



# SAFETY DATA SHEET

## Section 1. Identification

<b>Product Name:</b>	<a href="#">Tetrakis(ethylmethylamino)hafnium</a>
<b>Product Type:</b>	Liquid
<b>CAS Number:</b>	352535-01-4
<b>Product Number:</b>	HF5014
<b>Recommended Use:</b>	Laboratory chemicals, synthesis of substances.
<b>Product Manufacturer:</b>	Ereztech LLC 11555 Medlock Bridge Road, Suite 100 Johns Creek, GA 30097
<b>Product Information:</b>	(888) 658-1221
<b><u>In Case of an Emergency:</u></b>	CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International); CCN836180 *** Contact manufacturer for all non-emergency calls.

## Section 2. Hazards Identification

<b>Appearance/Odor:</b>	Colorless to dark yellow liquid, amine-like odor.
<b>Classification:</b>	FLAMMABLE LIQUIDS - Category 2, H225 SUBSTANCE AND MIXTURES, WHICH IN CONTACT WITH WATER, EMIT FLAMMABLE GASES - Category 2, H261 SKIN CORROSION/IRRITATION - Category 2, H315 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2, H319 SPECIFIC ORGAN TOXICITY, SINGLE EXPOSURE; RESPIRATORY TRACT IRRITATION - Category 3, H335

### GHS Label Elements

#### Hazard Pictograms:



<b>Signal Word:</b>	DANGER
<b>Hazard Statements:</b>	H225: Highly flammable liquid and vapor. H261: In contact with water releases flammable gas. H315: Causes skin irritation.

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### Section 2. Hazards Identification

#### Hazard Statements:

H319: Causes serious eye irritation.  
H335: May cause respiratory irritation.

#### Precautionary Statements

#### Prevention:

P210: Keep away from heat, hot surfaces, sparks, open flames and other sources of ignition. – No smoking.  
P223: Do not allow contact with water.  
P231 + P232: Handle and store contents under inert gas. Protect from moisture.  
P233: Keep container tightly closed.  
P240: Ground and bond container and receiving equipment.  
P241: Use explosion-proof electrical/ventilating/lighting/handling equipment.  
P242: Use non-sparking tools.  
P243: Take action to prevent static discharges.  
P261: Avoid breathing sprays, mists, vapors and gases.  
P264 + P265: Wash hands and exposed skin thoroughly after handling. Do not touch eyes.  
P271: Use only outdoors or with adequate ventilation.  
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection/hearing protection.  
P302 + P352: IF ON SKIN: Wash with plenty of water.  
P302 + P335 + P334: IF ON SKIN: Brush off loose particles from skin and immerse in cool water.  
P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water or shower.  
P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P319: Get medical help if you feel unwell.  
P332 + P317: If skin irritation occurs: Get medical help.  
P337 + P317: If eye irritation persists: Get medical help.  
P362 + P364: Take off contaminated clothing and wash it before reuse.  
P370 + P378: In case of fire: Use alcohol-resistant foam, dry chemical or carbon dioxide for extinction. DO NOT USE WATER.

#### Response:

P302 + P352: IF ON SKIN: Wash with plenty of water.  
P302 + P335 + P334: IF ON SKIN: Brush off loose particles from skin and immerse in cool water.  
P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water or shower.  
P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
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P332 + P317: If skin irritation occurs: Get medical help.  
P337 + P317: If eye irritation persists: Get medical help.  
P362 + P364: Take off contaminated clothing and wash it before reuse.  
P370 + P378: In case of fire: Use alcohol-resistant foam, dry chemical or carbon dioxide for extinction. DO NOT USE WATER.

#### Storage:

P402 + P404: Store in a dry place. Store in a closed container.  
P403 + P233 + P235: Store in a well ventilated place. Keep container tightly closed. Keep cool.  
P405: Store locked up.

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### Section 2. Hazards Identification

<b>Disposal:</b>	P501: Dispose of contents/container in accordance with federal, state and local regulation.
<b>OSHA/HCS Status:</b>	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<b>Hazards Not Otherwise Classified (HNOC):</b>	Product reacts rapidly with water and moisture in air.

