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

TRADE/MATERIAL NAME: SpecSeal® Firestop Pillows
CHEMICAL NAMES: Fire-Resistant Coated Mineral Wool Batts Packaged in Plastic
SYNONYMS: None
RELEVANT USE of the SUBSTANCE: Fire Barrier
USES ADVISED AGAINST: Other than Relevant Use

SUPPLIER/MANUFACTURER’S NAME (USA/Canada):
Specified Technologies, Inc.
210 Evans Way,
Somerville, New Jersey 08876
(908) 526-8000 (8:00am to 5:00pm Eastern Standard Time)
U.S., Canada: 1-800-255-3924 (24 hrs)
International: +1-813-248-0585 (Collect-24 hrs)

SUPPLIER/IMPORTER’S NAME (Asia): Specified Technologies, Inc.

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 Cat. 2, Eye Irritation Cat. 2A, STOT (Inhalation-Respiratory Irritation) SE Cat. 3

Signal Word: Warning
Hazard Statement Codes: H351, H319, H335
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.

EMERGENCY OVERVIEW: Product Description: This product consists of a mineral wool core with encapsulated fire resistant coating packaged in a sealed poly bag. The coating is a layer acrylic adhesive, a layer of graphite and a second layer of adhesive. Health Hazards: This product does not normally present an exposure hazard. If the encapsulation bag is broken, exposure to particles of the mineral wool may result in mechanical eye irritation and respiratory irritation. Long-term inhalation of glass wool fibers can cause damage to the lungs. The Mineral Wool component is a suspect carcinogen by inhalation (as synthetic vitreous glass wool fibers). Flammability Hazards: This product is formulated to be non-flammable and non-combustible. If involved in a fire, this product will release smoke, acrid vapor and toxic gases (e.g., ammonia, carbon, silicon, nitrogen oxides, formaldehyde, phenol and acrylic monomers). Reactivity Hazards: This product is not reactive. Environmental Hazards: This product has not been tested for potential hazards if released to the environment; however the Proprietary Benzoate Esters component may cause acute and chronic harm to aquatic organisms. All release should be avoided. Emergency Considerations: Emergency responders should wear appropriate protection for the situation to which they respond.

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>
</tr>
</thead>
<tbody>
<tr>
<td>Expandable Graphite Flakes</td>
<td>7782-42-5</td>
<td>Listed</td>
<td>Exempted as a Mineral</td>
<td>KE-18101</td>
<td>Proprietary</td>
<td></td>
<td>GHS &amp; JAPANESE JIS Z7253 Classification</td>
</tr>
<tr>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>GHS &amp; JAPANESE JIS Z7253, KOREAN ISHA</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Classification: Eye Irritation Cat. 2A, STOT (Inhalation-Respiratory Irritation) SE Cat. 3 Hazard Codes: H320, H335</td>
</tr>
<tr>
<td>Mineral Wool</td>
<td>65907-17-3</td>
<td>Listed</td>
<td>Not Listed</td>
<td>KE-17630</td>
<td>Proprietary</td>
<td></td>
<td>GHS &amp; JAPANESE JIS Z7253, KOREAN ISHA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Classification: Eye Irritation Cat. 2A, STOT (Inhalation-Respiratory Irritation) SE Cat. 3 Hazard Codes: H320, H335</td>
</tr>
</tbody>
</table>

See Section 16 for full text of Classification
### 4. FIRST-AID MEASURES

**DESCRIPTION OF FIRST AID MEASURES:** Contaminated individuals must be taken for medical attention if any adverse effects occur. Remove contaminated clothing and shoes. Take a copy of this SDS to health professional with victim. Wash clothing and thoroughly clean shoes before reuse. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Take a copy of label and SDS to physician or health professional with the contaminated individual.

**Skin Exposure:** If adverse skin effects occur, discontinue use and flush contaminated area. Seek medical attention if adverse effect occurs after flushing.

**Inhalation:** If fumes or vapors are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Seek medical attention if adverse effect continues after removal to fresh air.

**Eye Exposure:** If this product contaminates the eyes, rinse eyes under gently running water. Use sufficient force to open eyelids and then "roll" eyes while flushing. Minimum flushing is for 20 minutes. The contaminated individual must seek medical attention if any adverse effect continues after rinsing.

**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. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow. If victim is convulsing, maintain an open airway and obtain immediate medical attention.

