SAFETY DATA SHEET

Updated on 26/09/2024

1. Material Identification

Product Name : Butylamine
Catalog Number : io-1882
CAS Number : 109-73-9
Identified uses : Laboratory chemicals, manufacture of chemical compounds
Company : Ionz

>> R&D Use only

2. Hazards Identification

GHS Classification:

Flammable liquid (category 2)
Acute toxicity, oral (Category 3)
Acute toxicity, dermal (Category 3)
Acute toxicity, inhalation (Category 3)
Specific target organ toxicity, single exposure (Category 1)

Pictogram(s)

GHS Hazard Statements

>> H225 (100%): Highly Flammable liquid and vapor [Danger Flammable liquids]

>> H302 (100%): Harmful if swallowed [Warning Acute toxicity, oral]

>> H311 (32.7%): Toxic in contact with skin [Danger Acute toxicity, dermal]

>> H312 (67.3%): Harmful in contact with skin [Warning Acute toxicity, dermal]

>> H314 (100%): Causes severe skin burns and eye damage [Danger Skin corrosion/irritation]

>> H318 (28.5%): Causes serious eye damage [Danger Serious eye damage/eye irritation]

>> H330 (20.3%): Fatal if inhaled [Danger Acute toxicity, inhalation]

>> H331 (14.2%): Toxic if inhaled [Danger Acute toxicity, inhalation]

>> H332 (65.5%): Harmful if inhaled [Warning Acute toxicity, inhalation]

>> H335 (31.3%): May cause respiratory irritation [Warning Specific target organ toxicity, single exposure; Respiratory tract irritation]

Precautionary Statement Codes

>> P210, P233, P240, P241, P242, P243, P260, P261, P262, P264, P264+P265, P270, P271, P280, P284, P301+P317, P301+P330+P331, P302+P352, P302+P361+P354, P303+P361+P353, P304+P340, P305+P354+P338, P316, P317, P319, P320, P321, P330, P361+P364, P362+P364, P363, P370+P378, P403+P233, P403+P235, P405, and P501

NFPA 704 Diamond

NFPA Health Rating

>> 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA Fire Rating

>> 3 - Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials produce hazardous atmospheres with air under almost all ambient temperatures or, though unaffected by ambient temperatures, are readily ignited under almost all conditions.

NFPA Instability Rating

>> 0 - Materials that in themselves are normally stable, even under fire conditions.

Health Hazards:

>> Inhalation causes irritation, nausea, vomiting, headache, faintness, severe coughing and chest pains; can cause lung edema. Ingestion causes severe irritation of mouth and stomach. Contact with eyes causes severe irritation and edema of the cornea. Contact with skin causes burns; absorption through skin may cause nausea, vomiting and shock. (USCG, 1999)

ERG 2024, Guide 132 (n-Butylamine)

>> May cause toxic effects if inhaled or ingested.

>> Contact with substance may cause severe burns to skin and eyes.

>> Fire will produce irritating, corrosive and/or toxic gases.

>> Vapors may cause dizziness or asphyxiation, especially when in closed or confined areas.

>> Runoff from fire control or dilution water may cause environmental contamination.

>> Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire.

>> Behavior in Fire: Vapor is heavier than air and may travel to a source of ignition and flash back. Containers may explode in fire. (USCG, 1999)

ERG 2024, Guide 132 (n-Butylamine)

>> Flammable/combustible material.

>> May be ignited by heat, sparks or flames.

>> Vapors may form explosive mixtures with air.

>> Vapors may travel to source of ignition and flash back.

>> Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks, etc.).

>> Vapor explosion hazard indoors, outdoors or in sewers.

>> Those substances designated with a (P) may polymerize explosively when heated or involved in a fire.

>> Runoff to sewer may create fire or explosion hazard.

>> Containers may explode when heated.

>> Many liquids will float on water.

>> Highly flammable. Gives off irritating or toxic fumes (or gases) in a fire. Vapour/air mixtures are explosive.

3. Composition/Information On Ingredients

Chemical name : Butylamine
CAS Number : 109-73-9
Molecular Formula : C4H11N
Molecular Weight : 73.1400 g/mol

4. First Aid Measures

First Aid:

>> EYES: First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments,

oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.

>> SKIN: IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. IMMEDIATELY call a hospital or poison control center even if no symptoms (such as redness or irritation) develop. IMMEDIATELY transport the victim to a hospital for treatment after washing the affected areas.

>> INHALATION: IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital. Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Protective Clothing.