### Section 3. Composition/Information on Ingredients

<b>Substance Type:</b>	Mono-constituent.
<b>Synonyms:</b>	Tetrakis([(ethylmethyl)amido]Hafnium; Hafnium ethylmethylamide; [(EtMe)N]4Hf; TEMAH; TEMAHf.
<b>Formula:</b>	C <sub>12</sub> H <sub>32</sub> HfN <sub>4</sub>
<b>Molecular Weight:</b>	410.9 g/mol
<b>EC Number:</b>	629-684-4

Ingredient Name	%	CAS Number
<a href="#">Tetrakis(ethylmethylamino)hafnium</a>	> 99	352535-01-4

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

<b>General Advice:</b>	Move out of dangerous area. 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. Get medical help if symptoms develop or if you feel unwell. Show this safety data sheet to the doctor in attendance.
<b>Eye Contact:</b>	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses if easy to do. Continue rinsing. Get medical help if eye irritation develops and persists.
<b>Skin Contact:</b>	Take off contaminated clothing and shoes immediately. Wash off contaminated skin with plenty of water. Get medical help if irritation develops and persists, if symptoms develop or if you feel unwell.
<b>Inhalation:</b>	Remove person to fresh air and keep comfortable for breathing. 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. Get medical help if symptoms develop or if you feel unwell.

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### Section 4. First Aid Measures

**Ingestion:** Rinse mouth. Do NOT induce vomiting. Remove dentures if any. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Get medical help if symptoms develop or if you feel unwell.

#### Most Important Symptoms/Effects, Acute and Delayed Potential Acute Health Effects

**Eye Contact:** Symptoms may include stinging, tearing, redness, swelling and blurred vision.

**Inhalation:** Product may be irritating to respiratory system. Symptoms may include coughing, sneezing with phlegm production, sore throat, nausea, headache, vomiting.

**Skin Contact:** Symptoms may include an itching or burning sensation, reddening, swelling and blistering with tissue necrosis.

**Ingestion:** Product may be expected to be irritating to mucous membranes. Symptoms may include cramping, localized pain, headache, nausea and vomiting.

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

**Notes to Physician:** Treat symptomatically.

**Specific Treatments:** 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:** Product reacts rapidly with water to release highly flammable gases.

**Suitable Extinguishing Media:** THE MOST EFFECTIVE FIRE EXTINGUISHING AGENT IS DRY CHEMICAL POWDER PRESSURIZED WITH NITROGEN. Vermiculite, dry sand, dry chemical or carbon dioxide (CO<sub>2</sub>) may also be used.

**Unsuitable Extinguishing Media:** DO NOT USE WATER OR FOAM as product reacts to produce extremely flammable vapors upon contact with water.

**Unusual Fire and Explosion Hazards:** This material reacts violently with water and compounds containing active hydrogen such as alcohols and acids to produce highly flammable liquids and gases. Vapors may form an explosive mixture with air at room temperature. Product runoff to sewer may create a fire or explosion hazard. Vapors and gases produced are heavier than air and will spread along the ground.

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### Section 5. Fire Fighting Measures

**Unusual Fire and  
Explosion Hazards (cont.):**

**Product of Combustion:**

Vapors may accumulate in low or confined areas or travel a considerable distance to an ignition source and flashback.

Products of complete combustion are carbon dioxide (CO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) and hafnium oxides. Irritating fumes and organic acid vapors may be generated during exposure 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. Avoid contact with skin or eyes. Avoid the formation and inhalation of sprays, mists, vapors and gases.

Eliminate all local and distant ignition sources. Take action to prevent static discharges. Move containers from fire area if process can be accomplished without risk to firefighters. To reduce the possibility of explosion, use a water spray or fog to reduce direct vapors and to cool unopened containers. 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. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take action to prevent static discharges. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid the formation and inhalation of sprays, mists, vapors and gases. Provide adequate ventilation. Wear respiratory protection. Put on appropriate personal protective equipment.