**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 formulated to be non-flammable and non-combustible. When involved in a fire, this material may decompose and produce irritating vapors and toxic gases (e.g., ammonia, carbon, silicon, nitrogen oxides, formaldehyde, phenol and acrylic monomers). Explosion Sensitivity to Mechanical Impact: Not sensitive. Explosion Sensitivity to Static Discharge: Not sensitive.

**SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS:** Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus (SCBA) and full protective equipment. Chemical resistant clothing may be necessary. Move containers from fire area if it can be done without risk to personnel. Water spray can be used to cool fire-exposed containers. Water fog or spray can also be used by trained firefighters to disperse this product’s vapors and to protect personnel. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

### 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). The atmosphere must be at least 19.5 percent Oxygen before non-emergency personnel can be allowed in the area without Self-Contained Breathing Apparatus and fire protection.

**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, and Tyvek suit. Minimum level of personal protective equipment for releases in which the level of oxygen is less than 19.5% or is unknown must be Level B: triple-gloves (rubber gloves and nitrile gloves over latex gloves), boots, Tyvek or similar protective clothing, hard hat, and Self-Contained Breathing Apparatus.

**METHODS FOR CLEAN-UP AND CONTAINMENT:** Spills of this product present minimal hazard.

**Small Spills:** Small releases of the mineral wool can be carefully swept up or cleaned up using a damp sponge or poly pads.
6. ACCIDENTAL RELEASE MEASURES (Continued)

METHODS FOR CLEAN-UP AND CONTAINMENT (continued):
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. Decontaminate the area thoroughly. 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 fumes or vapors 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.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). Make certain that application equipment is locked and tagged-out safely, if necessary. Collect all rinsates and dispose of according to applicable Federal, State, and local procedures.

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>ACGIH-TLVs</th>
<th>OSHA-PELs</th>
<th>NIOSH-RELs</th>
<th>NIOSH</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<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>
<td>STEL mg/m³</td>
</tr>
<tr>
<td>Expandable Graphite Flakes</td>
<td>7782-42-5</td>
<td>2 (resp. fract.)</td>
<td>NE</td>
<td>15 mpcf</td>
<td>2.5 (resp. dust)</td>
<td>NE</td>
<td>NE</td>
</tr>
<tr>
<td>Mineral Wool Fiber</td>
<td>65997-17-3</td>
<td>10</td>
<td>NE</td>
<td>15 (total dust); 10 (vacated 1989 PEL)</td>
<td>NE</td>
<td>5 (total mineral wool dust, or 3 fcc TWA (fibers &lt; 3.5 um diameter; ≥ 10 um length))</td>
<td>NE</td>
</tr>
<tr>
<td>Synthetic Vitreous Fibers</td>
<td>1 fcc^(1/3)</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>Carcinogen: IARC-3, MAK-3B, TLV-A3</td>
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<tr>
<td>Proprietary Acrylic Polymer</td>
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<td>NE</td>
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</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.

GRAPHITE:
Belgium: TWA = 2 mg/m³ (resp. dust), MAR 2002
Denmark: TWA = 2.5 mg/m³ (respirable), MAY 2011
Finland: TWA = 2 mg/m³, NOV 2011
France: VME = 2 mg/m³, FEB 2006
Germany: MAK = 1.5 mg/m³, resp. 2011
Germany: MAK = 4 mg/m³, inh. 2011
Iceland: TWA = 2.5 mg/m³ (resp. dust), NOV 2011
Japan: OEL = 0.5 mg/m³ (respirable), 2 mg/m³ (total), MAY 2012
Korea: TWA = 10 mg/m³, 2006
Korea: TWA = 2.5 mg/m³, 2006

GRAPHITE (continued):
Mexico: TWA = 2 mg/m³, 2004
The Netherlands: MAC-TGG = 2 mg/m³, 2003
New Zealand: TWA = 3 mg/m³ (respirable dust), JAN 2002
Peru: TWA = 2 mg/m³, JUL 2005
Sweden: TWA = 0.2 fcc, JUN 2005
Sweden: TWA = 5 mg/m³, JUN 2005
Switzerland: MAK-W = 5 mg/m³, inh, JAN 2011
Switzerland: MAK-W = 2.5 mg/m³, resp, JAN 2011
In Argentina, Bulgaria, Colombia, Jordan, Singapore, Vietnam check ACGIH TLV

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

8. EXPOSURE CONTROLS - PERSONAL PROTECTION (Continued)

PROTECTIVE EQUIPMENT (continued):

