SAFETY DATA SHEET

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

IDENTIFICATION OF THE MIXTURE

TRADE/MATERIAL NAME: SpecSeal® AMW Mineral Wool Insulation

RELEVANT USE of the SUBSTANCE: Insulation Fire Barrier

USES ADVISED AGAINST: Other than Relevant Use

SUPPLIER/MANUFACTURER’S NAME: Specified Technologies, Inc.

Address: 210 Evans Way, Somerville, New Jersey 08876

Business Phone: (908) 526-8000 (8:00am to 5:00pm Eastern Standard Time)

Emergency Phone: U.S., Canada: 1-800-255-3924 (24 hrs)

International: +1-813-248-0585 (collect-24 hrs)

EMAIL of Competent Person for Information on SDS: techserv@stifirestop.com

NOTE: ALL United States Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalent Standards, Canadian WHMIS [Controlled Products Regulations], Mexican NOM018-STPS 2000, SPRING Singapore, and Japanese JIS Z7250 required information is included in appropriate sections based on the U.S. ANSI Z400.1-2010 format. This product has been classified in accordance with the hazard criteria of the countries listed above.

2. HAZARD IDENTIFICATION

GLOBAL HARMONIZATION AND JAPANESE JIS Z7253 LABELING AND CLASSIFICATION: This product has been classified per UN GHS Standards under U.S., Japanese and other applicable regulations that require Global Harmonization compliance.

Classification: Carcinogenic Category 2, Eye Irritation Category 2A, Specific Target Organ Toxicity (Inhalation-Respiratory Irritation) Single Exposure Category 3

Signal Word: Warning


Precautionary Statements:

Prevention: P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P261: Avoid breathing vapors, fume. P271: Use only outdoors or in a well-ventilated area. P280: Wear protective gloves, clothing, eye protection and face protection. P265: Avoid breathing dust, fume, gas, spray or vapors.

Response: P308 + P313: IF exposed or concerned: Get medical advice/attention. P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. P336 + P340: IF IN EYES: After initial emergency treatment, get immediate medical attention.

Storage: P403 + P233 + P405: Keep container tightly closed. Store locked up.

Disposal: P501: Dispose of contents/container in accordance with all local, regional, national and international regulations.

Hazard Symbols: GHS07, GHS08

KOREAN ISHA (Notice 2009-68) LABELING AND CLASSIFICATION: Classified in accordance with ISHA Notice 2009-68. Under ISHA, no differences in classification are applicable.

3. COMPOSITION and INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS #</th>
<th>Chinese IECSC Inventory</th>
<th>Japanese ENCS #</th>
<th>Korean ECL #</th>
<th>Taiwan NESCI ECS</th>
<th>WT%</th>
<th>LABEL ELEMENTS</th>
<th>GHS &amp; Japanese JIS Z7253 Classification</th>
<th>Korean ISHA Classification</th>
<th>GHS Hazard Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary Mineral Wool</td>
<td>Listed</td>
<td>Not Listed</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td></td>
<td>94-99%</td>
<td>SELF CLASSIFICATION</td>
<td>GHS &amp; Japanese JIS Z7253 Classification</td>
<td>Korean ISHA Classification</td>
<td>GHS Hazard Codes</td>
</tr>
<tr>
<td>Proprietary Phenolic Formaldehyde Resin</td>
<td>Listed</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td></td>
<td></td>
<td>1-6%</td>
<td>SELF CLASSIFICATION</td>
<td>GHS &amp; Japanese JIS Z7253, KOREAN ISHA: Classification: Skin Sensitization Cat. 1B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SPECSEAL® AMW MINERAL WOOL SDS PAGE 1 OF 8 EFFECTIVE DATE: JANUARY 30, 2017
4. FIRST-AID MEASURES

DESCRIPTION OF FIRST AID MEASURES:
Skin Exposure: If adverse skin effects occur, discontinue use and flush contaminated area. Seek medical attention if adverse effect occurs after flushing.
Inhalation: If particulates are inhaled, remove victim to fresh air.
Eye Exposure: If this product contaminates the eyes, rinse eyes under gently running water. Ingestion: If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. If professional advice is not available, DO NOT INDUCE VOMITING.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing respiratory disorders may be aggravated by overexposures to this product.
INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT IF NEEDED: Treat symptoms and eliminate exposure.

