

HEATLOK® HFO HIGH LIFT SAFETY DATA SHEET - B-SIDE

SECTION 1: PRODUCT & COMPANY INFORMATION

Supplier / Manufacturer: **Huntsman Building Solutions**

3315 E. Division Street, Arlington, TX 76011 Phone: 817-640-4900 / Fax: 817-633-2000

E-mail: info@huntsmanbuilds.com

Website: www.huntsmanbildingsolutions.com

GHS Product Identifier: Heatlok® HFO High Lift B-side

Chemical Name: Polyurethane Resin / B-side Product Type: Liquid

Identified Use: Component B of a Spray-Applied Polyurethane System

Emergency Telephone in USA: CHEMTREC 800-424-9300. In Canada: CANUTEC 613-996-6666 or *666 (cellular).

| SECTION 2: HAZARDS IDENTIFICA | ATION | | | |
|--|---|--|--|--|
| OSHA / HCS Status | This material is classified hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200). | | | |
| Classification of the Substance or Mixture | Skin irritation - Category 3 Skin sensitization - Category 3 Eye irritation - Category 2A Reproductive toxicity - Category 1B Specific target organ toxicity (repeated exposure) (kidney) - Category 2 | | | |
| GHS LABEL ELEMENTS INCLUD | DING PRECAUTIONARY STATEMENTS | | | |
| Hazard Pictograms | | | | |
| Signal Word | DANGER | | | |
| Hazard Statements | H315 – Causes skin irritation. H317 – May cause an allergic skin reaction. H319 – Causes serious eye irritation. H360 – May damage fertility or the unborn child. H373 – May cause damage through repeated exposure if swallowed. | | | |
| PRECAUTIONARY STATEMENT | S | | | |
| Prevention | P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P260 - Do not breathe dust/fume/gas/mist/vapors/spray. P270 - Do not eat, drink, or smoke when using this product. P280 - Wear eye or face protection P264 - Wash hands thoroughly after handling. | | | |
| Response | P308 + P313 - If exposed or concerned: Get medical attention. P302 + P352 + P362 + P364 - If on skin: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. P332 + P313 - If skin irritation occurs: Get medical attention. P305 + P351 + P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention. | | | |
| Storage | P405 - Store locked up. | | | |
| Disposal | P501 - Dispose of contents and container in accordance with all local, regional, national, and international regulations. | | | |
| HAZARDS NOT OTHERWISE CI | ASSIFIED (HNOC) | | | |
| Physical Hazards Not Otherwise Classified (PHNOC) | None known. | | | |
| Health Hazards Not Otherwise Classified (HHNOC) | None known. | | | |

| SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS | | | |
|---|---------------------------|--|--|
| Substance / Mixture Mixture | | | |
| Chemical Name | Polyurethane Resin B-side | | |

| CAS NUMBER / OTHER IDENTIFIERS | | | | | |
|---|--|--|-----------|--|--|
| CAS Number | Not applicable. | Not applicable. | | | |
| Product Code | Heatlok® HFO High Lift Summer, Heatlok® HFO Hi | Heatlok® HFO High Lift Summer, Heatlok® HFO High Lift Winter | | | |
| INGREDIENTS | | CAS# | % | | |
| Tris (2-chloro-1-methylethyl) phosphate | | 13674-84-5 | ≥1 - <10 | | |
| Triethyl phosphate | | 78-40-0 | ≥1 - <5 | | |
| Ethanediol | | 107-21-1 | ≥1 - <3 | | |
| 2,2 -Oxibisethanol | | 111-46-6 | ≥1 - <3 | | |
| 1,1,3,3-Tetramethylguanidine | | 80-70-6 | ≥1 - <2 | | |
| Dibutylbis(dodecylthio)stannane | | 1185-81-5 | ≥0.1 - <5 | | |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8.