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. Oxygen levels below 19.5% are considered IDLH by U.S. OSHA. In such atmospheres, use of a full-facepiece pressure-demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under U.S. OSHA’s Respiratory Protection Standard (1910.134-1998). 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:Cl 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.
50X REL: 100F 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: As described in Section 2. COLOR: As described in Section 2.
MOLECULAR FORMULA: Mixture. MOLECULAR WEIGHT: Mixture.
ODOR: Mild acrylic. ODOR THRESHOLD: Not available.
FLAMMABLE LIMITS (in air by volume, %): Not applicable. OXIDIZING PROPERTIES: Not applicable.
DECOMPOSITION TEMPERATURE: Not available. PERCENT VOLATILE: 24
AUTOIGNITION TEMPERATURE: Not available. FLASH POINT: Not available.
FREEZING/MELTING POINT: Not applicable. BOILING POINT: Not applicable.
VAPOR PRESSURE: Not applicable. SPECIFIC GRAVITY (water = 1): 0.1
VAPOR DENSITY (air = 1): Not applicable. CARB VOC: Not applicable.
EVAPORATION RATE (n-BuAc = 1): Not applicable. SCAQMD (U.S. EPA Method 24): Not applicable.
SOLUBILITY IN WATER: Dissolves when wet; insoluble when cured. SOLUBILITY IN SOLVENTS: Not available.
COEFFICIENT WATER/OIL DISTRIBUTION: Not established. pH: Not applicable.
HOW TO DETECT THIS SUBSTANCE (warning properties in event of accidental release): The appearance may be characteristics 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., ammonia, carbon, silicon, nitrogen oxides, formaldehyde, phenol and acrylic monomers). Hydrolisis: 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 is not likely unless the polypad is torn and particulates are breathed. In this event, 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.
11. TOXICOLOGICAL INFORMATION (Continued)

SYMPTOMS OF EXPOSURE BY ROUTE OF EXPOSURE (continued):

Ingestion: Ingestion is not a significant route of occupational exposure and is unlikely to occur. If this product is swallowed, irritation of the mouth, throat, esophagus and other tissues of the digestive system may occur. Blockage of the digestive system may occur.

Injection: Accidental injection of this product, via laceration or puncture by a contaminated object can cause redness at the site of injection. Animal data for the Crystalline Silica component indicate that it may cause carcinogenic effects by this route of exposure.

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in Lay Terms. 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.

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.

MINERAL WOOL FIBER:

LD (Intratracheal-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/m^3/6 hours/13 weeks-intermittent: Lungs, Thorax, or Respiration: other changes.

TCLo (Inhalation-Rat) 5 mg/m^3/7 hours/90 weeks-intermittent: Tumorigenic: carcinogenic by RTECS criteria; Blood: leukemia.

TCLo (Inhalation-Hamster) 30 mg/m^3/6 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) 5 mg/m^3/7 hours/90 weeks-intermittent: Tumorigenic: carcinogenic by RTECS criteria; Blood: leukemia.

TCLo (Intraperitoneal-Rat) 50 mg/kg: Tumorigenic: equivocal tumorigenic agent by RTECS criteria; Gastrointestinal: tumors.

TCLo (Intraperitoneal-Hamster) 400 mg/kg: Tumorigenic: equivocal tumorigenic agent by RTECS criteria; Gastrointestinal: tumors.

TDLo (Intraplantar-Rabbit) 25 mg/kg: Tumorigenic: equivocal tumorigenic agent by RTECS criteria; Gastrointestinal: tumors.

TDLo (Intratracheal-Hamster) 125 mg/kg/5 weeks-intermittent: Tumorigenic: equivocal tumorigenic agent by RTECS criteria; Lungs, Thorax, or Respiration: tumors.

IRRITANCY OF PRODUCT: If particulates from the Mineral Wool component escape the poly bag, inhalation or eye contact may cause irritation.

SENSITIZATION OF PRODUCT: This product is not currently known to cause allergic skin or respiratory reaction.

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

CRYS TALLINE SILICA: ACGIH-TLV-A2 (Suspected Human Carcinogen); IARC-1 (Carcinogenic to Humans); MAK-1 (Substances that Cause Cancer in Man and Can Be Assumed to Make a Significant Contribution to Cancer Risk); NIOSH-Ca (Potential Occupational Carcinogenic with No Further Categorization); NTP-K (Known to Be a Human Carcinogen)

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 Carcinogenic, 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. The mineral components are not expected to biodegrade to great extent.

