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

IDENTIFICATION OF THE MIXTURE

TRADE/MATERIAL NAME: SpecSeal® Smoke ‘N’ Sound Acoustical Spray

RELEVANT USE of the SUBSTANCE: Firestop and Sound Transmission

USES ADVISED AGAINST: None

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

Hazard Statements:

- H351: This product contains trace amounts of a suspected human carcinogen by inhalation. However, this hazard is not expected to be significant due to viscosity and consistency of the mixture. H319: Causes serious eye irritation. H335: May cause respiratory irritation.

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. P284: Wear respiratory protection.

- 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: 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/containers 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

Hazardous Components:

<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 NESCIECS</th>
<th>WT%</th>
<th>LABEL ELEMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium Dioxide</td>
<td>13463-67-7</td>
<td>Listed</td>
<td>1-558</td>
<td>KE-33390</td>
<td></td>
<td>0.5-2%</td>
<td>GHS &amp; Japanese JIS Z7253 Classification</td>
</tr>
<tr>
<td>Crystalline Silica</td>
<td>14806-60-7</td>
<td>Listed</td>
<td>1-548</td>
<td>KE-29983</td>
<td></td>
<td>0.05-0.7%</td>
<td>GHS &amp; Japanese JIS Z7253, KOREAN ISHA: Classification: Carcinogenic Cat. 2, Hazard Codes: H351i</td>
</tr>
</tbody>
</table>

SpecSeal® Smoke ‘N’ Sound Acoustical Spray
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: 308 °C (586 °F)
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.

EXPLOSION SENSITIVITY TO MECHANICAL IMPACT: Not sensitive.
EXPLOSION SENSITIVITY TO STATIC DISCHARGE: Not sensitive.

SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS: No Special protective actions for fire-fighters are anticipated.

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.

Small Spills: Wear rubber gloves, splash goggles, and appropriate body protection.
Large Spills: Minimum Personal Protective Equipment should be rubber gloves, rubber boots, splash goggles

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

Small Spills: Small releases can be carefully swept up or cleaned up using a damp sponge or polypads.

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.

METHODS FOR CLEAN-UP AND CONTAINMENT (continued):

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.
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. Do not store above 55°C (131°F)

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). 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>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>IDLH kg/m³</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)</td>
<td>14808-60-7</td>
<td>0.025 mg/m³ (resp. dust)</td>
<td>NE</td>
<td>30 mg/m³ (total dust)</td>
<td>0.05 mg/m³ (resp. dust)</td>
<td>NE</td>
</tr>
</tbody>
</table>

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.

**CRYSTALLINE SILICA:**

<table>
<thead>
<tr>
<th>Country</th>
<th>Exposure Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>TWA = 0.1 mg/m³, JUL 2008</td>
</tr>
<tr>
<td>Belgium</td>
<td>TWA = 0.1 mg/m³ (resp. dust), MAR 2002</td>
</tr>
<tr>
<td>Denmark</td>
<td>TWA = 0.1 mg/m³ (total), MAY 2011</td>
</tr>
<tr>
<td>Denmark</td>
<td>TWA = 0.1 mg/m³ (total), MAY 2011</td>
</tr>
<tr>
<td>Denmark</td>
<td>TWA = 0.1 mg/m³ (total), MAY 2011</td>
</tr>
<tr>
<td>Denmark</td>
<td>TWA = 0.1 mg/m³ (total), MAY 2011</td>
</tr>
<tr>
<td>Denmark</td>
<td>TWA = 0.1 mg/m³ (total), MAY 2011</td>
</tr>
<tr>
<td>France</td>
<td>VME = 0.1 mg/m³ (resp. dust), FEB 2006</td>
</tr>
<tr>
<td>Iceland</td>
<td>TWA = 0.1 mg/m³ (resp. dust), NOV 2011</td>
</tr>
<tr>
<td>Japan</td>
<td>OEL-C = 0.03 mg/m³ (respirable), APR 2007</td>
</tr>
<tr>
<td>Korea</td>
<td>TWA = 0.1 mg/m³, 2006</td>
</tr>
<tr>
<td>Mexico</td>
<td>TWA = 0.1 mg/m³ (respirable), 2004</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>MAC-TGG = 0.075 mg/m³, 2003</td>
</tr>
</tbody>
</table>

