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SAFETY DATA SHEET

Section 1. Identification

| Product Name: Product Type: CAS Number: | Tris(dimethylamido)antimony(III) Liquid 7289-92-1 |
|---|--|
| Product Number: | <u>SB9921</u> |
| Product Manufacturer: | Ereztech LLC 11555 Medlock Bridge Road, Suite 100 Johns Creek, GA 30097 |
| Product Information: | (888) 658-1221 |
| In case of an emergency: | CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International); CCN836180 *** Contact manufacturer for all non-emergency calls. |

Section 2. Hazards Identification

Appearance/Odor: <u>Hazards Identification</u> Classification: Colorless to straw-colored liquid, acrid/amine-like odor.

FLAMMABLE LIQUIDS; - Category 1, H224 SUBSTANCE AND MIXTURES, WHICH IN CONTACT WITH WATER, EMIT FLAMMABLE GASES; - Category 1, H260 ACUTE TOXICITY, ORAL; - Category 4, H302 SKIN CORROSION/IRRITATION; - Category 1B, H314 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1, H318 ACUTE TOXICITY, INHALATION; - Category 4, H332 HAZARDOUS TO THE AQUATIC ENVIRONMENT, ACUTE TOXICITY; - Category 2, H401 HAZARDOUS TO THE AQUATIC ENVIRONMENT, CHRONIC TOXICITY; - Category 2, H411

GHS label elements Hazard pictograms:

| Section 2. Hazards Identification | | |
|-----------------------------------|--|--|
| Signal word: | DANGER | |
| Hazard statements: | H224: Extremely flammable liquid and vapor. | |
| | H260: In contact with water releases flammable gases which may | |
| | ignite spontaneously. | |
| Hazard statements (cont.): | H302: Harmful if swallowed. | |
| | H314: Causes severe skin burns and eye damage. | |
| | H318: Causes serious eye damage. H332: Harmful if inhaled. | |
| | H401: Toxic to aquatic life. | |
| | H411: Toxic to aquatic life with long lasting effects. | |
| Precautionary statements | | |
| Prevention: | P210: Keep away from heat/sparks/open flames/hot surfaces. – | |
| | No smoking. | |
| | P223: Keep away from any possible contact with water, because of | |
| | violent reaction and possible flash fire. | |
| | P231 + P232: Handle under inert gas. Protect from moisture. | |
| | P233: Keep container tightly closed. P240: Ground/bond container and receiving equipment. | |
| | P241: Use explosion-proof electrical/ventilating/lighting/handling | |
| | equipment. | |
| | P242: Use only non-sparking tools. | |
| | P243: Take precautionary measures against static discharge. | |
| | P260: Do not breathe fumes, gases, vapors or mists. | |
| | P264: Wash skin thoroughly after handling. | |
| | P270: Do not eat, drink or smoke when using this product. | |
| | P271: Use only outdoors or in a well-ventilated area. P273: Avoid release to the environment. | |
| | P280: Wear protective gloves/ protective clothing/ eye protection/ | |
| | face protection. | |
| Response: | P301 + P312: IF SWALLOWED: Call a POISON CENTER or | |
| | doctor/physician if you feel unwell. | |
| | P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT | |
| | induce vomiting. | |
| | P303 + P361 + P353: If on skin (or hair): Take off immediately all | |
| | contaminated clothing. Rinse skin with water/shower. | |
| | P304 + P340: IF INHALED: Remove victim to fresh air and keep at | |
| | rest in a position comfortable for breathing. P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for | |
| | several minutes. Remove contact lenses, if present. Continue | |
| | rinsing. | |
| | P310: Immediately call a POISON CENTER or doctor/physician. | |
| | P330: Rinse mouth. | |
| | | |
| | | |

| Section 2. Hazards Identification | | | |
|--------------------------------------|--|--|--|
| Response (cont.): | P334 + P335: Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages. P363: Wash contaminated clothing before reuse. P370 + P378: In case of fire: Use alcohol-resistant foam, dry chemical or carbon dioxide for extinction. DO NOT USE WATER. P391: Collect spillage. | | |
| Storage: | P402 + P404: Store in a dry place. Store in a closed container. P403 + P235: Store in a well ventilated place. Keep container tightly closed. P405: Store locked up. | | |
| Disposal: | P501: Dispose of contents/ container to an approved wasted disposal plant. | | |
| OSHA/HCS status: | This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). | | |
| Hazards not otherwise classified: | None. | | |

Section 3. Composition/Information on Ingredients

<u>Substances</u>

| Formula | : C ₆ H ₁₈ N ₃ Sb | | |
|------------------|--|--|--|
| Molecular weight | : 253.99 g/mol | | |
| CAS-No. | : 7289-92-1 | | |
| Synonyms. | : Tris(dimethylamino)antimony; tris(dimethylamino)stibine; | | |
| | tris(dimethylamino)stibane; antimony(III), dimethylazanide | | |

| Ingredient Name | % | CAS Number |
|----------------------------------|-----|------------|
| Tris(dimethylamido)antimony(III) | >98 | 7289-92-1 |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First Aid Measures

Description of Necessary First Aid Measures

General Advice: Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.