5. FIRE-FIGHTING MEASURES

FLASH POINT: Not determined.
AUTOIGNITION TEMPERATURE: Not available.
FLAMMABLE LIMITS (in air by volume, %): Not applicable.
FIRE EXTINGUISHING MEDIA: Use extinguishing materials suitable for the surrounding area.
UNSUITABLE FIRE EXTINGUISHING MEDIA: None known.
UNUSUAL FIRE AND EXPLOSION HAZARDS: This product is non-flammable and non-combustible. When involved in a fire, this material may decompose and produce irritating vapors and toxic gases
Explosion Sensitivity to Static Discharge: Not sensitive.

SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS: Incipient fire responders should wear eye protection.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS AND EMERGENCY PROCEDURES:
Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. Call CHEMTREC (1-800-424-9300) for emergency assistance. Or if in Canada, call CANUTEC (613-996-6666). PERSONAL PROTECTIVE EQUIPMENT: Proper protective equipment should be used. Use only non-sparking tools and equipment.
Small Spills: Wear rubber gloves, splash goggles, and appropriate body protection.
Large Spills: Minimum Personal Protective Equipment should be rubber gloves, rubber boots, face shield.

METHODS FOR CLEAN-UP AND CONTAINMENT:
Small Spills: Small releases of this product can be carefully picked-up, swept up or cleaned up avoiding generating of particulates.
Large Spills: Access to the spill area should be restricted. For large spills, dike or otherwise contain spill and sweep-up or vacuum with non-sparking vacuum, avoiding generation of dusts and particulates.
All Spills: Place all spill residue in a double plastic bag or other containment and seal. Close off sewers and take other measures to protect human health and the environment as necessary. Rinse area with soap and water solution and follow with a water rinse. Do not mix with wastes from other materials. Dispose of in accordance with applicable Federal, State, and local procedures (see Section 13, Disposal Considerations). For spills on water, contain, minimize dispersion and collect. Dispose of recovered material and report spill per regulatory requirements.

ENVIRONMENTAL PRECAUTIONS: Avoid release to the environment. Run-off water may be contaminated by other materials and should be contained to prevent possible environmental damage.
REFERENCE TO OTHER SECTIONS: See information in Section 8 (Exposure Controls – Personal Protection) and Section 13 (Disposal Considerations) for additional information.

7. HANDLING and USE

PRECAUTIONS FOR SAFE HANDLING: As with all chemicals, avoid getting this material ON YOU or IN YOU. Do not eat, drink, smoke, or apply cosmetics while handling this product. Wash hands thoroughly after handling this product or containers of this product. Avoid breathing particulates generated by this product. Use in a well-ventilated location.
CONDITIONS FOR SAFE STORAGE: Store containers in a cool, dry location, away from direct sunlight, sources of intense heat.
SPECIFIC END USE(S): This product is for use as a sealant. Follow all industry standards for use of this product.

SPECSEAL® AMW MINERAL WOOL SDS
PAGE 2 OF 8
EFFECTIVE DATE: JANUARY 30, 2017
8. EXPOSURE CONTROLS - PERSONAL PROTECTION

EXPOSURE LIMITS/CONTROL PARAMETERS:

Ventilation and Engineering Controls: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided below (if applicable). Exhaust directly to the outside, taking necessary precautions for environmental protection.

Workplace Exposure Limits/Control Parameters:

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>CAS #</th>
<th>EXPOSURE LIMITS IN AIR</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>ACGIH-TLVs</td>
<td>OSHA-PELs</td>
<td>NIOSH-RELs</td>
<td>NIOSH</td>
<td>OTHER</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA mg/m³</td>
<td>STEL mg/m³</td>
<td>TWA mg/m³</td>
<td>STEL mg/m³</td>
<td>TWA mg/m³</td>
</tr>
<tr>
<td>Proprietary Mineral Wool Fiber</td>
<td>10 NE</td>
<td>15 (total dust); 10 (vacated 1989 PEL)</td>
<td>NE</td>
<td>5 (total mineral wool dust, or 3 fibers &lt; 3.5 um diameter; ≥ 10 um length)</td>
<td>NE</td>
<td>5000 (Ca)</td>
</tr>
<tr>
<td>Synthetic Vitreous Fibers</td>
<td>1 f/cc</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
</tr>
<tr>
<td>Proprietary Phenolic Formaldehyde Resin</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
</tr>
</tbody>
</table>

NE = Not Established. See Section 16 for Definitions of Other Terms Used

International Occupational Exposure Limits: Currently, the following additional exposure limit values have been established by various countries for the components of this mixture. More current limits may be available; individual countries should be consulted to determine if newer limits are available.