New Zealand: TWA = 0.2 mg/m³ (respirable dust), JAN 2002

Norway: TWA = 0.1 mg/m³ (resp. dust), JAN 1999

Peru: TWA = 0.05 mg/m³, JUL 2005

Russia: TWA = 1 mg/m³, STEL = 3 mg/m³, JUN 2003

Sweden: TWA = 0.1 mg/m³ (resp. dust), JUN 2005

Switzerland: MAK-W = 0.15 mg/m³, DEC 2006

Thailand: TWA = 10 mg/m³ (resp. dust), JUN 2003

Thailand: TWA = 30 mg/m³ (total dust), JAN 1993

United Kingdom: TWA = 0.1 mg/m³ (resp. dust), OCT 2007

In Argentina, Bulgaria, Colombia, Jordan, Singapore, Vietnam check ACGIH TLV
8. EXPOSURE CONTROLS - PERSONAL PROTECTION (Continued)

EXPOSURE LIMITS/CONTROL PARAMETERS (continued):

International Occupational Exposure Limits (continued): 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.

**TITANIUM DIOXIDE:**
- **ARAB Republic of Egypt:** TWA = 15 mg/m³, JAN 1993
- **Austria:** MAK-TMW = 5 mg/m³, KDW = 10 mg/m³, resp, 2007
- **Belgium:** TWA = 10 mg/m³, MAR 2002
- **Denmark:** TWA = 6 mg(Ti)/m³, MAY 2011
- **France:** VME = 10 mg/m³, FEB 2006
- **Germany:** MAK = 1.5 mg/m³ (respirable), 2005
- **Iceland:** TWA = 6 mg(Ti)/m³, NOV 2011
- **Japan:** OEL = 1 mg/m³ (resp. dust), 4 mg/m³ (total dust), MAY 2009
- **Korea:** TWA = 10 mg/m³, 2006
- **Mexico:** TWA = 10 mg(Ti)/m³, STEL = 20 mg(Ti)/m³, 2004
- **The Netherlands:** MAC-TGG = 10 mg/m³, 2003
- **New Zealand:** TWA = 10 mg/m³ (inspirable dust), JAN 2002
- **Norway:** TWA = 5 mg/m³, JAN 1999
- **Peru:** TWA = 10 mg/m³, JUL 2005
- **Poland:** MAC(TWA) = 10 mg(Ti)/m³, MAC(STEL) = 30 mg(Ti)/m³, JAN 1999
- **Russia:** TWA = 5 mg/m³ (total dust), JUN 2005
- **Switzerland:** MAK-W = 3 mg/m³, DEC 2006
- **Turkey:** TWA = 15 mg/m³, JAN 1993
- **United Kingdom:** TWA = 10 mg/m³ (inhal. dust), OCT 2007
- **United Kingdom:** TWA = 4 mg/m³ (resp. dust), OCT 2007
- **In Argentina, Bulgaria, Colombia, Jordan, Singapore, Vietnam check ACGIH TLV**


- **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.
- **Eye Protection:** Wear splash goggles or safety glasses as appropriate for the task.
- **Hand Protection:** During manufacture or other similar operations, wear the appropriate hand protection for the process.
- **Skin Protection:** Use appropriate protective clothing. 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.

9. PHYSICAL and CHEMICAL PROPERTIES

**FORM:** Paste.
**COLOR:** White.
**MOLECULAR FORMULA:** Mixture.
**ODOR:** Mild acrylic.
**ODOR THRESHOLD:** Not available.
**FLAMMABLE LIMITS** (in air by volume, %): Not applicable.
**DECOMPOSITION TEMPERATURE:** Not available.
**AUTOIGNITION TEMPERATURE:** Not available.
**FREEZING/MELTING POINT:** Not available.
**VAPOR PRESSURE:** Not available.
**VAPOR DENSITY** (air = 1): Not available.
**EVAPORATION RATE** (n-BuAc = 1): > 1
**SPECIFIC GRAVITY** (water = 1): 1.7 gm/L
**CARB VOC:** 0.16 wt % (calc.)
**SOLUBILITY IN WATER:** Dissolves when wet; insoluble when cured.
**SOLUBILITY IN SOLVENTS:** Not available.
**COEFFICIENT WATER/OIL DISTRIBUTION:** Not established.
**pH:** Not available.
**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. 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: Inhalation of fumes or vapors may cause irritation of the nose, throat, and lungs and cause coughing. Removal to fresh air should relieve symptoms. This product contains trace amounts of a suspected human carcinogen by inhalation: however, this hazard is not expected to be significant due to viscosity and consistency of the mixture.