| SECTION 4: FIRST AID MEASURES | | | | |
|----------------------------------|---|--|--|--|
| | | | | |
| DESCRIPTION OF NECESSARY | FIRST AID MEASURES | | | |
| 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 20 minutes. Get medical attention. | | | |
| nhalation | Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintai an open airway. 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 | Flush contaminated skin with plenty of water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse. | | | |
| ngestion | Wash out mouth 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 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. Never give anything by mouth to an unconscious person. | | | |
| OST IMPORTANT SYMPTOMS | S / EFFECTS, ACUTE AND DELAYED | | | |
| POTENTIAL ACUTE HEALTH E | FFECTS | | | |
| Eye Contact | Causes serious eye irritation. | | | |
| nhalation | No known significant effects or critical hazards. | | | |
| Skin Contact | Causes skin irritation. May cause an allergic skin reaction. | | | |
| ngestion | No known significant effects or critical hazards. | | | |
| OVER-EXPOSURE SIGNS / SYM | IPTOMS | | | |
| Eye Contact | Adverse symptoms may include the following: pain or irritation, watering, redness. | | | |
| nhalation | Adverse symptoms may include the following: reduced fetal weight, increase in fetal deaths, skeletal malformations. | | | |
| Skin Contact | Adverse symptoms may include the following: irritation, redness, reduced fetal weight, increase in fetal deaths, skeletal malformations. | | | |
| ngestion | Adverse symptoms may include the following: reduced fetal weight, increase in fetal deaths, skeletal malformations. | | | |
| NDICATION OF IMMEDIATE M | EDICAL 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 kept under medical surveillance 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. 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. | | | |
| See toxicological information (S | ection 11) | | | |

| SECTION 5: FIRE FIGHTING MEASURES | | | | |
|--|---|--|--|--|
| Suitable Extinguishing Media | se an extinguishing agent suitable for the surrounding fire. | | | |
| Unsuitable Extinguishing Media | one known. | | | |
| Specific Hazards Arising from the Chemical | Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. | | | |
| Hazardous Thermal Decomposition Products | Thermal decomposition products may include the following materials: carbon dioxide, carbon monoxide, nitrogen oxides, halogenated compounds, traces of ammonia, oxides of phosphorus, hydrogen chloride gas, aldehydes and ketones, low molecular weight organic products, tin oxides, noxious and toxic fumes. | | | |
| Special Protective Actions for Fire Fighters | No special measures are required. | | | |
| Special Protective Equipment for Fire Fighters | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. | | | |

| SECTION 6: ACCIDENTAL RELEASE MEASURES | | | | |
|---|---|--|--|--|
| PERSONAL PRECAUTIONS, PRO | TECTIVE EQUIPMENT AND EMERGENCY PROCEDURES | | | |
| For Non-emergency Personnel | No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. | | | |
| For Emergency Responders | If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". | | | |
| Environmental Precautions | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. | | | |
| METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP | | | | |
| Spill | Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal. | | | |

| SECTION 7: HANDLING & STORAGE | | | | | |
|--|--|--|--|--|--|
| PRECAUTIONS FOR SAFE HAND | PRECAUTIONS FOR SAFE HANDLING | | | | |
| Storage Temperature | 59 - 77°F (15 - 25°C) | | | | |
| Storage Life | 6 months | | | | |
| Protective Measures | Put on appropriate personal protective equipment (see Section 8). 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 breathing vapor or mist. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with 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 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. See also Section additional information on hygiene measures. | | | | |
| Conditions for Safe Storage Including any Incompatibilities | 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. Store locked up. 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. | | | | |

| SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION | | |
|---|---|--|
| CONTROL PARAMETERS - UNITED STATES | | |
| OCCUPATIONAL EXPOSURE LIMITS | | |
| Ingredient Name | Exposure Limits | |
| Triethyl phosphate | AIHA WEEL (United States, 10/2011). TWA: 7.45 mg/m³ 8 hours. | |
| Ethanediol | ACGIH TLV (United States, 3/2015). C: 100 mg/m³ Form: Aerosol. | |

| 2,2 -Oxibisethanol | AIHA WEEL (United States, 10/2011). TWA: 10 mg/m³ 8 hours. |
|-------------------------------------|---|
| Dibutylbis(dodecylthio) stannane | ACGIH TLV (United States, 3/2015). Absorbed through skin. TWA: 0.1 mg/m³, (as Sn) 8 hours. STEL: 0.2 mg/m³, (as Sn) 15 minutes. NIOSH REL (United States, 10/2013). Absorbed through skin. TWA: 0.1 mg/m³, (as Sn) 10 hours. OSHA PEL (United States, 2/2013). TWA: 0.1 mg/m³, (as Sn) 8 hours. |

