

SAFETY DATA SHEET

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SECTION 1. IDENTIFICATION

Product Identifier: (4N) 99.99% Tris(ethylmethyldamido)(tert-butyldamido)tantalum(V)

Product Code: TA-OMX-04

CAS Number: 511292-99-2

Relevant identified uses of the substance: Scientific research and development

Supplier details:

American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
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SECTION 2. HAZARDS IDENTIFICATION

Hazards description



Emergency Overview

OSHA Hazards: Flammable Liquid, Corrosive

Information pertaining to particular dangers for mans and environment

R 10 Flammable

R 14/15 Reacts violently with water, liberating extremely flammable gases.

R 34 Causes burns

HMIS Classification: Health: 3; Flammability: 2; Reactivity: 2

NFPA Ratings: Health: 3; Flammability: 2; Reactivity: 2

Special Hazard(s): Water reactive

Route of Exposure: Eyes, Skin, Inhalation, Ingestion

Potential Health Effects

Inhalation: Can cause severe eye, skin and respiratory tract burns. Risk of serious damage to the lungs (by inhalation). May cause nose, throat, and lung irritation. Inhalation of aerosol may cause irritation to the upper respiratory tract. Inhalation of vapors and/or aerosols in high concentration may cause irritation of respiratory system.

Skin: Causes skin burns. Causes skin irritation.

Eyes: Causes eye burns. May cause blindness. Severe eye irritation.

Ingestion: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

Chronic Health Hazard: This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater.

Target Organs: Eyes. Skin. Respiratory system.

Symptoms: Repeated and/or prolonged exposure to low concentrations of vapors and/or aerosols may cause: Sore throat. Abdominal pain.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Description: (Tert-butylimido)tris(ethylmethyamido)tantalum(V) (CAS 511292-99-2); >99.9999%

Synonyms: (Tert-butylimido)tris(ethylmethyamino)tantalum(V),

Tris(ethylmethyamido)(tertbutylimido)tantalum(V), (t-butylimido)tris(ethylmethyamido)tantalum(V)

Molecular Formula: C₁₃H₃₃N₄Ta

SECTION 4. FIRST AID MEASURES

Eyes: In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Skin: Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Initiate and maintain gentle and continuous irrigation until the patient receives medical care. If medical care is not promptly available, continue to irrigate for one hour. Cover wound with sterile dressing.

Ingestion: If a person vomits when lying on his back, place him in the recovery position. Never give anything by mouth to an unconscious person. Prevent aspiration of vomit. Turn victim's head to the side.

Inhalation: If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. Move to fresh air.

SECTION 5. FIREFIGHTING MEASURES

Suitable Extinguishing Media:

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

Unsuitable: Do not use water.

Products of Combustion: amine, CO, CO₂, NO_x, Tantalum oxide

Special Protective Equipment for Fire-Fighters: Wear self contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s): Water reactive material. Emits toxic fumes under fire conditions. Combustible liquid.

Further Information: Use water spray to cool unopened containers.

Flash Point: Not available.

Flammable Limits: Not available.

Auto-Ignition Temperature: Not available.

Flammability: Not available.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Spill: Evacuate area. Shut off all sources of ignition.

Personal Precautions: Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Environmental Precautions: Prevent spilled product from entering streams or drinking water supplies.

Local authorities should be advised if significant spillages cannot be contained. Construct a dike to prevent spreading. Shut off or remove all ignition sources.

Methods for Cleaning up: Cover with dry lime or soda ash, pick up, keep in a closed container, and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

SECTION 7. HANDLING AND STORAGE

Handling

User Exposure: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from heat and sources of ignition. Keep in a dry, cool place. Keep away from Oxidizers. Store in an area suitable for water reactive materials. Minimize exposure to air. Exposure may cause material to degrade. Store under a nitrogen atmosphere.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Safety shower and eye bath. Use only in a chemical fume hood.

Personal Protective Equipment

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are

appropriate use a full-face respirator with multi-purpose 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.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

Skin and Body: Impervious clothing. Full rubber suit (rain gear). Rubber or plastic boots. Long sleeve shirts and trousers without cuffs. Slicker Suit.

Environmental exposure controls: Prevent spilled product from entering streams or drinking water supplies. Local authorities should be advised if significant spillages cannot be contained. Construct a dike to prevent spreading. Shut off or remove all ignition sources.

Special instructions for protection and hygiene: Provide readily accessible eye wash stations and safety showers. Wash at the end of each workshift and before eating, smoking or using the toilet.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Yellow liquid

Odor: Fishy. Ammoniacal.

Molecular Weight: 426.38 g/mol
Melting Point: Not available
Boiling Point: 98 °C at 1.8 torr
Flash Point: Not available
Ignition temperature: Not available
Volatility: Not available
Liquid Density: 1.323 g/mL
Vapor Density: Not available
Vapor Pressure: Not available
Solubility in water: Reacts
Vapor Density: Not available
n-octanol/water Partition Coefficient: Not available
pH (1% soln/water): Not available

SECTION 10. STABILITY AND REACTIVITY

Stability: Stable at room temperature in closed containers under normal storage and handling conditions. Decompose on exposure to moist air or water.
Conditions to Avoid: Do not allow water to enter container.
Materials to Avoid: Strong oxidizing agents, water, oxygen
Hazardous Decomposition Products: CO, CO₂, NO_x, Tantalum oxides
Hazardous Polymerization: Has not been reported.

SECTION 11. TOXICOLOGICAL INFORMATION

Route of Exposure
Skin Contact: Causes burns.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: Causes burns.
Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Ingestion: May be harmful if swallowed.
Signs and Symptoms of Exposure
Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity: No information available.
Bioaccumulation: No information available.
Biodegradation: No information available.
Environmental Stability: No information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous

waste. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

SECTION 14. TRANSPORT INFORMATION

DOT

Proper Shipping Name: Organometallic substance, liquid, water-reactive
((Tert-butylimido)tris(ethylmethyldamido)tantalum(V))

UN no: 3398

Class: 4.3

Packing Group: Packing Group II

Hazard Label: Dangerous when wet

IATA

Proper Shipping Name: Organometallic substance, liquid, water-reactive
((Tert-butylimido)tris(ethylmethyldamido)tantalum(V))

UN no: 3398

Hazard Class: 4.3

Packing Group: II

SECTION 15. REGULATORY INFORMATION

OSHA Hazards

Flammable Liquid, Corrosive

TSCA Status

On TSCA Inventory

Product related hazard information:

Hazard symbols:

F Flammable

C Corrosive

Risk phrases:

R 10 Flammable

R 14/15 Reacts violently with water, liberating extremely flammable gases.

R 34 Causes burns.

Safety phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection

S 43 In case of fire, use dry powder. Never use water.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED

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