Contact with Skin or Eyes: Direct eye contact may cause irritation, redness, and tearing from mechanical irritation. Prolonged or repeated skin exposures may cause dermatitis (dry red 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. 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: Exposure to this product may cause the following health effects:

Acute: Inhalation of fumes or vapors may cause irritation of respiratory system. Eye contact may cause mechanical irritation.

Chronic: Prolonged or repeated skin exposure may cause dermatitis (dry red skin). This product contains trace amounts of a suspected human carcinogen by inhalation: however, this hazard is not expected to be significant due to viscosity and consistency of the mixture.

TARGET ORGANS: Acute: Skin, eyes, respiratory system. Chronic: Skin.

IRRITANTITY OF PRODUCT: Inhalation of fumes or vapors may cause respiratory irritation. Eye contact may cause irritation. Prolonged skin 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:

CRYSTALLINE 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 Carcinogen with No Further Categorization); NTP-K (Known to Be a Human Carcinogen)

TITANIUM DIOXIDE: ACGIH TLV-A3 (Confirmed Animal Carcinogen); IARC-3 (Unclassifiable as to Carcinogenicity in Humans); NIOSH-Ca (Potential Occupational Carcinogen, with No Further Categorization)

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.

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.

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: Yes; 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 Crystalline Silica component 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.
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: Components listed by CAS# are listed on the Taiwan Existing Chemical List.

16. OTHER INFORMATION

REVISION DETAILS: Reviewed January 2017, no changes.

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: January 17, 2017

REVISED: January 16, 2017

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 AIR:

CEILING LEVEL: The concentration that shall not be exceeded during any part of the working exposure.

DGF MAK: General Regulation 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 mutations that have been shown to increase the mutant frequency in the progeny of exposed mammals. 2: Germ cell mutations that have been shown to increase the mutant frequency in the progeny of exposed humans. 3A: Substances that have been shown to induce genetic damage in germ cells of human or animals, or which produce mutagenic effects in somatic cells of mammals in vivo and have been shown to reach the germ cells in an active form. 3B: Substances that are suspected of being germ cell mutagens because of their genotoxic effects in mammalian somatic cell in vivo; in exceptional cases, substances for which there are 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 and those with non-genotoxic mechanisms of action. By definition, germ cell mutations are genotoxic. Therefore, Category 4 for germ cell mutations 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, 5: Germ cell mutations, 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 of the developing organism, even when MAK and BAT (Biological Tolerance Value for Working Materials) values are observed. 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 yet possible because, although the data available may indicate a trend, they are not sufficient for final evaluation.

DGL: Immediately Dangerous to Life and Health. This level represents a concentration from which one can escape within 30-minutes 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: Nature 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 REL: 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, 1993 Air Contaminants Rule (Federal Register: 58: 35338 -35351 and 58: 40191). 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: Used when 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.

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:

This rating system was developed by the National Paint and Coating Association and has been adopted by industry to identify the degree of chemical hazards.