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.
12. ECOLOGICAL INFORMATION (Continued)

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, Irritation) 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 excepted.
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.
15. REGULATORY INFORMATION (Continued)

JAPANESE REGULATIONS (continued):
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.

16. OTHER INFORMATION

LABELING (Precautionary Statements) ANSI LABELING (Z129.1)
CAUTION! IF RELEASED TO THE AIR, PARTICULATE FROM MINERAL WOOL MAY CAUSE IRRITATION BY INHALATION AND EYE CONTACT.
CONTAINS SUSPECT CARCINOGEN BY INHALATION Avoid breathing particulates. Do not taste or swallow. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Wear appropriate eye, hand, and body protection. Avoid exposure to elevated temperatures. FIRST-AID: In case of contact, immediately flush skin or eyes with plenty of water for at least 20 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, do not induce vomiting. Get medical attention. IN CASE OF FIRE: Use water fog, foam, dry chemical, or CO₂. IN CASE OF SPILL: Sweep or vacuum spilled material, avoiding generation of dusts and place in suitable container. Place residual in appropriate container and seal. Dispose of in accordance with U.S. Federal, State, and local hazardous waste disposal regulations. Consult Safety Data Sheet for additional information.

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)
Signal Word: Warning
Hazard Statements:
H350i: May cause cancer by inhalation.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.
Precautionary Statements:
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. P337 + P313: If eye irritation persists: Get medical advice/attention. P304 + P340: If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing. P312: Call a POISON CENTER or doctor if you feel unwell. P321: Specific treatment (remove from exposure and treat symptoms).
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.

COMPONENT CLASSIFICATION:
Labeling and Classification Full Text under GHS:
Graphite: This is a self-classification.
Classification: Eye Irritation Category 2B, Specific Target Organ Toxicity (Inhalation-Respiratory Irritation) Single Exposure Category 3
Hazard Statements: H320: Causes eye irritation. H335: May cause respiratory irritation.
Mineral Wool: This is a self-classification.
Classification: Carcinogenic Category 2, Eye Irritation Category 2A, Specific Target Organ Toxicity (Inhalation-Respiratory Irritation) Single Exposure Category 3
Hazard Statements: H350i: May cause cancer by inhalation. H319: Causes serious eye irritation. Specific Target Organ Toxicity (Inhalation-Respiratory Irritation) Single Exposure Category 3

REVISION DETAILS: New.
REFERENCES AND DATA SOURCES: Contact the supplier for information.
METHODS OF EVALUATING INFORMATION FOR THE PURPOSE OF CLASSIFICATION: Criteria of the GHS were used for classification.
PREPARED BY: CHEMICAL SAFETY ASSOCIATES, Inc. • PO Box 1961, Hilo, HI 96721-1961 • (800) 441-3365
DATE OF PRINTING: May 29, 2015
REVISION HISTORY: New.
HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS:

The CAS system was developed by the National Fire Protection Association and has been adopted by industry to identify the degree of chemical hazards. The rating system is based on a five-level system, with each level indicating a higher degree of hazard than the one below it.

The CAS system is based on the following categories:

- **Hazardous Atmospheres with Air**: This category includes materials that can form explosive mixtures with air, leading to a potential explosion hazard.
- **Flammable**: Materials that will rapidly sustain combustion and burn readily under certain conditions.
- **Pyrophoric**: Materials that can undergo self-reactive decomposition and polymerization, leading to a potential explosion hazard.
- **Explosives**: Materials that can cause a significant explosion under certain conditions.
- **Hazardous Materials**: Materials that are potentially hazardous to health or property, but not classified as other categories.

The CAS system is used to identify and classify hazardous materials, and it is used in the design and operation of chemical facilities to ensure safety and compliance with regulations.

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DEFINITION OF TERMS (Continued)

