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# SAFETY DATA SHEET

### Section 1. Identification

Pentakis(dimethylamino)niobium(V) **Product Name:** 

**Product Type:** Liquid

19824-58-9 **CAS Number: Product Number:** NB4589

**Recommended Use:** Laboratory chemicals, synthesis of substances.

This product is being supplied under the TSCA R&D Exemption (40 **Uses Advised Against:** 

> CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless

appropriate consent is granted in writing by Ereztech LLC.

**Ereztech LLC Product Manufacturer:** 

11555 Medlock Bridge Road, Suite 100

Johns Creek, GA 30097

**Product Information:** (888) 658-1221

CHEMTREC: 1-800-424-9300 (USA); In Case of an Emergency:

> +1 703-527-3887 (International); CCN836180 \*\*\* Contact manufacturer for all non-emergency calls.

### Section 2. Hazards Identification

Appearance/Odor: Violet-black crystals, odorless.

Classification: FLAMMABLE SOLIDS - Category 2, H228

SUBSTANCES AND MIXTURES WHICH, IN CONTACT WITH WATER,

EMIT FLAMMABLE GASES - Category 2, H261

SKIN CORROSION/IRRITATION - Category 1B, H314

SERIOUS EYE DAMAGE/EYE IRRITATION – Category 1, H318

**GHS Label Elements** 

**Hazard Pictograms:** 



**DANGER Signal Word:** 

### Section 2. Hazards Identification

**Hazard Statements:** H228: Flammable solid.

> H261: In contact with water releases flammable gas. H314: Causes severe skin burns and eye damage.

H318: Causes serious eye damage.

**Prevention:** 

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P223: Do not allow contact with water.

P231 + P232: Handle and store contents under inert gas. Protect from moisture.

P240: Ground and bond container and receiving equipment.

P241: Use explosion proof electrical/ventilating/lighting/processing equipment.

P260: Do not breathe dusts/aerosols/vapors/gases.

P264 + P265: Wash hands and skin thoroughly after handling. Do not touch eyes.

P280: Wear protective gloves/ protective clothing/ eye protection/ face protection/hearing protection.

P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302 + P335 + P334: IF ON SKIN: Brush off loose particles from skin and immerse in cool water.

P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305 + P354 + P338: IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P316: Get emergency medical help immediately. P363: Wash contaminated clothing before reuse.

P370 + P378: In case of fire: Use carbon dioxide (CO<sub>2</sub>) or dry chemical to extinguish. DO NOT USE WATER.

P402 + P404: Store in a dry place. Store in a closed container.

P405: Store locked up.

P501: Dispose of contents/container in accordance with federal,

state and local regulations.

This material is considered hazardous by the OSHA Hazard

Communication Standard (29 CFR 1910.1200).

None identified.

**Precautionary Statements** 

Response:

Storage:

Disposal:

**Hazards Not Otherwise** Classified (HNOC):

**OSHA/HCS Status:** 

### Section 3. Composition/Information on Ingredients

Substance Type: Mono-constituent.

Synonyms: Niobium pentakis(dimethylamide); Niobium

pentakis(dimethylamino); Niobium(V) dimethylamide; Pentakis(dimethylamido)niobium; Nb(NMe2)5; PDMAN,.

Formula:  $C_{10}H_{30}N_5Nb$ Molecular Weight: 313.29 g/mol. EC-No.: 677-745-9

| Component Name                    | %    | CAS Number |
|-----------------------------------|------|------------|
| Pentakis(dimethylamino)niobium(V) | ≥ 99 | 19824-58-9 |

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. Get emergency medical help immediately. Show

this safety data sheet to the doctor in attendance. If unconscious, place in recovery position and get medical help immediately. Maintain an open airway.

Loosen tight clothing such as a collar, tie, belt or waistband.

Eye Contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and

lower eyelids. Rinse for a minimum of 15 minutes. Check for and remove any contact lenses after initial rinse period and continue rinsing for an additional 15 minutes. Keep eyes wide open during rinsing process. Get emergency medical

help immediately.