Eye Contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue rinsing. Get immediate medical attention.

| Safety Data Sheet |
|-------------------|
|-------------------|

| | Section | 4. First Aid Measures |
|---------------------------|---|---|
| Skin Contact: | | ed clothing and shoes immediately. Wash off contaminated plenty of water. Get immediate medical attention. |
| Inhalation: Ingestion: | breathing. If not br occurs, provide artif dangerous to the pe unconscious, place Maintain an open ai waistband. Call a P Call a physician or F NOT induce vomitin should be kept low by mouth to an unc and get medical atte | esh air and keep at rest in a position comfortable for eathing, if breathing is irregular or if respiratory arrest icial respiration or oxygen by trained personnel. It may be erson providing aid to give mouth-to-mouth resuscitation. If in recovery position and get medical attention immediately. rway. Loosen tight clothing such as a collar, tie, belt or OISON CENTER or doctor/physician immediately. POISON CONTROL CENTER immediately. Rinse mouth. Do g. Remove dentures if any. If vomiting occurs, the head so that vomit does not enter the lungs. Never give anything onscious person. If unconscious, place in recovery position ention immediately. Maintain an open airway. Loosen tight ollar, tie, belt or waistband. Consult a physician. |
| Most Important Sy | mptoms/Effects, Ac | ute And Delayed Potential Acute Health Effects |
| Eye Contact: | permanent eye dam | d thermal burns may be expected to occur and may cause hage. Symptoms may include stinging, redness, itching, pain nanent loss of vision. |
| Inhalation: | Due to the product's violent reactivity with water, inhalation of product may be expected to cause chemical and thermal burns of mucous membranes. Symptoms may include coughing, burning sensation, pain, shortness of breath, dizziness, headache and loss of consciousness. | |
| Skin Contact: | Skin contact with this product may be expected to cause severe chemical burns. Symptoms may include redness, stinging, itching, pain and tissue necrosis. | |
| Ingestion: | Ingestion will result | in burns of the mouth, throat, esophagus and digestive tract. |
| Indication of Imme | ediate Medical Atten | tion and Special Treatment Needed, If Necessary |
| Notes to Physician | : | Treat symptomatically. |
| Specific Treatment | :S: | No specific treatment. |
| Protection of First | Responders: | No action taken shall be taken involving any personal risk without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. |

See toxicological information (Section 11)

Section 5. Fire Fighting Measures

General Hazards:

None identified.



Section 6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

For Non-emergency Personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid inhalation of sprays, vapors, mists or gases. Provide adequate ventilation. Wear respiratory protection. Put on appropriate personal protective equipment.



Section 7. Handling and Storage

Precautions:

Product reacts violently with water to release a flammable gas which may ignite spontaneously. Handle under a dry, inert gas. Nitrogen with less than 5 ppm each of moisture and oxygen is recommended. Keep away from all sources of ignition – NO SMOKING. Keep container tightly sealed. Avoid contact with skin, eyes and clothing.

| Section 7. Handling and Storage | | | |
|---------------------------------|--|--|--|
| Precautions (cont.): | Avoid the formation of aerosols and the inhalation of sprays, mists, vapors and gases. Do not ingest. Avoid prolonged exposure. Ensure adequate ventilation. | | |
| Protective Measures: | Protect against electrostatic charges. Use explosion-proof electrical/ventilating/lighting/handling equipment. Use only non-sparking tools and equipment. Put on appropriate personal protective equipment (see Section 8). Keep in the original container kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. | | |
| General Occupational Hygiene: | Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. | | |
| Safe Storage Conditions: | Product reacts violently with water to release a flammable gas which may ignite spontaneously. Store under an inert gas. Nitrogen with less than 5 ppm each of moisture and oxygen is recommended. Keep away from air, moisture, heat, sparks and open flames. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials noted above and food and drink. Keep container tightly closed and sealed until ready for use. Store locked up. | | |

Section 8. Exposure Controls/Personal Protection

| Introductory Remarks: | These recommendations provide general guidance for handling this product. Because work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and conduct regular repairs. Waste from these procedures should be handled in accordance with Section 13. |
|-------------------------------|---|
| Occupational Exposure Limits: | Product contains no substances with occupational exposure limit values. |
| Engineering Controls: | Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute. Provide an eyewash/shower station. |