HEALTH HAZARD: Minimal Hazard: No significant health risk, irritation of skin or eyes not anticipated. Skin irritation: Essentially non-irritating. Mechanical irritation may occur. PEL or Draize = 0. Eye irritation: Essentially non-irritating, minimal effects clearing in < 24 hours. Mechanical irritation may occur. Draize = 0. Oral Toxicity LD50 Rat < 5000 mg/kg. Dermal Toxicity LD50 Rat or Rabbit ≥ 2000 mg/kg. Inhalation Toxicity 4-hrs LC50 Rat < 20 mg/L. 1 Slight Hazard: Minor reversible irritation may occur; may irritate the stomach if swallowed; may defat the skin and exacerbate existing dermatitis. Skin irritation: Slightly or mildly irritating. PEL or Draize ≤ 5. Eye irritation: Slightly to mildly irritating, but reversible within 7 days. Draize ≤ 5 ≤ 25. Oral Toxicity LD50 Rat ≥ 500–5000 mg/kg. Dermal Toxicity LD50 Rat or Rabbit > 1000–2000 mg/kg. Inhalation Toxicity 4-hrs LC50 Rat ≥ 20–200 mg/L. 2 Moderate Hazard: Temporary or transitory irritation may occur; prolonged exposure may affect the CNS. Skin irritation: Moderately irritating; primary irritant; sensitizer. PEL or Draize ≥ 5, with no destruction of dermal tissue. Eye irritation: Moderately to severely irritating; reversible corneal opacity; corneal irritation clearing in 5-8 days. Draize > 25–100 mg/kg. Oral Toxicity LD50 Rat > 50–500 mg/kg. Inhalation Toxicity 4-hrs LC50 Rat ≥ 0.5–2.0 mg/L. 3 Serious Hazard: Major injury likely unless prompt action is taken and medical treatment is given; high level of toxicity; corrosive. Skin irritation: Severely irritating and/or corrosive; may cause destruction of dermal tissue, skin burns, and dermal necrosis. PEL or Draize > 5–8, with destruction of tissue. Eye irritation: Corrosive, irreversible destructive effect on corneal tissue; corneal involvement or irritation persisting for more than 21 days. Draize > 80 with effects irreversible in 21 days. Oral Toxicity LD50 Rat: ≤ 1–50 mg/kg. Oral Toxicity LD50 Rat or Rabbit: > 20–200 mg/kg. Inhalation Toxicity 4-hrs LC50 Rat: > 0.05–0.5 mg/L. 4 Severe Hazard: Life-threatening; major or permanent damage may result from single or repeated exposures; extremely toxic; irreversible injury may result from brief contact. Skin irritation: Not applicable. Do not rate as 4, based on skin irritation alone. Eye irritation: Not applicable. Do not rate as 4, based on eye irritation alone. Oral Toxicity LD50 Rat: ≤ 1 mg/kg. Dermal Toxicity LD50 Rat or Rabbit ≥ 20 mg/kg. Inhalation Toxicity 4-hrs LC50 Rat: ≤ 0.05 mg/L.

FLAMMABILITY HAZARD: 0 Minimal Hazard: Materials that will not burn in air when exposed to a temperature of 815.5°C (1500°F) for a period of 5 minutes or less. 1 Moderately Flammable: Materials that will burn under normal conditions, form explosive atmospheres in air, but will not burn in air when exposed to a temperature of 815.5°C (1500°F) for a period of 5 minutes or less. 2 Severe Flammable: Materials that will burn vigorously, mix with air in the proportion in which the mixture can be ignited, and undergo an exothermic combustion reaction for at least 5 minutes when exposed to a temperature of 815.5°C (1500°F) for a period of 5 minutes or less.

RADIATION HAZARD: 0 Minimal Hazard: No significant health risk, no radiation risk, no X-ray detection, no electron density, no radioactivity. 1 Minimal Hazard: No significant health risk, X-ray detection, no electron density, no radioactivity. 2 Low Hazard: May cause genetic damage if ingested or inhaled. 3 Moderate Hazard: May cause serious genetic damage if ingested or inhaled. 4 Severe Hazard: May cause serious genetic damage if ingested or inhaled.
in sufficient quantities to produce hazardous atmospheres with air. This usually includes the following: Liquids having a flash-point at or above 37.8°C (100°F); Solid materials in the form of coarse dusts that may burn rapidly but that generally do not form explosive atmospheres; 

3 (continued): Solid materials in a fibrous or shreded 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 Serious Hazard: Liquids and solids that can be ignited under almost all ambient conditions. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) above or equal to 0.01 W/mL when exposed to a temperature of 816°C (1500°F) for a period of 5 minutes in accordance with Annex D of NFPA 704. 

4 Materials that, under emergency conditions, can cause serious or permanent injury, or death. Gases, with boiling points below -55°C (-67°F) and a mean pressure rise time of a 1:1 nitric acid (65%)/cellulose mixture and the criteria for Packing Group I and II are not met. 

5 Materials that can react explosively or cause serious burns or injury. Materials whose flash point at or above 37.8°C (100°F) and below 93.4°C (200°F) (i.e. Class II and Class IIIA liquids.) Solid materials in the form of powders or coarse dusts of representative diameter 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 shreded form that burn rapidly and create flash fire hazards such as cotton, hemp. 

Sols and semisols 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. 

Liquids and solids that are normally stable, even under fire conditions: Materials that have an estimated 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. 