>> INGESTION: DO NOT INDUCE VOMITING. Corrosive chemicals will destroy the membranes of the mouth, throat, and esophagus and volatile chemicals have a high risk of being aspirated into the victim's lungs during vomiting. Thus, the risk of increasing the medical problems by inducing vomiting of a volatile corrosive chemical is very high. If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. IMMEDIATELY transport the victim to a hospital. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. IMMEDIATELY transport the victim to a hospital. (NTP, 1992)

ERG 2024, Guide 132 (n-Butylamine)

>> General First Aid:

>> Call 911 or emergency medical service.

>> Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and avoid contamination.

>> Move victim to fresh air if it can be done safely.

>> Administer oxygen if breathing is difficult.

>> If victim is not breathing:

>> DO NOT perform mouth-to-mouth resuscitation; the victim may have ingestedor inhaled the substance.

>> If equipped and pulse detected, wash face and mouth, then give artificial respiration using a proper respiratory medical device (bag-valve mask, pocket mask equipped with a one-way valve or other device).

>> If no pulse detected or no respiratory medical device available, provide continuouscompressions. Conduct a pulse check every two minutes or monitor for any signs of spontaneous respirations.

>> Remove and isolate contaminated clothing and shoes.

>> For minor skin contact, avoid spreading material on unaffected skin.

>> In case of contact with substance, remove immediately by flushing skin or eyes with running water for at least 20 minutes.

>> For severe burns, immediate medical attention is required.

>> Effects of exposure (inhalation, ingestion, or skin contact) to substance may be delayed.

>> Keep victim calm and warm.

>> Keep victim under observation.

>> For further assistance, contact your local Poison Control Center.

>> Note: Basic Life Support (BLS) and Advanced Life Support (ALS) should be done by trained professionals.

>> Specific First Aid:

>> For corrosives, in case of contact, immediately flush skin or eyes with running water for at least 30 minutes. Additional flushing may be required.

>> In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.

>> In Canada, an Emergency Response Assistance Plan (ERAP) may be required for this product. Please consult the shipping paper and/or the "ERAP" section.

First Aid Measures

Inhalation First Aid

>> Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention.

Skin First Aid

>> Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention .

Eye First Aid

>> First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Ingestion First Aid

>> Rinse mouth. Do NOT induce vomiting. Refer for medical attention .

5. Fire Fighting Measures

>> VAPORS ARE HEAVIER THAN AIR & MAY TRAVEL CONSIDERABLE DISTANCE TO SOURCE OF IGNITION & FLASH BACK.

>> Excerpt from ERG Guide 132 [Flammable Liquids - Corrosive]:

>> Some of these materials may react violently with water.

>> SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam.

>> LARGE FIRE: Water spray, fog or alcohol-resistant foam. If it can be done safely, move undamaged containers away from the area around the fire. Dike runoff from fire control for later disposal. Do not get water inside containers.

>> FIRE INVOLVING TANKS, RAIL TANK CARS OR HIGHWAY TANKS: Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks in direct contact with flames. For massive fire, use unmanned master stream devices or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2024)

>> Use water in large amounts, powder, alcohol-resistant foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

6. Accidental Release Measures

Isolation and Evacuation:

Isolation and evacuation measures to take when a large amount of this chemical is accidentally released in an emergency.

>> Excerpt from ERG Guide 132 [Flammable Liquids - Corrosive]:

>> IMMEDIATE PRECAUTIONARY MEASURE: Isolate spill or leak area for at least 50 meters (150 feet) in all directions.

>> SPILL: Increase the immediate precautionary measure distance, in the downwind direction, as necessary.

>> FIRE: If tank, rail tank car or highway tank is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2024)

Evacuation: ERG 2024, Guide 132 (n-Butylamine)

>> Immediate precautionary measure

>> Isolate spill or leak area for at least 50 meters (150 feet) in all directions.

>> Spill

>> For non-highlighted materials: increase the immediate precautionary measure distance, in the downwind direction, as necessary.

>> Fire

>> If tank, rail tank car or highway tank is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Spillage Disposal:

Methods for containment and safety measures to protect workers dealing with a spillage of this chemical.

>> Evacuate danger area! Consult an expert! Personal protection: chemical protection suit including self-contained breathing apparatus. Ventilation. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

Accidental Release Measures

Public Safety: ERG 2024, Guide 132 (n-Butylamine)

>> CALL 911. Then call emergency response telephone number on shipping paper. If shipping paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.

>> Keep unauthorized personnel away.

>> Stay upwind, uphill and/or upstream.

>> Ventilate closed spaces before entering, but only if properly trained and equipped.

Spill or Leak: ERG 2024, Guide 132 (n-Butylamine)

>> ELIMINATE all ignition sources (no smoking, flares, sparks or flames) from immediate area.

>> All equipment used when handling the product must be grounded.

>> Do not touch or walk through spilled material.

>> Stop leak if you can do it without risk.