MINERAL WOOL FIBERS:
Mexico: TWA 10 mg/m³ (dust), 2004


Respiratory Protection: Maintain airborne contaminant concentrations below exposure limits listed above. For materials without listed exposure limits, minimize respiratory exposure. If necessary, use only respiratory protection authorized under appropriate regulations. The following are NIOSH Respiratory Protective Equipment Guidelines for the Mineral Wool Fiber component to aid in selection of respiratory equipment in event of release of fibers.

MINERAL WOOL FIBERS
CONCENTRATION RESPIRATORY PROTECTION
5X REL: Qm 10X REL: 95XQ Any supplied-air respirator (SAR).
25X REL: Sa:Cf Any Powered Air-Purifying Respirator (PAPR) with a high-efficiency particulate filter.
50X REL: 100F PAPR with a tight-fitting facepiece and a high-efficiency particulate filter, or any Self-Contained Breathing Apparatus (SCBA) with a full facepiece, or any SAR with a full facepiece.
Emergency or planned entry into unknown concentrations or IDLH conditions: Any SCBA that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode, or any SAR that has a full-facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary SCBA operated in pressure-demand or other positive-pressure mode.
Escape: Any Air-Purifying, Full-Facepiece Respirator with an N100, R100, or P100 filter.

Eye Protection: Wear splash goggles or safety glasses as appropriate for the task.

Hand Protection: Wash hands and wrists before putting on and after removing gloves. During manufacture or other similar operations, wear the appropriate hand protection for the process. Use double gloves for spill response, as stated in Section 6 (Accidental Release Measures) of this SDS. Because all gloves are to some extent permeable and their permeability increases with time, they should be changed regularly (hourly is preferable) or immediately if torn or punctured. If necessary refer to appropriate regulations.

Skin Protection: Use appropriate protective clothing for the task (e.g., lab coat, etc.). If necessary, refer to the U.S. OSHA Technical Manual (Section VII: Personal Protective Equipment) or other appropriate regulations. Full-body chemical protective clothing is recommended for emergency response procedures. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee’s feet may be exposed to electrical hazards, use foot protection, as described in U.S. OSHA and Canadian Standards.
9. PHYSICAL and CHEMICAL PROPERTIES

FORM: Fibrous Batt or Board
COLOR: Grey-Yellow
MOLECULAR FORMULA: Mixture
COLOR: Grey-Yellow
ODOR: Mild resin
MOLECULAR WEIGHT: Mixture
ODOR THRESHOLD: Not available
DECOMPOSITION TEMPERATURE: Not available
OXIDIZING PROPERTIES: Not applicable
AUTOIGNITION TEMPERATURE: Not available
PERCENT VOLATILE: Zero
DECOMPOSITION TEMPERATURE: Not available
FLASH POINT: Not applicable
VAPOR PRESSURE: Not applicable
BOILING POINT: Not applicable
VAPOR DENSITY (air = 1): Not applicable
SPECIFIC GRAVITY (water = 1): Not available
SOLUBILITY IN WATER: Dissolves when wet; insoluble when cured
CARB VOC: Not applicable
SOLUBILITY IN SOLVENTS: Not available
EVAPORATION RATE (n-BuAc = 1): Not applicable
SOLUBILITY IN SOLVENTS: Not available
SPECIFIC GRAVITY: Not available
VAPOR DENSITY: Not applicable
VAPOR PRESSURE: Not applicable
HOW TO DETECT THIS SUBSTANCE (warning properties in event of accidental release): The appearance may be a
characteristic to distinguish a release of this product.

10. STABILITY and REACTIVITY

CHEMICAL STABILITY: This product is stable when properly stored at normal temperature and pressures (see Section
7, Handling and Storage).

DECOMPOSITION PRODUCTS: Combustion: If exposed to extremely high temperatures, thermal decomposition may
generate irritating fumes and toxic gases (e.g., carbon, silicon or nitrogen oxides, ammonia, phenols and formaldehyde).
Hydrolysis: None known.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: This product is incompatible with strong oxidizers.

POSSIBILITY OF HAZARDOUS POLYMERIZATION OR REACTION: Will not occur.

CONDITIONS TO AVOID: Avoid exposure to or contact with extreme temperatures and incompatible chemicals.

11. TOXICOLOGICAL INFORMATION

SYMPTOMS OF EXPOSURE BY ROUTE OF EXPOSURE: The health
hazard information provided below is pertinent to employees using this
product in an occupational setting. The following paragraphs describe the
symptoms of exposure by route of exposure.