**Skin Contact:** Remove all contaminated clothing and shoes. Wash off contaminated skin with

plenty of water for a minimum of 15 minutes. Thoroughly clean and dry

contaminated clothing before reuse. Destroy/discard contaminated shoes. In the

event of complaints or symptoms, avoid further exposure. Get emergency

medical help immediately.

**Inhalation:** Remove person to fresh air and keep comfortable for breathing. Rescuer should

wear a mask or self-contained breathing apparatus if it is suspected that fumes are still present. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Do not use the mouth-to-mouth method of resuscitation if victim ingested or inhaled the product; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get emergency

medical help immediately.

### Section 4. First Aid Measures

Do NOT induce vomiting. Rinse mouth. Remove dentures if any. If vomiting Ingestion:

> occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If person is not breathing, if breathing is irregular or if respiratory arrest occurs, see the "Inhalation" first aid measures noted above. Get emergency medical help

immediately.

Most Important Symptoms/Effects, Acute And Delayed Potential Acute Health Effects

**Eye Contact:** Product causes serious eye damage. Symptoms may include watering, redness,

pain, swelling of the eyelids, inability to keep eye open, blurred vison and

temporary/permanent loss of vision.

Inhalation: Product is extremely corrosive to mucous membranes and tissues of the upper

> respiratory tract. Symptoms may include a burning sensation, coughing, coughing up blood (hemoptysis), wheezing, laryngitis, shortness of breath/ difficulty in breathing (dyspnea), blueness (cyanosis) of lips and skin, nausea,

headaches, disorientation, general weakness and loss of consciousness.

**Skin Contact:** Skin contact with this product may be expected to cause (severe) chemical

burns. Symptoms may include reddening of skin, a burning or itching sensation,

pain, blistering and tissue necrosis.

Ingestion: Ingestion may be expected to result in burns of the mouth and throat and

potential perforation of the esophagus and stomach. Symptoms may include pain when swallowing (odynophagia), difficulty swallowing (dysphagia), fever, nausea, recurrent vomiting (emesis) and vomiting of blood (hematemesis). Severe burns which may be accompanied by perforation of the esophagus and stomach may present additional symptoms of abdominal pain/rigidity, chest

and/or back pain.

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary

**Notes to Physician:** Treat symptomatically. **Specific Treatments:** No specific treatment.

No action taken shall be taken involving any personal risk **Protection of First Responders:** 

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

Product reacts with water to release flammable gases. **General Hazards:** 

THE MOST EFFECTIVE FIRE EXTINGUISHING AGENT IS DRY **Suitable Extinguishing Media:** 

CHEMICAL POWDER PRESSURIZED WITH NITROGEN.

Carbon dioxide (CO<sub>2</sub>) may also be used.

### Section 5. Fire Fighting Measures

Unsuitable Extinguishing Media: DO NOT USE WATER OR FOAM as product reacts to produce

flammable gases upon contact with water.

Unusual Fire and Product reacts with water to release flammable gases.

Explosion Hazards:

Gases released may form explosive mixtures with air. Product runoff to sewer may create a fire or explosion hazard. Gases released when product is exposed to water are heavier than air and will spread along the ground. Vapors may accumulate

an ignition source and flashback.

**Product of Combustion:** Decomposition products include carbon oxides (CO<sub>x</sub>), nitrogen

oxides  $(NO_x)$  and niobium oxides. Irritating fumes and organic acid vapors may be generated during exposure to

in low or confined areas or travel a considerable distance to

elevated temperatures or open flame.

**Protection of Firefighters:** Promptly isolate the scene by removing all persons from the

vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Prevent contact with skin or eyes. Prevent the formation and

inhalation of dusts, aerosols, vapors and gases.

Eliminate all local and distant ignition sources. Move containers from fire area if process can be accomplished without risk to firefighters. Do not cut, grind, drill or weld on or near product containers (even empty) of this product

because an explosion may result.

Fire-fighters should wear appropriate protection equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in a positive pressure mode.

### 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. Keep unnecessary and unprotected personnel from entering.

spilled material. Prevent the formation and inhalation of dusts, aerosols, vapors and gases. Provide adequate ventilation. Wear respiratory protection. Put on appropriate personal

Remove all sources of ignition. Do not touch or walk through

protective equipment.