**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".



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### Section 6. Accidental Release Measures

#### 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:

Spilled material will likely give off smoke and fumes. Eliminate all local and distant ignition sources. Move containers from spill area if safe to do so. Avoid the formation and inhalation of sprays and mists. Avoid allowing the spilled material to get wet or using water to clean up spillages or residues. Use spark-proof tools and explosion-proof equipment. Dispose of collected spillage in accordance with federal, state and local regulations. Contaminated extinguishing material may pose the same hazard as the spilled product.

##### Small Spill:

Collect spillage with a dry, non-combustible, absorbent material (e.g. dry sand, 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, non-combustible, absorbent material (e.g. dry sand, 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 reacts rapidly 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. Avoid contact with skin, eyes and clothing. Avoid the formation and inhalation of sprays, mists, 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 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.

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### Section 7. Handling and Storage

- Protective Measures (cont.):** 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 is reacts rapidly with water to release flammable gases; store under an inert gas. Nitrogen with less than 5 ppm each of moisture and oxygen and a temperature of 2 – 8 °C 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 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

Components	CAS-No.	List	Type	Value
Tetrakis(ethylmethylamino)hafnium	352535-01-4	ACGIH	TLV	0.05 mg/m <sup>3</sup> Hf TWA
		NIOSH	IDLH	5 mg/m <sup>3</sup> Hf

- 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.
- 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.

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### Section 8. Exposure Controls/Personal Protection

#### 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. Avoid the formation and inhalation of 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:

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, vapors or gases. 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, use Neoprene or nitrile rubber.

##### 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.



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### Section 8. Exposure Controls/Personal Protection

<b>Other Skin Protection (cont.):</b>	When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
<b>Respiratory Protection:</b>	Where risk assessment shows air-purifying respirators are 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

<b>Physical State:</b>	Liquid.
<b>Color:</b>	Colorless to dark yellow.
<b>Odor:</b>	Amine-like.
<b>Odor Threshold:</b>	No data available.
<b>pH:</b>	No data available.
<b>Melting Point:</b>	-50 °C (-58 °F).
<b>Boiling Point:</b>	78 °C (172.4 °F) @ 0.01 mm Hg.
<b>Flash Point:</b>	11 °C (51.8 °F).
<b>Auto-ignition temperature:</b>	No data available.
<b>Specific Gravity:</b>	1.324 g/ml @ 25 °C.
<b>Vapor Pressure:</b>	No data available.
<b>Relative Vapor Density:</b>	>1 @ 20 °C (air = 1).
<b>Water Solubility:</b>	Reacts violently to release flammable gases.
<b>Evaporation Rate:</b>	No data available.
<b>Viscosity:</b>	No data available.

### Section 10. Stability and Reactivity

<b>Reactivity:</b>	This product reacts rapidly with water and compounds containing active hydrogen such as alcohols and acids to release highly flammable gases. Vapors may form explosive mixtures with air at room temperature.
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### Section 10. Stability and Reactivity

#### 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:

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:

In contact with water, product releases a highly flammable gas (ethylmethylamine). Hazardous decomposition products formed under fire conditions: carbon oxides (CO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>), and hafnium oxide fumes. 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.

#### Possibility of Hazardous Reactions:

Under normal conditions of storage and use noted above, hazardous reactions will not occur. Hazardous reactions or instability may occur under certain conditions of storage or use. In contact with water, product releases highly flammable gases. Vapors may form explosive mixtures with air at room temperature.

### Section 11. Toxicological Information

#### Information on Toxicological Effects

##### Acute Toxicity

: No specific data available.

##### Irritation/Corrosion

: No specific data available. Product may be expected to be irritating to skin, eyes and exposed mucous membranes.

##### Sensitization

: No specific data available.

##### Germ Cell Mutagenicity

: No specific data available.