Inhalation: Although unlikely due to the form of the product, inhalation of particles
can cause irritation to the respiratory system. Chronic inhalation of Mineral Wool
fibers can cause damage to the lungs. The Mineral Wool component is a suspect
carcinogen by inhalation. Due to the form of this product, this hazard is lessened;
however, all inhalation exposure must be avoided in order to mitigate
carcinogenic potential.

Contact with Skin or Eyes: Direct eye contact with particulates may cause irritation,
redness, and tearing from mechanical irritation. Skin contact with the Mineral
Wool may cause mechanical irritation of the skin.

Skin Absorption: Components are not known to be absorbed through intact skin.

Ingestion: Ingestion is not a significant route of occupational exposure and is
unlikely to occur.

Injection: Accidental injection of this product, via laceration or puncture by a
contaminated object can cause redness at the site of injection.

HEALTH EFFECTS OR RISKS FROM EXPOSURE: Exposure to this
product may cause the following health effects:

Acute: Inhalation of particulates may cause irritation of respiratory system. Eye
contact may cause mechanical irritation.

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM

HEALTH HAZARD (BLUE) 2*

FLAMMABILITY HAZARD (RED) 0

PHYSICAL HAZARD (YELLOW) 0

PROTECTIVE EQUIPMENT

For Routine Industrial Use and Handling Applications

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate
3 = Serious 4 = Severe * = Chronic hazard
11. TOXICOLOGICAL INFORMATION (Continued)

HEALTH EFFECTS OR RISKS FROM EXPOSURE (continued):

Chronic: Prolonged or repeated skin exposure may cause dermatitis (dry red skin). The Mineral Wool component is a suspect human carcinogen by inhalation.

TARGET ORGANS: Acute: Eyes, respiratory system. Chronic: Respiratory system.

TOXICITY DATA: Currently, the following toxicological data are available for components of 1% or more concentration.

PROPRIETARY PHENOLIC FORMALDEHYDE RESIN:
LD₅₀ (Oral-Rat) 7 gm/kg: Autonomic Nervous System: other (direct) parasympathomimetic; Behavioral: muscle weakness; Lungs, Thorax, or Respiration: respiratory depression
LD₅₀ (Oral-Mouse) 7 gm/kg: Autonomic Nervous System: other (direct) parasympathomimetic; Behavioral: muscle weakness; Lungs, Thorax, or Respiration: respiratory depression
MINERAL WOOL FIBER:
LD (Intrastracheal-Mouse) > 20 mg/kg: Lungs, Thorax, or Respiration: other changes; Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: phosphatases
TCLo (Inhalation-Rat) 16 mg/m³/6 hours/13 weeks-intermittent: Lungs, Thorax, or Respiration: other changes
TCLo (Inhalation-Rat) 5 mg/m³/7 hours/90 weeks-intermittent: Tumorogenic: carcinogenic by RTECS criteria; Blood: leukemia
TCLo (Inhalation-Hamster) 30 mg/m³/6 hours/13 weeks-intermittent: Lungs, Thorax, or Respiration: other changes; Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: dehydrogenases
TCLo (Inhalation-Hamster) 30 mg/m³/6 hours/78 weeks-intermittent: Lungs, Thorax, or Respiration: other changes
TDL0 (Intrapleural-Rat) 50 mg/kg: Tumorogenic: equivocal tumorogenic agent by RTECS criteria; Gastrointestinal: tumors

IRRITANCY OF PRODUCT: Particles from this product may cause irritation by inhalation or eye contact.

SENSITIZATION OF PRODUCT: Although the resin component is a suspect skin sensitizer, this product is not expected to cause this adverse effect.

CARCINOGENIC POTENTIAL OF COMPONENTS: Components of this product are listed by agencies tracking the carcinogenic potential of chemical compounds, as follows:

MINERAL WOOL FIBER (as synthetic vitreous fibers): ACGIH TLV-A3 (Confirmed Animal Carcinogen); IARC-3 (Unclassifiable as to Carcinogenicity in Humans); NIOSH-Ca (Potential Occupational Carcinogen, with No Further Categorization); MAK-3B (Substances for Which In Vitro tests or animal studies have yielded evidence of carcinogenic effects that is not sufficient for classification in one of the other categories. Further studies are required before a final classification can be made.)

The remaining components are not found on the following lists: U.S. EPA, U.S. NTP, U.S. OSHA, U.S. NIOSH, GERMAN MAK, IARC, or ACGIH and therefore is neither considered to be nor suspected to be a cancer-causing agent by these agencies.