CONTROL PARAMETERS - CANADA

| OCCUPATIONAL EXPOSURE LIMITS | | TWA (8 HOURS) | | STEL (15 MINS) | | | CEILING | | | | |
|------------------------------|--------------------|---------------|-------|----------------|-----|-------|---------|-----|-------|-------|-------|
| Ingredient Name | List Name | ppm | mg/m³ | other | ppm | mg/m³ | other | ppm | mg/m³ | other | notes |
| Triethyl phosphate | US AIHA 10/2011 | - | 7.45 | - | - | - | - | - | - | - | |
| Ethanediol | US ACGIH 3/2015 | = | - | - | - | - | ı | ı | 100 | ı | (a) |
| | AB 4/2009 | - | - | - | - | - | ı | ı | 100 | ı | |
| | | - | - | - | - | _ | ı | ı | 100 | ı | (a) |
| | BC 5/2015 | - | 10 | - | - | 20 | - | - | - | - | (b) |
| | | - | - | _ | - | - | ı | 50 | - | ı | (c) |
| | ON 7/2015 | - | - | - | - | - | ı | ı | 100 | ı | (a) |
| | QC 1/2014 | - | - | - | 50 | 127 | - | - | - | - | (d) |
| 2,2 -Oxibisethanol | US AIHA 10/2011 | - | 10 | - | - | _ | ı | ı | - | ı | |

(3) Skin sensitization. Form: (a) Aerosol. (b) Particulate. (c) Vapor. (d) Vapor and Mist. (e) Mist. (f) Respirable Mist. (g) Inhalable Fraction.

| Appropriate Engineering Controls | If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants 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. |

INDIVIDUAL PROTECTION MEASURES

| Hygiene Measures | Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. |
|------------------------|---|
| Eye/Face Protection | Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. |
| 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. |
| 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. |
| Respiratory Protection | Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. |

| SECTION 9: PHYSICAL & CHEMICAL PROPERTIES | | | | |
|---|---|--|--|--|
| Physical State | Liquid | | | |
| Color | Blue | | | |
| Odor | Not available | | | |
| Odor Threshold | Not available | | | |
| рН | Not available | | | |
| Melting Point | Not available | | | |
| Boiling Point | Not available | | | |
| Flash Point | Closed cup: > 200°F (93°C) (Pensky-Martens) | | | |
| Evaporation Rate | Not available | | | |
| Flammability (solid, gas) | Not available | | | |

| Lower and Upper Explosive (flammable) Limits | Not available |
|--|-----------------------------|
| Vapor Pressure | Not available |
| Vapor Density | Not available |
| Specific Gravity @ 77°F (25°C) | 1.17 - 1.21 |
| Solubility | Moderately soluble in water |
| Partition Coefficient: N-Octanol/Water | Not available |
| Auto-Ignition Temperature | Not available |
| Decomposition Temperature | Not available |
| Viscosity @ 77°F (25°C) | Not available |
| Volatility | Not available |

| SECTION 10: STABILITY & REACTIVITY | | | | | |
|---------------------------------------|--|--|--|--|--|
| Reactivity | No specific test data related to reactivity available for this product or its ingredients. | | | | |
| Chemical Stability | The product is stable. | | | | |
| Possibility of Hazardous Reactions | Under normal conditions of storage and use, hazardous reactions will not occur. | | | | |
| Conditions to Avoid | Avoid exposure to moisture and high temperatures to protect product quality. | | | | |
| Incompatible Materials | Reactive or incompatible with the following materials: oxidizing materials. Avoid unintended contact with isocyanates. | | | | |
| Hazardous Decomposition Products | Under normal conditions of storage and use, hazardous decomposition products should not be produced. | | | | |