Section 8. Exposure Controls/Personal Protection

| Environmental Exposure Controls: | Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. |
|---|---|
| Individual Protection Measures | |
| Hygiene Measures: | Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Remove all soiled and contaminated clothing immediately. Do not inhale sprays, mists, vapors or gases. Avoid contact with eyes and skin. Ensure that eyewash stations and safety showers are close to the workstation location. |
| Eye/Face Protection: Skin Protection | Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or vapors. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles, faceshield (8-inch minimum). Refer to 29 CFR 1910.133, ANSI Z87.1, or European Standard EN166. |
| Hand Protection: | Chemical-resistant, impervious gloves complying with an |
| BRIDGIN | approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: Chemical- resistant gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. For full contact, use Neoprene or nitrile rubber. |

Section 8. Exposure Controls/Personal Protection

Other Skin Protection:Appropriate footwear and any additional skin protection
measures should be selected based on the task being
performed and the risks involved and should be approved by a
specialist before handling this product.Respiratory Protection:Where risk assessment shows air-purifying respirators are
appropriate use a full-face respirator with multipurpose

appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Section 9. Physical and Chemical Properties

| Physical State: | Liquid. | | |
|---|--|--|--|
| Color: | Colorless to straw(yellow). | | |
| Odor: | Acrid, amine-like. | | |
| Odor Threshold: | No data available. | | |
| pH: | No data available. | | |
| | | | |
| Freezing Point: | No data available. | | |
| Boiling Point: | 32-34 °C (90-93 °F) @ 0.60 hPa (0.45 mmHg). | | |
| Flash Point: | -14 °C (6.8 °F). | | |
| Auto-ignition temperature: | No data available. | | |
| Specific Gravity: | 1.325 @ 25°C. | | |
| Vapor Pressure: | No data available. | | |
| Relative Vapor Density: | >1 @ 20°C. | | |
| Water Solubility: | Reacts with water to produce flammable gases which may ignite spontaneously. | | |
| Evaporation Rate: | No data available. | | |
| Viscosity: | No data available. | | |
| VOC Content: | No data available. | | |
| VOCs are calculated following the requirements under 40 CFR, Part 59, Subpart C for Consumer Products and Subpart D for Architectural Coatings. | | | |

| Section 10. | Stability and | Reactivity | |
|-------------|---------------|------------|--|
| | | | |

| Reactivity: | This product reacts violently with water and compounds containing active hydrogen such as alcohols and acids to produce flammable gases which may ignite spontaneously. |
|---|--|
| Chemical Stability: | This product is stable when stored under a dry, inert atmosphere and away from heat. Nitrogen containing less than 5 ppm each moisture and air is recommended. This product is not sensitive to impact. |
| Conditions to Avoid: | Keep away from moisture, heat and sources of ignition. Avoid extremes of temperature and direct sunlight. |
| Incompatible Materials: | Water and compounds containing active hydrogen such as alcohols and acids. Strong oxidizing agents. |
| Hazardous Decomposition Products: Possibility of Hazardous Reactions: | Under normal conditions of storage and use, hazardous decomposition products should not be produced. Hazardous decomposition products formed under fire conditions: dimethylamine, carbon oxides (CO _x), nitrogen oxides (NO _x) and antimony oxide fumes. In the event of a fire: see section 5. Under normal conditions of storage and use noted above, hazardous reactions will not occur. |
| Section 11. | Toxicological Information |
| | |

| Information on Toxicological Effects | |
|--------------------------------------|--|
| - Acute Toxicity | : Harmful if ingested or inhaled due to product's violent reactivity with water. May be expected to cause severe burns to exposed mucous membranes. |
| Irritation/Corrosion | No specific data available. May be expected to cause thermal and/or chemical burns to the skin, eyes and exposed mucous membranes. |
| Sensitization | : No specific data available. |
| Germ Cell Mutagenicity | : No effects known. |
| Carcinogenity | |
| IARC | No component of this product present at levels greater than 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| ACGIH | : No component of this product present at levels greater than 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH. |
| | |

| Section 11. | Toxicological Information |
|---|---|
| ΝΤΡ | No component of this product present at levels greater than 0.1% is identified as probable, possible or confirmed human carcinogen by NTP. |
| OSHA | No component of this product present at levels greater than 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA. |
| Reproductive Toxicity | This product is not expected to cause reproductive or developmental effects. |
| Teratogenicity | : No specific data available. |
| Specific Target Organ Toxicity (single exposure) | Respiratory tract irritation/damage through thermal and chemical burns. |
| Specific Target Organ Toxicity (repeated exposure) | : No specific data available. |
| Aspiration Hazard | : No specific data available. |
| Information on the likely routes of exposure | : No specific data available. |
| Additional Information | : To the best of our knowledge, the chemical, physical and toxicological properties of this product have not been thoroughly investigated. |