REPRODUCTIVE TOXICITY INFORMATION: Components of this product have no reported mutagenic, embryotoxic, teratogenic or reproductive toxicity.

ACGIH BIOLOGICAL EXPOSURE INDICES (BEIs): Currently, there are no ACGIH Biological Exposure Indices (BEIs) determined for this material.

DEGREE OF EFFECT TO THE HEALTH OF THE POLLUTING AGENT OF ENVIRONMENT OF WORK (per Mexican NOM-010 STPS-1999): 0

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

MOBILITY: This product has not been tested for mobility in soil.

PERSISTENCE AND BIODEGRADABILITY: This product has not been tested for persistence or biodegradability.

BIO-ACCUMULATION POTENTIAL: This product has not been tested for bio-accumulation potential.

ECOTOXICITY: This product has not been tested for aquatic or animal toxicity. All releases to terrestrial, atmospheric and aquatic environments should be avoided. No aquatic toxicity data are available for components.

OTHER ADVERSE EFFECTS: This material is not listed as having ozone depletion potential.

ENVIRONMENTAL EXPOSURE CONTROLS: Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS: It is the responsibility of the generator to determine at the time of disposal whether the product meets the criteria of a hazardous waste per regulations of the area in which the waste is generated and/or disposed of. Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority. Shipment of wastes must be done with appropriately permitted and registered transporters.

DISPOSAL CONTAINERS: Waste materials must be placed in and shipped in appropriate 5-gallon or 55-gallon poly or metal waste pails or drums. Permeable cardboard containers are not appropriate and should not be used. Ensure that any required marking or labeling of the containers be done to all applicable regulations.

PRECAUTIONS TO BE FOLLOWED DURING WASTE HANDLING: Wear proper protective equipment when handling waste materials.

U.S. EPA WASTE NUMBER: Not applicable.
14. TRANSPORTATION INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION REGULATIONS: This product is not classified as dangerous goods, per U.S. DOT regulations, under 49 CFR 172.101.

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is not classified as Dangerous Goods, per regulations of Transport Canada.

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA): This product is not classified as dangerous goods under rules of IATA.

INTERNATIONAL MARITIME ORGANIZATION (IMO) DESIGNATION: This product is not classified as Dangerous Goods by the International Maritime Organization.

OFFICIAL MEXICAN STANDARD; REGULATION FOR THE TRANSPORT OF DANGEROUS GOODS AND RESIDUES: This product is not classified as Dangerous Goods, per transport regulations of Mexico.

SINGAPORE STANDARD 286; PART A: This product has no requirements under the Specification for Caution Labeling for Hazardous Substances, Part 4: Marking of Packages, Containers and Vehicles, as it does not meet the criteria for any hazard class under this regulation.

TRANSPORT IN BULK ACCORDING TO THE IBC CODE: See the information under the individual jurisdiction listings for IBC information.

ENVIRONMENTAL HAZARDS: This material does not meet the criteria of environmentally hazardous according to the criteria of the UN Model Regulations (as reflected in the IMDG Code, ADR, RID, and ADN) and is not listed in Annex III under MARPOL 73/78.

15. REGULATORY INFORMATION

UNITED STATES REGULATIONS:

U.S. SARA Reporting Requirements: This product is not subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.

U.S. SARA Hazard Categories (Section 311/312, 40 CFR 370-21): ACUTE: No; CHRONIC: Yes; FIRE: No; REACTIVE: No; SUDDEN RELEASE: No

U.S. SARA Threshold Planning Quantity (TPQ): There are no specific Threshold Planning Quantities for components. The default Federal SDS submission and inventory requirement filing threshold of 10,000 lb (4,540 kg) may apply, per 40 CFR 370.20.

U.S. CERCLA Reportable Quantity (RQ): Not applicable.

U.S. TSCA Inventory Status: Components of this product are listed on the TSCA Inventory.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): The Mineral Wool component (Listed as Glass Wool Fiber) is on the California Proposition 65 lists. WARNING! This product contains a compound known to the State of California to cause cancer.

CANADIAN REGULATIONS:

Canadian DSL/NDSL Inventory Status: Components are on the DSL or NDSL Inventories.

Canadian Environmental Protection Act (CEPA) Priorities Substances Lists: Components are not on the CEPA Priorities Substances Lists.

Canadian WHMIS Classification and Symbols: This product would be categorized as a Controlled Product, D2B (Other Toxic Effects-Potential Carcinogenic Effect, Imitation) as per the Controlled Product Regulations.