### Section 6. Accidental Release Measures

For Emergency Responders:

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For Non-Emergency Personnel".

**Environmental Precautions:** 

Do not allow dispersal of spilled material and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods for Containment** 

**General:** 

Eliminate all local and distant ignition sources. Move containers from spill area if safe to do so. Prevent the formation and inhalation of dusts, aerosols, vapors and gases. Use sparkproof tools and explosion-proof equipment. Dispose of collected spillage in accordance with federal, state and local regulations. Contaminated binding material may pose the same hazard as the spilled product.

**Small Spill:** 

Collect spillage with a dry binding material (e.g. sand, earth, vermiculite or diatomaceous earth) and place in dry, sealed container for disposal.

Large Spill:

Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with a dry binding material (e.g. sand, earth, vermiculite or diatomaceous earth) and place in dry, sealed container for disposal.

Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

### Section 7. Handling and Storage

**Precautions:** 

Product is moisture sensitive and reacts with water to release flammable gases; 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. Prevent contact with skin, eyes and clothing. Prevent the formation and inhalation of dusts, aerosols, vapors and gases. Do not ingest. Avoid prolonged exposure. Ensure adequate ventilation.

**Protective Measures:** 

Protect against electrostatic discharges. Use explosion-proof electrical/ventilating/lighting/handling equipment. Use nonsparking tools and equipment.

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## Section 7. Handling and Storage

**Protective Measures (cont.):** 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.

Product is moisture sensitive and reacts with water to release Safe Storage Conditions:

> flammable gases; store under an inert gas. Nitrogen with less than 5 ppm each of moisture and oxygen and a temperature range 2 – 8 °C of is recommended. Keep away from all

sources of ignition – NO SMOKING. Store in original container protected from direct sunlight in a dry 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

These recommendations provide general guidance for handling **Introductory Remarks:** 

> 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.

Product, as supplied, does not contain any hazardous materials **Occupational Exposure Limits:** 

with occupational exposure limits established by the region-

specific regulatory bodies.

**Engineering Controls:** Properly operating explosion-proof, 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.

Emissions from ventilation or work process equipment should **Environmental Exposure Controls:** 

be checked to ensure they comply with the requirements of

environmental protection legislation.

## Section 8. Exposure Controls/Personal Protection

Environmental Exposure Controls: (cont.)

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. Prevent the formation and inhalation of dusts, aerosols, vapors or gases. Prevent contact with eyes and skin. Ensure that eyewash stations and safety showers are close to the workstation location.

#### **Eye/Face Protection:**

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to dusts and aerosols. 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.

# Skin Protection Hand Protection:

Chemical-resistant, impervious gloves complying with an 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, wear Neoprene or nitrile rubber gloves.

### 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. When there is a risk of ignition from static electricity discharges, wear anti-static, flame retardant protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls,

boots and gloves.

Where risk assessment shows air-purifying respirators are **Respiratory Protection:** 

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

Solid (crystals). **Physical State:** 

**Color:** Violet-black. Odor: Odorless.

No data available. **Odor Threshold:** pH: No data available.

**Melting Point:** No data available.

100 °C (212 °F) @ 0.1 mmHg. **Boiling Point:** 

Flash Point: No data available. **Specific Gravity:** No data available. No data available. **Vapor Pressure:** Vapor Density: No data available.

Insoluble, reacts with water to produce flammable gases. Water Solubility:

## Section 10. Stability and Reactivity

This product reacts with water and protic solvents to release Reactivity:

flammable gases.

This product is stable when stored under a dry, inert **Chemical Stability:** 

atmosphere and away from heat.

### Section 10. Stability and Reactivity

Chemical Stability (cont.): Nitrogen containing less than 5 ppm each moisture and

air and a temperature range of 2 – 8 °C is recommended.

**Conditions to Avoid:** Exposure to water/moisture, sources of ignition (heat,

flames, sparks, electrostatic discharges), extremes of

temperature and direct sunlight.

**Incompatible Materials:** Strong oxidizing agents.

**Hazardous Decomposition Products:** Decomposition products include carbon oxides (CO<sub>x</sub>),

> nitrogen oxides (NO<sub>x</sub>) and niobium oxides. Irritating fumes and organic acid vapors may be generated during exposure to elevated temperatures or open flame. In the

event of a fire: see Section 5.