| ACUTE TOXICITY | | | | | |
|-------------------------------|---------------------------------|---------|-------------------|-----------------------------|-------------|
| Product / Ingredient Name | Endpoint | Species | Result | | Exposure |
| | LC50 Inhalation Dusts and mists | Rat | 17.8 mg/l | | 1 hour |
| Tris (2-chloro-1-methylethyl) | LC50 Inhalation Dusts and mists | Rat | 5 mg/l | | 4 hours |
| phosphate | LD50 Dermal | Rabbit | 1230 mg/kg | 1230 mg/kg | |
| | LD50 Oral | Rat | 1500 mg/kg | 1500 mg/kg | |
| Triethyl phosphate | LD50 Oral | Rat | 1165 mg/kg | | - |
| Ethanediol | LD50 Oral | Rat | 4700 mg/k | g | - |
| 2.2 Ovibinathanal | LD50 Dermal | Rabbit | 11890 mg/kg | g | - |
| 2,2 -Oxibisethanol | LD50 Oral | Rat | 12000 mg/k | 12000 mg/kg | |
| Dibutylbis(dodecylthio) | LD50 Oral | Rat | > 2000 mg/kg | | - |
| stannane | LD50 Dermal | Rabbit | 1000 - 2000 mg/kg | | - |
| IRRITATION / CORROSION | | · | · | | |
| Product / Ingredient Name | Result | Species | Score | Exposure | Observation |
| Triethyl phosphate | Eyes - Moderate irritant | Rabbit | - | 100 mg | - |
| | Eyes - Mild irritant | Rabbit | - | 24 h 500 mg | - |
| Ethanediol | Eyes - Mild irritant | Rabbit | - | 1 h 100 mg | - |
| Ethanedioi | Eyes - Moderate irritant | Rabbit | - | 6 h 1440 mg | - |
| | Skin - Mild irritant | Rabbit | - | 555 mg | - |
| 2,2 -Oxibisethanol | Eyes - Mild irritant | Rabbit | - | 50 mg | - |
| | Skin - Mild irritant | Human | - | 72 h 112 mg Intermittent | - |
| | Skin - Mild irritant | Rabbit | - | 500 mg | _ |

MUTAGENICITY

There is no data available.

| CARCINOGENICITY | | | | | | | | |
|--|---|--|-----------------------|-----------------|---------------|-------|--|--|
| CLASSIFICATION | | | | | | | | |
| Product/Ingredient | OSHA IARC NTP ACGIH EPA | | | | EPA | NIOSH | | |
| Ethanediol | - | - | - | A4 | - | None | | |
| REPRODUCTIVE TOXICITY | REPRODUCTIVE TOXICITY | | | | | | | |
| There is no data available. | | | | | | | | |
| TERATOGENICITY | | | | | | | | |
| May damage fertility or the unbo | orn child. | | | | | | | |
| SPECIFIC TARGET ORGAN TOX | ICITY (SINGLE EXF | OSURE) | | | | | | |
| There is no data available. | | | | | | | | |
| SPECIFIC TARGET ORGAN TOX | ICITY (REPEATED | EXPOSURE) | | | | | | |
| Product/Ingredient | Category | | Route of Exposur | е | Target Organs | | | |
| Dibutylbis(dodecylthio) stannane | Category 2 | | Not determined | | Kidney | | | |
| ASPIRATION HAZARD | | | | | | | | |
| There is no data available. | | | | | | | | |
| INFORMATION ON THE LIKELY | ROUTES OF EXPO | SURE | | | | | | |
| Dermal contact. Eye contact. Inh | nalation. Ingestion. | | | | | | | |
| POTENTIAL ACUTE HEALTH EF | FECTS | | | | | | | |
| Eye Contact | Causes serious ey | e irritation. | | | | | | |
| Inhalation | No known signific | ant effects or criti | cal hazards. | | | | | |
| Skin Contact | Causes skin irritat | ion. May cause an | allergic skin reactio | on. | | | | |
| Ingestion | No known significant effects or critical hazards. | | | | | | | |
| SYMPTOMS RELATED TO THE PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS | | | | | | | | |
| Eye Contact | ntact Adverse symptoms may include the following: pain or irritation, watering, redness. | | | | | | | |
| Inhalation | Adverse symptor malformations. | Adverse symptoms may include the following: reduced fetal weight, increase in fetal deaths, skeletal malformations. | | | | | | |
| Skin Contact | | Adverse symptoms may include the following: irritation, redness, reduced fetal weight, increase in fetal deaths, skeletal malformations. | | | | | | |
| Ingestion | Adverse symptoms may include the following: reduced fetal weight, increase in fetal deaths, skeletal malformations. | | | | | | | |
| DELAYED AND IMMEDIATE EFF | ECTS AND ALSO | CHRONIC EFFECT | S FROM SHORT AN | ND LONG TERM EX | XPOSURE | | | |
| SHORT TERM EXPOSURE | 1 | | | | | | | |
| Potential Immediate Effects | No known signific | ant effects or criti | cal hazards. | | | | | |
| Potential Delayed Effects | No known signific | ant effects or criti | cal hazards. | | | | | |
| LONG TERM EXPOSURE | | | | | | | | |
| Potential Immediate Effects | No known signific | ant effects or criti | cal hazards. | | | | | |
| Potential Delayed Effects | ed Effects No known significant effects or critical hazards. | | | | | | | |
| POTENTIAL CHRONIC HEALTH | POTENTIAL CHRONIC HEALTH EFFECTS | | | | | | | |
| General | No known signific | No known significant effects or critical hazards. | | | | | | |
| Carcinogenicity | No known signific | ant effects or criti | cal hazards. | | | | | |
| Mutagenicity | No known signific | ant effects or criti | cal hazards. | | | | | |
| Teratogenicity | May damage the | unborn child. | | | | | | |
| Developmental Effects | No known signific | ant effects or criti | cal hazards. | | | | | |
| Fertility Effects | May damage fertility. | | | | | | | |
| NUMERICAL MEASURES OF TO | XICITY - ACUTE TO | DXICITY ESTIMATI | ES | | | | | |
| There is no data available. | | | | | | | | |