CHINESE REGULATIONS:

Chinese Inventory of Existing Chemical Substances Status: Components listed by CAS# are listed on the Chinese Inventory of Existing Chemical Substances (IECSC).

JAPANESE REGULATIONS:

Japanese ENCS: Components listed by CAS# are on the ENCS Inventory or are exempted.

Japanese Ministry of Economy, Trade, and Industry (METI) Status: Components are not listed as Class I Specified Chemical Substances, Class II Specified Chemical Substances, or Designated Chemical Substances by the Japanese METI.

Poisonous and Deleterious Substances Control Law: Components are not listed as a Specified Poisonous Substance under the Poisonous and Deleterious Substances Control Law.

KOREAN REGULATIONS:

Korean Existing Chemicals List (ECL) Status: Components listed by CAS# are listed on the Korean ECL Inventory.

MEXICAN REGULATIONS:

Mexican Workplace Regulations (NOM-018-STPS-2000): This product is classified as hazardous.

SINGAPORE REGULATIONS:

List of Controlled Hazardous Substances: Components listed by CAS# are not listed on the Singapore List of Controlled Substances.

Code of Practice On Pollution Control Requirements: The components identified by CAS# in Section 2 (Composition and Information on Ingredients) NOT are subject to the requirements under the Singapore Code of Practice on Pollution Control.

TAIWANESE REGULATIONS:

Taiwan Existing Chemical Substances Inventory Status: Currently, it cannot be determined if components are listed on the Taiwan Existing Chemicals List.
DEFINITION OF TERMS

A large number of abbreviations and acronyms appear on a SDS. Some of these, which are commonly used, include the following:

CAS #: This is the Chemical Abstract Service Number that uniquely identifies each constituent.

EXPOSURE LIMITS IN CELING: The concentration that shall not be exceeded during any part of the working exposure.

DGF MAKs: Federal Republic of Germany Maximum Concentration Values in the workplace. Exposure limits are given as TWA (Time-Weighted Average) or PEAK (short-term exposure) values.

DGF MAK Germ Cell Mutagen Categories: 1: Germ cell mutants that have been shown to increase the mutation frequency in the progeny of exposed humans. 2: Germ cell mutants that have been shown to increase the mutation frequency in the progeny of exposed mammals. 3A: Substances that have been shown to induce genetic damage in germ cells of human or animals, or which produce mutagenic effects in mammalian somatic cell in vivo. In exceptional cases, substances for which there is no in vivo data, but that are clearly mutagenic in vitro and structurally related to known in vivo mutagens. 4: Not applicable (Category 4 carcinogenic substances are those whose carcinogenic mechanism of action is not known. Therefore, a Category 4 for germ cell mutants cannot apply. At some time in the future, it is conceivable that a Category 4 could be established for genotoxic substances with primary targets other than DNA [e.g., purely aneugenic substances] if research results make this seem sensible.) 8: Germ cell mutants, the potency of which is considered to be so low that, provided the MAK value is observed, their contribution to genetic risk for humans is expected not to be significant.

DGF MAK Pregnancy Risk Group Classification: Group A: A risk of damage to the developing embryo or fetus has been unequivocally demonstrated. Exposure of pregnant women can lead to damage to the developing embryo or fetus. Group B: Currently available information indicates a risk of damage to the developing embryo or fetus must be considered to be probable. Damage to the developing organism cannot be excluded when pregnant women are exposed, even when MAK and BAT values are observed. Group C: There is no reason to fear a risk of damage to the developing embryo or fetus when MAK and BAT values are observed. Group D: Classification in one of the groups A–C is not possible through the available data and it cannot be assumed that a trend deviation exists.

IDLH: Immediately Dangerous to Life and Health. This level represents a concentration from which one can escape without suffering escape-preventing or permanent injury.

LOQ: Limit of Quantitation.

NE: Not Established. When no exposure guidelines are established, an entry of NE is made for reference.

NIC: Notice of Intended Change.

NIOSH Ceiling: The exposure that shall not be exceeded during any part of the workday. If instantaneous monitoring is not feasible, the ceiling shall be assumed as a 15-minute TWA exposure (unless otherwise specified) that shall not be exceeded at any time during a workday.

NIOSH RELs: NIOSH’s Recommended Exposure Limits.

PEL: OSHA’s Permissible Exposure Limits. This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1990 Air Contaminants (Federal Register: 58: 35338-35351 and 58: 40181). Both the current PELs and the vacated PELs are indicated. The phrase, “Vacated 1989 PEL” is placed next to the PEL that was vacated by Court Order.

