**Protection of first-aiders:** No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus (SCBA). It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

## 5. FIRE FIGHTING MEASURES

**Flash Point:** Not Available

**Autoignition Temperature:** Not Available **Flammable Limits in Air, % by Vol.:** Not Available

**Suitable Extinguishing Media:** Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media:** None known.

**Special hazards:** This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous thermal decomposition products:** Decomposition products may include the following materials: Carbon dioxide, Carbon monoxide, Nitrogen oxides, Metal oxides.

**Special Fire Fighting Instruction:** 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:** Only emergency responders with specialize clothing is required to deal with the spillage. No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

**Environmental precautions:** Prevent product from entering drains, sewers or open waters. Inform the authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. Maybe harmful to the environment if released in large quantities. Collect spillage.

**Clean-up methods:** Ensure adequate ventilation. Wear appropriate personal protective equipment. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed labeled waste container. Store container until ready for disposal.

## 7. HANDLING AND STORAGE

**Precautions for safe handling:** Use the appropriate personal protective equipment. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure – obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only the adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers could be hazardous, because of residue. Do not reuse container. Do not eat, drink or smoke when using this material. Wash hands after handling. Remove contaminated clothing and protective equipment before entering eating areas.

**Conditions for safe storage:** Store in accordance with local regulations. Store in original container protected from sunlight in a dry, cool, well ventilated area away from incompatible materials (Section 10), 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.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

| Exposure Limits (TWA): | TLV (ACGIH) | PEL (OSHA) |
|---|---|---|
| 4-Nonylphenol, Branched | None | None |
| 2-Piperazin-1-Yiethylamine | None | None |
| 2,2-Ethylenedisoxydiethyl bis (2-ethylhexanoate) | None | None |
| 2,4,6-tris (Dimthylaminomethyl) phenol | None | None |
| Ethanediol | 100 $mg/m^3$ (Aerosol) | Not established |
| 3,6-Diazaoctanethylenediamine | Not established | Not established |
| Benzyl alcohol | Not established | Not established |
| bis[(Dimethylamino)methyl] phenol | None | None |
| Silica, amorphous, fumed, cryst.-free | Not established | Not established |
| Phenol, 2-nonyl-, branched | None | None |
| 2-(2-Aminoethylamino) Ethanol | None | None |

**Engineering controls:** Use local exhaust ventilation to maintain worker exposure below established exposure limits.

**Hygiene measures:** Wash hands, and face thoroughly after handling and before eating, smoking, and using the lavatory and at the end of work. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure the eyewash stations and safety showers are close to the workstation location.

**Respiratory protection:** Use a NIOSH approved air-purifying respirator if the potential to exceed established exposure limits exists.

**Skin protection:** Chemical resistant, impermeable gloves. The protective time of the gloves cannot be accurately estimated. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by specialist before handling this product.

**Eye/face protection:** Safety goggles or safety glasses with side shields.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Boiling Point:** N.A.

**VOC:** 47g/L (tested per EPA CFR 40, Part 60, method 24)

**Relative Density:** 1.2

**Vapor Pressure (mmHg):** N.A.

**Vapor Density (Air=1):** N.A.

**Solubility in $H_2O$:** Insoluble

**pH Information:** N.A.

**Evaporation Rate (Ether=1):** N.A.

**Form:** Paste

**Appearance:** Viscous gray paste

**Color:** Gray

**Odor:** Amine-like

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable.

**Hazardous reactions:** None under normal conditions of storage and use, hazardous reactions will not occur. Hazardous polymerization will not occur.

**Hazardous decomposition products:** Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**Incompatibility:** Oxidizing materials.

**Conditions to avoid:** No specific data.

## 11. TOXICOLOGICAL INFORMATION

**4-Nonylphenol, Branched**

**Oral Acute Toxicity:** LD50: 1300 mg/kg in Rat
**Skin Corrosion/Irritation:** Severe irritant in Rabbit, 24 hours, 500 mg
**Serious Eye Irritation/ Eye Irritation:** Severe irritant in Rabbit, 100 mg
**Carcinogenicity:** Not classified based on available information
**STOT-single exposure:** No data available