Under normal conditions of storage and use noted above, **Possibility of Hazardous Reactions:** 

> hazardous reactions will not occur. Hazardous reactions or instability may occur under certain conditions of storage or use. In contact with water, product releases

flammable gases.

## Section 11. Toxicological Information

Information on Toxicological Effects

No specific data available. **Acute Toxicity:** 

No specific data available. Product causes thermal and/or Irritation/Corrosion:

chemical burns to the skin, eyes and exposed mucous

membranes.

Sensitization: No specific data available.

**Germ Cell Mutagenicity:** No specific data available.

Carcinogenicity

**ACGIH** No component of this product present at levels greater

than 0.1% is identified as probable, possible or confirmed

human carcinogen by ACGIH.

No component of this product present at levels greater **IARC** 

than 0.1% is identified as probable, possible or confirmed

human carcinogen by IARC.

No component of this product present at levels greater **NTP** 

than 0.1% is identified as probable, possible or confirmed

human carcinogen by NTP.

No component of this product present at levels greater **OSHA** 

than 0.1% is identified as probable, possible or confirmed

human carcinogen by OSHA.

No specific data available. **Reproductive Toxicity:** 

### Section 11. Toxicological Information

Teratogenicity: No specific data available.

**Specific Target Organ Toxicity:** No specific data available.

(Single Exposure)

**Specific Target Organ Toxicity:** No specific data available.

(Repeated Exposure)

**Aspiration Hazard:** No specific data available.

Information on the Likely Common routes of exposure: inhalation (failure to prevent dust formation), dermal (failure to use skir

prevent dust formation), dermal (failure to use skin protection), eye (failure to use safety eyewear). Less common: ingestion (failure to employ recommended hygiene measures (e.g. smoking after handling product

without washing hands or using hand protection).

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

**Ecotoxicity:** Product may cause adverse effects in the aquatic

environment. Discharge into the environment must be

avoided.

Numerical Measures of Toxicity: 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.

Results of PBT and vPvB Assessment: PBT/vPvB assessment not available as chemical safety

assessment not required/not conducted.

**Endocrine Disrupting Properties:** 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. Refer to 40 CFR 260-299 for complete waste disposal regulations. Consult your local, state, or federal

agency before disposing of any chemicals.

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## Section 13. Disposal Considerations

**Contaminated Packaging:** 

Empty containers retain product residue (dusts, aerosols, vapors, gases) and can be dangerous. Dispose of as unused product. DO NOT EXPOSE OPENED/EMPTY CONTAINERS TO MOISTURE/WATER, HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

### Section 14. Transport Information

|                             | DOT  | IMDG  | IATA   |  |
|-----------------------------|--|---|--|--|
| UN Number                   | UN3396   | UN3396  | UN3396   |  |
| UN Proper Shipping<br>Name  | Organometallic<br>substance, solid,<br>water-reactive,<br>flammable<br>(Pentakis(trimethyl-<br>amino)niobium(V)) | ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE (Pentakis(trimethyl- amino)niobium(V)) | Organometallic<br>substance, solid,<br>water-reactive,<br>flammable<br>(Pentakis(trimethyl-<br>amino)niobium(V)) |  |
| Transport Hazard<br>Classes | 4.3 (4.1)  | 4.3 (4.1)   | 4.3 (4.1)  |  |
| Packing Group               |  |   | 11   |  |
| Environmental<br>Hazards    | No   | No  | No   |  |
| Additional Information      | -  | EMS-No: F-G, S-N  | -  |  |

**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.

## 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.

This product as supplied is not subject to the TSCA Significant New Use Rule.

This product as supplied is not subject to TSCA 12(b) export notification requirements.

### Section 15. Regulatory Information

#### **SARA 302 Components**

This product does not contain any components which are subject to the reporting requirements of SARA Title III, Section 302 EHS TPQ.

#### **SARA 304 Components**

This product does not contain any components which are subject to the reporting requirements of SARA Title III, Section 304 RQ.

#### SARA 311/312 Hazards

Fire Hazard (Flammable liquid); Reactivity Hazard (In contact with water emits flammable gas); Acute Health Hazard (Serious eye damage or eye irritation).