SKIN: Under certain there is a danger of cutaneous absorption.

STEL: Short Term Exposure Limit, usually a 15-minute time-weighted average (TWA) exposure that should not be exceeded at any time during a workday, even if the 8-hr TWA is within the TLV-TWA, PEL-TWA or REL-TWA.

TLV: Threshold Limit Value. An airborne concentration of a substance that represents conditions under which it is generally believed that nearly all persons may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour.

TWA: Time Weighted Average exposure concentration for a conventional 8-hr (TLV, PEL) or up to a 10-hr (REL) workday and a 40-hr workweek.

WEEL: Workplace Environmental Exposure Limits from the AIHA.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS:

Health Hazard: Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and that will burn readily. This usually includes the following: Materials that will burn in air when exposed to a temperature of 815.5°C (1500°F) for a period of 5 minutes or less; Liquids, solids and semisolids having a flash point at or below 93.3°C (200°F) (i.e. OSHA Class IIIB; and Most ordinary combustible materials (e.g. wood, paper, etc.)) 2 Moderate Hazard: Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree will not, under normal conditions, form hazardous atmospheres in air, but under high ambient temperatures or moderate heating may release vapor in sufficient quantities to produce an atmosphere that is flammable. This usually includes the following: Liquids having a flash-point at or above 37.8°C (100°F); Solid materials in the form of course dusts that may burn rapidly but that generally do not form explosive atmospheres.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS:

Health Hazard: (continued): Solid materials in a fibrous or shredded form that may burn rapidly and create flash fire hazards (e.g. cotton, sisal, hemp); and Solids and semisolids (e.g. viscous and slow flowing as asphalt) that readily give off flammable vapors. 3 Slight Hazard: Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with mild almost all ambient temperatures, or, unaffected by ambient temperature, are readily ignited under almost all conditions. This usually includes the following: Materials that have a flash point below 22.8°C (73°F) (i.e. having a boiling point at or above 22.8°C (73°F) and below 37.8°C (100°F) (i.e. OSHA Class IB and IC); Materials that on account of their physical form or environmental conditions can form explosive mixtures with air and are readily dispersed in air (e.g., dusts of combustible materials or solid Materials that bum extremely rapidly, usually by reason of self-contained oxygen (e.g., dry nitrocellulose and many organic peroxides)); 4 Severely Hazard: Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air, and that will burn readily. This usually includes the following: Flammable gases; Flammable cryogenic materials; Any liquid or gaseous material that is liquid while under pressure and has a flash point below 22.8°C (73°F) and a boiling point below 37.8°C (100°F) (e.g. Class IA and IC); and Materials that will ignite spontaneously when exposed to air at a temperature of 54.4°C (130°F) or below (pyrophoric).

Physical Hazard: 1 Water Reactivity: Materials that do not react with water. Organic Peroxides: Materials that are normally stable, even under fire conditions and will not react with water. Explosives: Substances that are Non-Explosive. Compressed Gases: No Rating. Pyrophorics: No Rating. Oxidizers: No rating. Unstable Reactives: Substances that will not polymerize, decompose, disproportionate (or react explosively) 1 Water Reactivity. Materials that may ignite spontaneously or decompose upon exposure to moisture. Organic Peroxides: Materials that are normally stable, but can become unstable at high temperatures and pressures. These materials may react with water, but will not release energy violently. Explosives: Division 1.5 & 1.6 explosives. Substances that are very insensitive explosives or that do not have a mass explosion hazard. Compressed Gases: Pressure below OSHA definition. Pyrophorics: No Rating. Oxidizers: Packaging Group III oxidizers; Solids: any material that in either condition or test, exhibits a mean burning time of less than or equal to the mean burning time of a 3.7 potassium bromate/cellulose mixture and the criteria for Packing Group I and II are not met. Water Reactivity: Materials that may decompose condense, or self-react, but only under conditions of high temperature and/or pressure and have little or no potential to cause significant heat generation. Unstable Reactives: Substances that do not meet the above descriptions in the absence of ignition. 2 Water Reactivity: Materials that may react violently with water. Organic Peroxides: Materials that, in themselves, are normally stable and will only react under violent chemical change, but will not detonate. These materials may also react violently with water. Explosives: Division 1.4 explosives. Substances that are less hazardous than those defined to the package and no projection of fragments of appreciable size or range are expected. An external fire must not result in a virtually instantaneous explosion of almost entire contents of the package. Compressed Gases: Pressurized and meet OSHA definition but < 514.7 psi absolute at 21.1°C (70°F). [500 psig]. Pyrophorics: No Rating. Oxidizers: Packaging Group II oxidizers. Solids: any material that, either in concentrated test, exhibits a mean burning time of less than or equal to the mean burning time of a 3.7 potassium bromate/cellulose mixture and the criteria for Packing Group I and II are not met. Water Reactivity: Materials that may decompose condense, or self-react, but only under conditions of high temperature and/or pressure and have little or no potential to cause significant heat generation. Unstable Reactives: Substances that do not meet the above descriptions in the absence of ignition. 2 Water Reactivity: Materials that may react violently with water. Organic Peroxides: Materials that, in themselves, are normally stable and will only react under violent chemical change, but will not detonate. These materials may also react violently with water. Explosives: Division 1.4 explosives. Substances that are less hazardous than those defined to the package and no projection of fragments of appreciable size or range are expected. An external fire must not result in a virtually instantaneous explosion of almost entire contents of the package. Compressed Gases: Pressurized and meet OSHA definition but < 514.7 psi absolute at 21.1°C (70°F). [500 psig]. Pyrophorics: No Rating. Oxidizers: Packaging Group II oxidizers. Solids: any material that, either in concentrated test, exhibits a mean burning time of less than or equal to the mean burning time of a 3.7 potassium bromate/cellulose mixture and the criteria for Packing Group I and II are not met.
DEFINITION OF TERMS (Continued)