| SECTION 12: ECOLOGICAL INFOR | MATION | | | | | |
|---|---|---|---|-------------|----------|--|
| TOXICITY | | | | | | |
| Product / Ingredient Name | Result | | Species | | Exposure | |
| Triethyl phosphate | Acute LC50 100 mg/l Fresh water | | Fish - Pimephales promelas - (Fledgling, Hatchling, Weanli | | 96 hours | |
| | Acute LC50 100000 μg/l Marine wa | iter | Crustaceans - Crangon crang | gon - Adult | 48 hours | |
| Ethanediol | Acute LC50 10000000 μg/l Fresh v | vater | Daphnia - Daphnia magna | | 48 hours | |
| | Acute LC50 8050000 μg/l Fresh w | ater | Fish - Pimephales promelas | | 96 hours | |
| 2,2 -Oxibisethanol | Acute LC50 32000 ppm Fresh water | er | Fish - Pimephales promelas | | 96 hours | |
| PERSISTENCE AND DEGRADA | BILITY | | | | | |
| Product / Ingredient Name | Aquatic Half-life | Aquatic Half-life Photolysis Biodegradability | | | | |
| Ethanediol | F | | Readily | | | |
| BIOACCUMULATIVE POTENTIA | AL | | | | | |
| Product / Ingredient Name | LogPow | LogPow BCF Potential | | | | |
| Tris (2-chloro-1-methylethyl) phosphate | 2.68 0.8 - 2.8 Low | | | Low | | |
| Triethyl phosphate | 1.11 | 1.11 < 1.3 Low | | | | |
| Ethanediol | -1.36 | - | | Low | | |
| 2,2 -Oxibisethanol | -1.98 100 Low | | | | | |
| 1,1,3,3-Tetramethylguanidine | 0.41 - Low | | | | | |
| MOBILITY IN SOIL | | | | | | |
| Soil/Water Partition Coefficient (Koc) | | | | | | |
| Other Adverse Effects | No known significant effects of critical hazards. | | | | | |

| SECTION 13: DISPOSAL CONSIDERATION | | | | | |
|------------------------------------|---|--|--|--|--|
| Disposal Methods | The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. | | | | |

| SECTION 14: TRANSPORTATION INFORMATION | | | | | |
|--|---------------|--|--|--|--|
| рот | | | | | |
| UN Number | Not regulated | | | | |
| UN Proper Shipping Name | - | | | | |
| Transport Hazard Class(es) | - | | | | |
| Packing Group | - | | | | |
| Environmental Hazard | No | | | | |
| Additional Information | - | | | | |
| TDG | | | | | |
| UN Number | Not regulated | | | | |
| UN Proper Shipping Name | - | | | | |
| Transport Hazard Class(es) | - | | | | |
| Packing Group | - | | | | |
| Environmental Hazard | No | | | | |
| Additional Information | - | | | | |