#### **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.

#### **Clean Water Act**

Not applicable.

#### **Clean Air Act**

Not applicable.

#### **CERCLA Reportable Quantity**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

### **US Department of Homeland Security (DHS)**

This product does not contain any DHS chemicals.

#### **US Department of Transportation (DOT)**

| Component                          | Reportable Quantity | DOT Marine Pollutant | DOT Severe Marine<br>Pollutant |
|------------------------------------|---------------------|----------------------|--------------------------------|
| Pentakis(trimethylamino)niobium(V) | No                  | No                   | No                             |

#### **US State Right-to-Know Listings**

| Component                               | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode<br>Island |
|---|---------------|------------|--------------|----------|-----------------|
| Pentakis(trimethyl-<br>amino)niobium(V) | -             | -          | -            | -        | -               |

<sup>&</sup>quot;X" - Listed.

### Section 15. Regulatory Information

#### **US State Chemicals of High Concern Listings**

| Component                           | Maine | Vermont | Washington |
|-------------------------------------|-------|---------|------------|
| Pentakis(trimethyl-amino)niobium(V) | -     | -       | -          |

<sup>&</sup>quot;X" - Listed.

#### **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.

### Section 16. Other Information

#### National Fire Protection Association (U.S.A.)



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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**

| HEALTH          | 3 |
|-----------------|---|
| FLAMMABILITY    | 3 |
| PHYSICAL HAZARD | 2 |

#### **History**

4/25/2025. Date of Issue/Date of Revision:

**Date of Previous Issue:** None.

None available. References:

### Section 16. Other Information

#### **Abbreviations and Acronyms**

ACGIH American Conference of Governmental Industrial Hygienists.

: American Industrial Hygiene Association. AIHA

: Acute Toxicity Estimate (per Chapter 3.1 of GHS 10 standard). ATE

BEI Biological Exposure Indices (ACGIH).

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

: Chemical Hazards Response Information System (US DOT). CHRIS CLP : Classification, Labeling and Packaging (European Union (EU)).

DOT : US Department of Transportation.

EC-No. : The EC Inventory (EINECS, ELINCS and the NLP-list is the source of the seven digit

EC number, an identifier of substances commercially available with the EU (European

Union).

**EINECS** : European Inventory of Existing Commercial Chemical Substances.

EHS Extremely Hazardous Substance.

**ELINCS** : European List of Notified Chemical Substances.

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

Hazardous Air Pollutants (Clean Air Act). HAP : Hazardous Materials Identification System. **HMIS** 

**HNOC** : Hazards Not Otherwise Classified.

IARC : International Agency for Research on Cancer.

IATA : International Air Transport Association.

Dangerous Goods Regulations by the "International Air Transport Association" IATA-DGR

(IATA).

**IDLH** : Immediately Dangerous to Life or Health (US National Institute for Occupation Health

and Safety (NIOSH)).

International Maritime Code for Dangerous Goods. **IMDG** 

IΡ Intraperitoneal. IV : Intravenous.

National Fire Protection Association. NFPA

NIOSH National Institute of Occupational Safety and Health.

No Significant Risk Levels. NSRL NTP National Toxicology Program.

Ozone Depleting Substances (US Clean Air Act). ODS

OFCD : Organization for Economic Co-Operation and Development.

OEL Occupational Exposure Limit.

OSHA : Occupational Safety and Health Administration.

Persistent Bioaccumulative and Toxic. PBT

PEL Permissible Exposure Limits. REL : Recommended Exposure Limits.

Reportable Quantity. RQ

Superfund Amendments and Reauthorization Act. SARA

STEL (ST) Short Term Exposure Limit (ACGIH/NIOSH)

Specific Target Organ Toxicity. STOT

### Section 16. Other Information

#### Abbreviations and Acronyms (cont.)

TLV : Threshold Limit Values (ACGIH).TPQ : Threshold Planning Quantity.TWA : Time Weighted Average.VOC : Volatile Organic Compound.

vPvB : Very Persistent and Very Bioaccumulative.

WEEL: Workplace Environmental Exposure Level (AIHA).

#### **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.