##### Carcinogenicity

###### 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.

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### Section 11. Toxicological Information

#### Carcinogenity (cont.)

- NTP** : 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** : No specific data available.
- Teratogenicity** : No specific data available.
- Specific Target Organ Toxicity (Single Exposure)** : Respiratory tract irritation.
- Specific Target Organ Toxicity (Repeated Exposure)** : No specific data available.
- Aspiration Hazard** : No specific data available.
- Information on the Likely Routes of Exposure** : Common routes of exposure: inhalation, dermal (failure to use skin protection), eye (failure to use safety eyewear). Less common: ingestion (failure to employ recommended hygiene measures (e.g. smoking or eating 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

#### 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. Product may cause long lasting harmful effects to aquatic life.

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### Section 13. Disposal Considerations

- 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.
- Contaminated Packaging:** Empty containers retain product residue (liquids, vapors, gases) and can be dangerous. Dispose of as unused containers. DO NOT EXPOSE SUCH CONTAINERS TO AIR, 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	IATA
UN Number	UN3399	UN3399	UN3399
UN Proper Shipping Name	Organometallic substance, liquid, water-reactive, flammable (Tetrakis(ethylmethyl-amino)hafnium)	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE (Tetrakis(ethylmethyl-amino)hafnium)	Organometallic substance, liquid, water-reactive, flammable (Tetrakis(ethylmethyl-amino)hafnium)
Transport Hazard Classes	4.3	4.3	4.3
Packing Group	II	II	II
Environmental Hazards	-	-	-
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 listed on the U.S. Toxic Substances Control Act Chemical Inventory (TSCA Inventory).

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### 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 Liquids); Reactivity Hazard (In contact with water emits flammable gas); Acute Health Hazard (Skin Corrosion or Irritation; Serious Eye Damage or Eye Irritation; Specific target organ toxicity, single exposure: respiratory tract 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

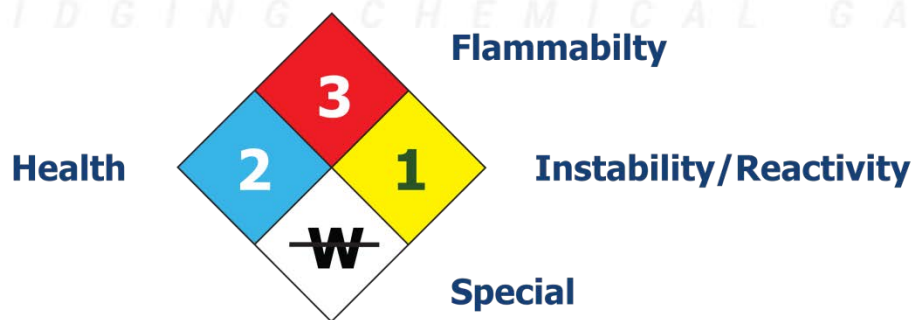
No components are subject to New Jersey Right to Know Act.

#### 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.

### Section 16. Other Information

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



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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

<b>HEALTH</b>	<b>2</b>
<b>FLAMMABILITY</b>	<b>3</b>
<b>PHYSICAL HAZARD</b>	<b>1</b>

#### History

**Date of Issue/Date of Revision** : 7/9/2024.

**Date of Previous Issue** : None.

**References** : None available

#### Abbreviations and Acronyms

ACGIH: American Conference of Governmental Industrial Hygienists.

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

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

CLP: Classification, Labeling and Packaging (European Union (EU)).

DOT: US Department of Transportation.

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

HMIS: Hazardous Materials Identification System.

HNOC: Hazards Not Otherwise Classified.

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.

OECD: Organization for Economic Co-Operation and Development.

OEL: Occupational Exposure Limit.

OSHA: Occupational Safety and Health Administration.

PEL: Permissible Exposure Limits.

REL: Recommended Exposure Limits.

SARA: Superfund Amendments and Reauthorization Act.

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

STOT: Specific Target Organ Toxicity.

TLV: Threshold Limit Values (ACGIH).

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### Section 16. Other Information

#### Abbreviations and Acronyms (cont.)

TWA: Time Weighted Average.

VOC: Volatile Organic Compound.

#### 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.