| IMDG | |
|--|--|
| UN Number | Not regulated |
| UN Proper Shipping Name | - |
| Transport Hazard Class(es) | - |
| Packing Group | - |
| Environmental Hazard | No |
| Additional Information | - |
| IATA | |
| UN Number | Not regulated |
| UN Proper Shipping Name | - |
| Transport Hazard Class(es) | - |
| Packing Group | - |
| Environmental Hazard | No |
| Additional Information | - |
| AERG: Not applicable. | |
| Special Precautions for User | Transport within user's premises: Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage. |
| Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code | Not available |

| SECTION 15: REGULATORY INFORMATION | | | | | |
|---|--|--|--|--|--|
| UNITED STATES | | | | | |
| U.S. Federal Regulations | TSCA 8(a) PAIR: 2,2-Dimethylpropan-1-ol, tribromo derivative; Triethyl phosphate; Octamethylcyclotetrasiloxane. TSCA 8(c) calls for record of SAR: Triethyl phosphate. United States inventory (TSCA 8b): All components are listed or exempted. | | | | |
| Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) | Listed | | | | |
| Clean Air Act Section 602 Class I Substances | Not listed | | | | |
| Clean Air Act Section 602 Class II Substances | Not listed | | | | |
| DEA List I Chemicals (Precursor Chemicals) | Not listed | | | | |
| DEA List II Chemicals (Essential Chemicals) | Not listed | | | | |
| SARA 302/304 | No products were found | | | | |
| SARA 304 RQ | Not applicable | | | | |
| SARA 311/312 | | | | | |

CLASSIFICATION

Immediate (acute) health hazard.

COMPOSITION / INFORMATION ON INGREDIENTS

| Product / Ingredient Name | % | Fire Hazard | Sudden Release of Pressure | Reactive | Immediate (acute) Health Hazard | Delayed (chronic) Health Hazard | |
|---|-----------|-------------|-------------------------------|----------|---------------------------------------|---------------------------------------|--|
| Tris (2-chloro-1-methylethyl) phosphate | ≥1 - <10 | No | No | No | Yes | No | |
| Triethyl phosphate | ≥1 - <5 | No | No | No | Yes | No | |
| Ethanediol | ≥1 - <3 | No | No | No | Yes | No | |
| 2,2 -Oxibisethanol | ≥1 - <3 | No | No | No | Yes | No | |
| 1,1,3,3-Tetramethylguanidine | ≥1 - <2 | Yes | No | No | Yes | No | |
| Dibutylbis(dodecylthio) stannane | ≥0.1 - <5 | No | No | No | Yes | Yes | |

| SARA 313 | | | | | | |
|---|------------|----------|---------|--|--|--|
| Product Name CAS # % | | | | | | |
| Form R - Reporting Requirements | Ethanediol | 107-21-1 | ≥1 - <3 | | | |
| Supplier Notification Ethanediol 107-21-1 ≥1 - <3 | | | | | | |

shad from the CDC and any convince and redistribution of the CDC shall include convince and

| | not be detached from the SDS and any copying and redistribution of the SDS shall include copying and tracked to copies of the SDS subsequently redistributed. |
|-----------------------|---|
| STATE REGULATIONS | |
| Massachusetts | The following components are listed: Ethanediol. |
| New York | The following components are listed: Ethanediol. |
| New Jersey | The following components are listed: Ethanediol. |
| Pennsylvania | The following components are listed: Ethanediol; 2,2' -Oxybisethanol. |
| CANADA | |
| CANADIAN LISTS | |
| Canadian NPRI | The following components are listed: Ethanediol. |
| CEPA Toxic Substances | None of the components are listed. |
| Canada Inventory | All components are listed or exempted. |

| SECTION 16: OTHER INFORMATION | |
|-------------------------------|--|
| Prepared By | Demilec Inc Technical Department |
| Preparation Date (Y/M/D) | 2018-4-11 |
| Current Issue Date (Y/M/D) | 2018-4-11 |
| ABBREVIATIONS KEY | |
| ATE | Acute Toxicity Estimate |
| BCF | Bioconcentration Factor |
| GHS | Globally Harmonized System of Classification and Labelling of Chemicals |
| IATA | International Air Transport Association |
| IBC | Intermediate Bulk Container |
| IMDG | International Maritime Dangerous Goods |
| LogPow | Logarithm of the octanol/water partition coefficient |
| MARPOL 73/78 | International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) |
| UN | United Nations |

Notice to Reader: To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.