**2,2-Ethylenedisoxydiethyl bis (2-ethylhexanoate)**

**Oral Acute Toxicity:** LD50: 31 g/kg in Rat
**Skin Corrosion/Irritation:** Mild irritant in Rabbit, 500 mg
**Serious Eye Irritation/ Eye Irritation:** No irritation, Rabbit
**Carcinogenicity:** Not classified based on available information.
**STOT-single exposure:** No data available

**2-Piperazin-1-Yiethylamine**

**Skin Corrosion/Irritation:** Severe irritant in Rabbit, 24 hours 5 mg
**Serious Eye Irritation/ Eye Irritation:** Moderate irritant in Rabbit, 24 hours 20 mg
**Carcinogenicity:** Not classified based on available information.
**STOT-single exposure:** No data available

**2,4,6-tris (Dimthylaminomethyl) phenol**

**Dermal Acute Toxicity:** LD50: 1280 mg/kg in Rat
**Oral Acute Toxicity:** LD50: 1200 mg/kg in Rat
**Skin Corrosion/Irritation:** Severe irritant in Rabbit, 24 hours 2 mg
**Serious Eye Irritation/ Eye Irritation:** Severe irritant in Rabbit, 24 hours 50 µg
**Carcinogenicity:** Not classified based on available information.
**STOT-single exposure:** No data available

**Ethanediol**

**Oral Acute Toxicity:** LD50: 4700 mg/kg in Rat
**Skin Corrosion/Irritation:** Mild irritant in Rabbit, 555 mg
**Serious Eye Irritation/ Eye Irritation:** Moderate irritant in Rabbit, 6 hours 1440 mg
Mild irritant in Rabbit, 24 hours 500 mg
**Carcinogenicity:** ACGIH classification: A4
**STOT-single exposure:** No data available

**3,6-Diazaoctanethylenediamine**

**Oral Acute Toxicity:** LD50: 2500 mg/kg in Rat
**Dermal Acute Toxicity:** LD50: 805 mg/kg in Rabbit
**Skin Corrosion/Irritation:** Severe irritant in Rabbit, 24 hours 5 mg
**Serious Eye Irritation/ Eye Irritation:** Severe irritant in Rabbit, 49 mg
**Carcinogenicity:** Not classified based on available information.
**STOT-single exposure:** No data available

**Benzyl alcohol**

**Oral Acute Toxicity:** LD50: 1230 mg/kg in Rat
**Dermal Acute Toxicity:** LD50: 2000 mg/kg in Rabbit
**Skin Corrosion/Irritation:** Moderate irritant in Rabbit, 24 hours 100 mg
**Serious Eye Irritation/ Eye Irritation:** No data
**Carcinogenicity:** Not classified based on available information.
**STOT-single exposure:** No data available

**Silica, amorphous, fumed, cryst.-free**

**Oral Acute Toxicity:** LD50: 3160 mg/kg in Rat
**Skin Corrosion/Irritation:** No data
**Serious Eye Irritation/ Eye Irritation:** No data
**Carcinogenicity:** IARC Classification: 3
**STOT-single exposure:** Category 3, Respiratory tract irritation

**2-(2-Aminoethylamino) Ethanol**

**Oral Acute Toxicity:** LD50: 3 g/kg in Rat
**Dermal Acute Toxicity:** LD50: 2250 mg/kg in Rat
**Skin Corrosion/Irritation:** Mild irritant in Rabbit, 445 mg
**Serious Eye Irritation/ Eye Irritation:** Severe irritant in Rabbit, 50 mg
**Carcinogenicity:** Not classified based on available information.
**STOT-single exposure:** Category 3, Respiratory tract irritation

**All ingredients**

**Skin sensitization:** No data available
**Respiratory Sensitization:** No data available
**Germ Cell Mutagenicity:** No data available
**Reproductive Toxicity:** No data available
**STOT-repeated exposure:** No data available
**Aspiration toxicity:** No data available