Liquids that are normally unstable, but that can be used at elevated temperatures: Materials that have an estimated 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 50 W/mL. 

Materials that are normally unstable, but that cannot be used at elevated temperatures: Those materials that, in the form of powders or coarse dusts of representative diameter 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 shreded form that burn rapidly and create flash fire hazards such as cotton, hemp. 

Materials that are normally stable, but that can be used at elevated temperatures: Materials that have an estimated 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. 

Materials that are normally unstable, but that cannot be used at elevated temperatures: Those materials that, in the form of powders or coarse dusts of representative diameter 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 shreded form that burn rapidly and create flash fire hazards such as cotton, hemp. 

Solids and semisols 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. 

Liquids and solids that are normally stable, even under fire conditions: Materials that have an estimated 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. 

Liquids that are normally unstable, but that can be used at elevated temperatures: Materials that have an estimated 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 50 W/mL. 

Materials that are normally unstable, but that cannot be used at elevated temperatures: Those materials that, in the form of powders or coarse dusts of representative diameter 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 shreded form that burn rapidly and create flash fire hazards such as cotton, hemp. 

MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS (continued): 

FIRE 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. 


1 Water Reactivity: Materials that change or decompose upon exposure to moisture. Organic Peroxides: Materials that are normally stable, but can become unstable at high temperatures or pressures. 

2 Materials that may burn readily: Flammable gases. Flammable cryogenic 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 37.8°C (100°F) (i.e. OSHA Class IA); and Materials that ignite spontaneously when exposed to air at a temperature of 54.4°C (130°F) or below (pyrophoric). 

DANGEROUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS (continued): 

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS: 

The following materials are given the degree of hazard 1: 

Materials that, under emergency conditions, can cause serious or permanent injury. Gases, with boiling points below -55°C (-67°F) and a mean pressure rise time of a 1:1 nitric acid (65%)/cellulose mixture and the criteria for Packing Group I and II are not met. Materials with an LD50 for acute oral toxicity greater than 50 mg/kg but less than or equal to 500 mg/kg. Materials whose flash point at or above 37.8°C (100°F) and below 93.4°C (200°F) (i.e. Class II and Class IIIA liquids.) Solid materials in the form of powders or coarse dusts of representative diameter 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 shreded form that burn rapidly and create flash fire hazards such as cotton, hemp. 

Solids and semisols 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.
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 or cause 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.

TOXICOLOGICAL INFORMATION:
Human and Animal Toxicology: Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented. LD50: Lethal Dose (solids & liquids) that kills 50% of the exposed animals. LC50: Lethal Concentration (gases) that kills 50% of the exposed animals. ppm: Concentration expressed in parts of material per million parts of air or water. mg/ml: Concentration expressed in weight of substance per volume of air. mg/kg: Quantity of material, by weight, administered to a test subject, based on their body weight in kg. TDLo: Lowest dose to cause a symptom. TCLo: Lowest concentration to cause a symptom. TDo, TDLo, and TCLo, or TC, TCo, LCLo, and LCo: Lowest dose (or concentration) to cause lethal or toxic effects.

Cancer Information: IARC: International Agency for Research on Cancer. NTP: National Toxicology Program. RTECS: Registry of Toxic Effects of Chemical Substances. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used. Other Information: BEI: ACGIH Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.

ECOLOGICAL INFORMATION:
EC: Effect concentration in water. BCF: Bioconcentration Factor, which is used to determine if a substance will concentrate in life forms that consume contaminated plant or animal matter. TLM: Median threshold limit. log Kow or log Koc: Coefficient of Oil/Water Distribution is used to assess a substance’s behavior in the environment.

REGULATORY INFORMATION:
U.S.:
EPA: U.S. Environmental Protection Agency. ACGIH: American Conference of Governmental Industrial Hygienists, a professional association that establishes exposure limits. OSHA: U.S. Occupational Safety and Health Administration. NIOSH: National Institute of Occupational Safety and Health, which is the research arm of OSHA. DOT: U.S. Department of Transportation. SARA: Superfund Amendments and Reauthorization Act. TSCA: U.S. Toxic Substances Control Act. CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act. Marine Pollutant status according to the DOT; CERCLA or Superfund; and various state regulations. This section also includes information on the precautionary warnings that appear on the material’s package label.

CANADA:

JAPAN:
METI: Ministry of Economy, Trade and Industry.