Section 12. Ecological Information

| Numerical Measures of Toxicity | | |
|--|---|--|
| Toxicity to Fish | : No specific data available. | |
| Toxicity to daphnia and other aquatic invertebrates | : No specific data available. | |
| Toxicity to algae | : No specific data available. | |
| Persistence and Degradability | | |
| Biodegradability | : No specific data available. | |
| Bioaccumulative potential | : No specific data available. | |
| Mobility in soil | : No specific data available. | |
| Other Adverse Effects | An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. | |

Section 13. Disposal Considerations

Waste Treatment Methods Product

Dispose of in accordance with local, state, and federal regulations.

Section 13. Disposal Considerations

Product (cont.)

Refer to 40 CFR 260-299 for complete waste disposal regulations. Consult your local, state, or federal agency before disposing of any chemicals.

Contaminated packaging Empty containers retain product residue (liquids, vapors and gases) and can be dangerous. DO NOT EXPOSE CONTAINERS TO MOISTURE, HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

Section 14. Transport Information

| | DOT | IMDG | ΙΑΤΑ |
|------------------|----------------------|----------------------|--------------------------|
| UN Number | UN 3399 | UN 3399 | UN 3399 |
| UN Proper | Organometallic | ORGANOMETALLIC | Organometallic |
| Shipping Name | substance, liquid, | SUBSTANCE, LIQUID, | substance, liquid, |
| | water-reactive, | WATER-REACTIVE, | water-reactive, |
| | flammable | FLAMMABLE | flammable |
| | (Tris(dimethylamido) | (Tris(dimethylamido) | (Tris(dimethylamido) |
| | antimony(III) | antimony(III) | antimony(III) |
| Transport Hazard | 4.3 (3) | 4.3 (3) | 4.3 (3) |
| Classes | | | |
| Packing Group | I | I | I |
| Environmental | Yes | Yes | Yes |
| Hazards | | | |
| Additional | DGINGC | EMS-No: F-G, S-N | IATA Passenger: Not |
| Information | | | permitted for transport. |

Special Precautions for User

: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transporting in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

Section 15. Regulatory Information

TSCA (Toxic Substance Control Act):

This product is not listed on the U.S. Toxic Substances Control Act Chemical Inventory (TSCA Inventory). Use of this product is restricted to research and development only. This product must be used under the supervision of a technically qualified individual as defined by the TSCA. This product must not be used for commercial purposes or in formulations for commercial purposes.

Section 15. Regulatory Information

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire hazard (Flammable liquid), Reactivity Hazard (In contact with water emits flammable gas), Acute Health Hazard (Acute Toxicity: Oral, Inhalation; Skin Corrosion or Irritation; Serious Eye Damage or Irritation).

Massachusetts Right to Know Components No components are subject to Massachusetts Right to Know Act.

Pennsylvania Right to Know Components No components are subject to Pennsylvania Right to Know Act.

New Jersey Right to Know Components

No components are subject to New Jersey Right to Know Act.

California Proposition 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.



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Section 16. Other Information

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

HMIS Rating

References

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None available

1/26/2020 1/26/2020 5/23/19

Abbreviations and Acronyms

ACGIH: American Conference of Governmental Industrial Hygienists.

ATE: Acute Toxicity Estimate

CAS: Chemical Abstracts Service (division of the American Chemical Society).

DOT: US Department of Transportation.

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

HMIS: Hazardous Materials Identification System.

IARC: International Agency for Research on Cancer.

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA). IDLH: Immediately Dangerous to Life or Health (US National Institute for Occupation Health and Safety (NIOSH)).

IMDG: International Maritime Code for Dangerous Goods.

NFPA: National Fire Protection Association.

NIOSH: National Institute of Occupational Safety and Health.

NTP: National Toxicology Program.

OSHA: Occupational Safety and Health Administration.

PEL: Permissible Exposure Limits.

REL: Recommended Exposure Limits.

SARA: Superfund Amendments and Reauthorization Act.

STOT: Specific Target Organ Toxicity.

TLV: Threshold Limit Values (ACGIH).

TWA: Time Weighted Average.

VOC: Volatile Organic Compound.

Section 16. Other Information

Disclaimer

The information herein is believed to be accurate and is presented in good faith; however, no warranties or representations are made by Ereztech LLC regarding the accuracy or completeness of the information. Ereztech LLC shall not be liable for any damages resulting from the handling, or from the contact with the above product.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