time of a 2.3 potassium bromate/cellulose mixture and the criteria for Exposure Group I are not met. Liquids: any material that exhibits a mean pressure rise time less than or equal to the pressure rise of a 1:1 aqueous sodium chloride solution (40% by volume of trinitrotoluene in water, water or alcohol) or 40% trinitrotoluene in alcohol, respectively. Materials that are primary skin irritants or sensitizers. Materials whose LD50 for acute oral toxicity is greater than 50 mg/kg but less than or equal to 500 mg/kg. Materials that, under emergency conditions, can cause serious or permanent injury. Gases with an LC50 for acute inhalation toxicity greater than 10,000 ppm. Dusts and mists with an LC50 for acute inhalation toxicity greater than 200 mg/L. Materials with an LC50 for acute dermal toxicity greater than 2000 mg/kg. Materials with an LD50 for acute oral toxicity greater than 2000 mg/kg. Materials essentially non-intoxicating to the respiratory tract, eyes, and skin. Materials that, under emergency conditions, can cause significant irritation or burns and with an LC50 for acute inhalation toxicity greater than 5000 ppm but less than or equal to 10,000 ppm. Dusts and mists with an LC50 for acute inhalation toxicity greater than 100 mg/L but less than or equal to 200 mg/L. Materials with an LC50 for acute dermal toxicity greater than 1000 mg/kg but less than or equal to 2000 mg/kg. Materials that slightly to moderately irritate the respiratory tract, eyes, and skin. Materials with an LC50 for acute oral toxicity greater than 500 mg/kg but less than or equal to 2000 mg/kg. Materials that, under emergency conditions, can be lethal. Gases with an LC50 for acute inhalation toxicity less than or equal to 10,000 ppm. Dusts and mists with an LC50 for acute inhalation toxicity greater than 2 mg/L but less than or equal to 10 mg/L. Materials with an LC50 for acute dermal toxicity greater than 2000 mg/kg but less than or equal to 10000 mg/kg. Compressed liquefied gases with boiling points between -30°C (-22°F) and -35°C (-3°F) that cause severe tissue damage, depending on duration of exposure. Material that are respirator irritants. Materials that cause severe, but reversible irritation to the eyes or are lacrimators. NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGs:

HEALTH HAZARD (continued): 3 (continued): Materials that are primary skin irritants or sensitizers. Materials whose LC50 for acute inhalation toxicity is less than or equal to 1,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than ten times its LC50 for acute inhalation toxicity, if its LC50 is less than or equal to 4 mg/L. Materials that must be preheated before ignition can occur. Materials in this category would not under normal conditions form a hazardous atmosphere with air, but under high temperature conditions or high humidity, vapor pressure can be generated sufficiently to produce hazardous atmospheres with air. Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and will burn readily. Flammable gases. Flammable oxygenic materials. Any liquid or gaseous materials that is liquid while under pressure and has a flash point below 22.8°C (73°F) and a boiling point below 73.8°C (164°F) (i.e., Class IA liquids).

EFFECTIVE DATE: JANUARY 30, 2017