## 12. ECOLOGICAL INFORMATION

**4-Nonylphenol, Branched**
72 hours Acute EC50 in Skeleonema costatum (Algae): 0.03 mg/L Marine water
96 hours Acute EC50 in Skeleonema costatum (Algae): 0.027 mg/L Marine water
48 hours Acute EC50 in Eohaustorius estuarius-Adult (Crustaceans): 137 µg/L Marine water
96 hours Acute LC50 in Pleuronectes americanus -Larvae (Fish): 17 µg/L Marine water
96 hours Chronic EC10 in Skeleonema costatum (Algae): 0.012 mg/L in Marine water
21 days Chronic NOEC in Gammarus fossarum- Adult (Crustaceans): 5 µg/L Fresh water
33 days Chronic NOEC in Pimephales promelas – Embryo (Fish): 7.4 µg/L Fresh water
Bioaccumulative potential: $LogP_{ow}$: 5.4; BCF: 740; Potential: high

**2-Piperazin-1-Yiethylamine**
96 hours Acute LC50 in Pimephales promelas (Fish): 2190000 µg/L Fresh water
Bioaccumulative potential: $LogP_{ow}$: -1.48; Potential: low

**2,2-Ethylenedisoxydiethyl bis (2-ethylhexanoate)**
Bioaccumulative potential: $LogP_{ow}$: 6.1; Potential: high

**2,4,6-tris (Dimthylaminomethyl) phenol**
Bioaccumulative potential: $LogP_{ow}$: 0.219; Potential: low

**Ethanediol**
48 hours Acute LC50 in Ceriodaphnia dubia-Neonate (Crustaceans): 6900000 µg/L Fresh water
48 hours Acute LC50 in Daphnia magna-Neonate (Daphnia): 41000000 µg/L Fresh water
96 hours Acute LC50 in Pimephales promelas (Fish): 8050000 µg/L Fresh water
Bioaccumulative potential: $LogP_{ow}$: -1.36; Potential: low

**3,6-Diazaoctanethylenediamine**
96 hours Acute EC50 in Pseudokirchneriella subcapitata (Algae): 3700 µg/L Fresh water
48 hours Acute LC50 in Daphnia magna (Daphnia): 33900 µg/L Fresh water
Bioaccumulative potential: $LogP_{ow}$: -1.66 to -1.4; Potential: low

**Benzyl alcohol**
96 hours Acute LC50 in Pimephales promelas-Juvenile (Fish): 460000 µg/L Fresh water
Bioaccumulative potential: $LogP_{ow}$: 0.87; Potential: low

**2-(2-Aminoethylamino) Ethanol**
Bioaccumulative potential: $LogP_{ow}$: -1.46; BCF: <0.2; Potential: low

**Persistence and degradability:** There is no data available.

**Mobility in Soil:** Not available.

**Other adverse effects:** No known significant effects critical hazards.

## 13. DISPOSAL CONSIDERATIONS

The generation of waste would be avoided or minimized whenever possible. Disposal of this product, solutions and any by-products should comply with the requirements of the environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contactor. 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 possible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues.

## 14. TRANSPORT INFORMATION

**U.S. DOT**
**Limited Quantity**

**IATA**
**Proper Shipping Name:** Amines, solid, corrosive, n.o.s. (4-Nonylphenol, Branched, 2-Piperazin-1-Yiethylamine)
**Hazard Class:** 8
**Identification No.** UN3259
**Packing Group:** III
Environmental hazard: Yes

**IMDG**
**Proper Shipping Name:** Amines, solid, corrosive, n.o.s. (4-Nonylphenol, Branched, 2-Piperazin-1-Yiethylamine)
**Marine Pollutant** (4-Nonylphenol, Branched)
**Hazard Class:** 8
**Identification No.** UN3259
**Packing Group:** III
Environmental hazard: Yes

## 15. REGULATORY INFORMATION

**United States Regulatory Information**

**TSCA:** All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
**SARA Section 302/304:** No products were found
**SARA Section 311/312:** Immediate Health, Delayed Health
**SARA 313:** 4-Nonylphenol, Branched, CAS No. 84852-15-13; Ethanediol, CAS No. 107-21-1
**California Proposition 65:** This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm. (Ethanediol is known to the State of California to cause birth defects or other reproductive harm, and Crystalline silica is known to the State of California to cause cancer).

**Canada Regulatory Information**

**Canadian NPRI :** The following components are listed: 4-Nonylphenol, Branched, Ethanediol
**CEPA Toxic substances:** The following components are listed: 4-Nonylphenol, Branched,
**Canadian Inventory:** Not determined.

## 16. OTHER INFORMATION

**FOR INDUSTRIAL USE ONLY**

**REVISION DATE: MAY 2020**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user.