FLAMMABILITY HAZARD: Flammable or combustible materials are rated by the closed cup flash point of the solvent. That ignite when exposed to air, Solids containing greater than 0.5% by weight of a flammable or combustible liquid, that have an autoignition temperature below 22.8°C (73°F) and a boiling point below 37.8°C (100°F) (i.e. Class IA liquids). Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature (i.e. Class IB and IC liquids). Fluids having a flash point below 22.8°C (73°F) and having a boiling point at or above 37.8°C (100°F) and those liquids having a flash point at or above 93.4°C (200°F) (i.e. Class II and Class IIIA liquids.) Solid materials in the form of powders or coarse dusts of intermediate particle size between 420 microns (40 mesh) and 2 mm (10 mesh). Combustible pellets with a representative diameter of greater than 2 mm and up to the boiling point of the liquid or up to a temperature of 816°C (1500°F) for a period of 5 minutes in a Standard Test Method for Flash and Fire Points by Cleveland Open Cup. Most ordinary combustible materials. Solids containing greater than 0.5% by weight of a flammable or combustible liquid, 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 with air, but under high ambient temperatures or under moderate heating could release vapor in sufficient quantities to produce hazardous atmospheres with air. Liquids having a flash point at or above 37.8°C (100°F) and below 93.4°C (200°F) (i.e. Class II liquids) and those having a flash point between 420 microns (40 mesh) and 2 mm (10 mesh) that burn rapidly but that generally do not form explosive mixtures with air. Solid materials in fibrous or shredded form that burn rapidly and create flash fire hazards, such as cotton, sisal, and hemp. Solids and semisolids that readily give off flammable vapors. Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. Flammable or combustible dusts with a representative diameter less than 420 microns (40 mesh). Materials that burn with extreme rapidity, usually by reason of self-contained oxygen (e.g. dry nitrocellulose, nitroglycerin, and gunpowder). Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. Materials that when exposed to air, solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent.

ECOLOGICAL INFORMATION:

EFFECTIVE DATE: JANUARY 29, 2015

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATING (continued):

HEALTH HAZARD (continued): 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. 3 Materials that, under emergency conditions, can cause serious or permanent injury. Gases with an L₅₀, for acute inhalation toxicity greater than 1.000 ppm but less than or equal to 3.000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than its L₅₀, for acute inhalation toxicity, if its L₅₀, is less than or equal to 3000 ppm and that does not meet the criteria for degree of hazard. 4 Dusts and mists with an L₅₀, for acute inhalation toxicity greater than 0.5 mg/L but less than or equal to 2 mg/L. Materials with an L₅₀, for acute dermal toxicity greater than 40 mg/kg but less than or equal to 200 mg/kg. Materials that are corrosive to the respiratory tract. Materials that are corrosive to the eyes or cause irreversible corneal opacity. Materials corrosive to the skin. Cyanogenic gases that cause frothbite and irreversible tissue damage. Compressed liquefied gases with boiling points below -50°C (-66.5°F) that cause frostbite and irreversible tissue damage. Materials with an LD₅₀ for acute oral toxicity greater than 5 mg/kg but less than or equal to 50 mg/kg. 4 Materials that, under emergency conditions, can be lethal. Gases with an LC₅₀ for acute inhalation toxicity 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 L₅₀, for acute inhalation toxicity, if its L₅₀, is less than or equal to 1000 ppm. Dusts and mists whose L₅₀, for acute inhalation toxicity is less than or equal to 0.5 mg/L. Materials whose LD₅₀ for acute dermal toxicity is less than or equal to 40 mg/kg. Materials whose LD₅₀, for acute oral toxicity is less than or equal to 5 mg/kg.

INSTABILITY HAZARD: Materials that in themselves are normally stable, but can become unstable at elevated temperature and pressures. Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 0.01 W/mL and below 10 W/mL. 2 Materials that readily undergo violent chemical change at elevated temperatures and pressures. Materials that have an instantaneouns power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 10 W/mL and below 1000 W/mL. Materials that in themselves are capable of detonation or explosive decomposition or explosive reaction but that require a strong initiating source or that must be heated under confinement before initiation. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 1000 W/mL and below 10000 W/mL. Materials that, if exposed to sustained combustion, will create flash fire hazards. Materials that in themselves are readily capable of detonation or explosive decomposition or explosive reaction at normal temperatures and pressures. Materials that are sensitive to thermal or mechanical shock at normal temperatures and pressures. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) of 10000 W/mL or greater.

FLAMMABILITY LIMITS IN AIR:

Much of the information related to fire and explosion is derived from the National Fire Protection Association (NFPA). Flash Point: Minimum temperature at which a liquid gives off sufficient vapor to form an ignitable mixture with air near the surface of the liquid or within the test vessel used. Autoignition Temperature: Minimum temperature of a solid, liquid, or gas required to initiate a self-sustained combustion in air with no other source of ignition. LEL: Lowest concentration of a flammable vapor or gas/air mixture that will ignite and burn with a flame. UEL: Highest concentration of a flammable vapor or gas/air mixture that will ignite and burn with a flame.