>> Prevent entry into waterways, sewers, basements or confined areas.

>> A vapor-suppressing foam may be used to reduce vapors.

>> Absorb with earth, sand or other non-combustible material.

>> For hydrazine, absorb with DRY sand or inert absorbent (vermiculite or absorbent pads).

>> Use clean, non-sparking tools to collect absorbed material.

>> Large Spill

>> Dike far ahead of liquid spill for later disposal.

>> Water spray may reduce vapor, but may not prevent ignition in closed spaces.

7. Handling And Storage

Safe Storage:

>> Fireproof. Separated from food and feedstuffs. See Chemical Dangers.

Storage Conditions:

>> Store in closed containers in a cool, dry, well-ventilated area.

8. Exposure Control/ Personal Protection

REL-C (Ceiling)

>> 5 ppm (15 mg/m³) [15 minutes]

>> C 5 ppm (15 mg/m3) [skin]

PEL-C (Ceiling)

>> 5 ppm (15 mg/m³)

>> C 5 ppm (15 mg/m3) [skin]

TLV-Ceiling

>> 5.0 [ppm]

>> Ceiling Limit: 5 ppm, skin.

>> 5 ppm as STEL; (skin).

TLV-C (Ceiling)

>> 5 ppm [1985]

MAK (Maximale Arbeitsplatz Konzentration)

>> 6.1 mg/m

Emergency Response: ERG 2024, Guide 132 (n-Butylamine)

>> Some of these materials may react violently with water.

>> Small Fire

>> Dry chemical, CO2, water spray or alcohol-resistant foam.

>> Large Fire

>> Water spray, fog or alcohol-resistant foam.

>> If it can be done safely, move undamaged containers away from the area around the fire.

>> Dike runoff from fire control for later disposal.

>> Do not get water inside containers.

>> Fire Involving Tanks, Rail Tank Cars or Highway Tanks

>> Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles.

>> Cool containers with flooding quantities of water until well after fire is out.

>> Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.

>> ALWAYS stay away from tanks in direct contact with flames.

>> For massive fire, use unmanned master stream devices or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

Inhalation Risk:

>> A harmful contamination of the air can be reached very quickly on evaporation of this substance at 20 °C.

Effects of Short Term Exposure:

>> The substance and the vapour are corrosive to the eyes, skin and respiratory tract. Inhalation of the vapour may cause lung oedema. The effects may be delayed. Medical observation is indicated.

Effects of Long Term Exposure:

>> Repeated or prolonged contact with skin may cause dermatitis.

Fire Prevention

>> NO open flames, NO sparks and NO smoking. Closed system, ventilation, explosion-proof electrical equipment and lighting.

Exposure Prevention

>> AVOID ALL CONTACT! IN ALL CASES CONSULT A DOCTOR!

Inhalation Prevention

>> Use ventilation, local exhaust or breathing protection.

Skin Prevention

>> Protective gloves. Protective clothing.

Eye Prevention

>> Wear face shield or eye protection in combination with breathing protection.

Ingestion Prevention

>> Do not eat, drink, or smoke during work.

Exposure Control and Personal Protection

Protective Clothing: ERG 2024, Guide 132 (n-Butylamine)

>> Wear positive pressure self-contained breathing apparatus (SCBA).

>> Wear chemical protective clothing that is specifically recommended by the manufacturer when there is NO RISK OF FIRE.

>> Structural firefighters' protective clothing provides thermal protection but only limited chemical protection.

Maximum Allowable Concentration (MAK)

>> 2.0 [ppm]

9. Physical And Chemical Properties

Molecular Weight:

>> 73.14

Exact Mass:

>> 73.089149355

Physical Description:

>> N-butylamine appears as a clear colorless liquid with an ammonia-like odor. Flash point 10 °F. Less dense (6.2 lb / gal) than water. Vapors heavier than air. Produces toxic oxides of nitrogen during combustion.

>> COLOURLESS LIQUID WITH CHARACTERISTIC ODOUR. TURNS YELLOW ON STANDING.

Color/Form:

>> CLEAR, COLORLESS LIQUID

Odor:

>> Amine odor

Boiling Point:

>> 172.4 °F at 760 mmHg (NTP, 1992)

>> 78 °C

Melting Point:

>> -58 °F (NTP, 1992)

>> -50 °C

Flash Point:

>> 10 °F (NTP, 1992)

>> -12 °C c.c.

Solubility:

>> Soluble (>=10 mg/ml) (NTP, 1992)

>> Solubility in water: miscible

Density:

>> 0.741 at 68 °F (USCG, 1999) - Less dense than water; will float

>> Relative density (water = 1): 0.74

Vapor Density:

>> 2.52 (NTP, 1992) - Heavier than air; will sink (Relative to Air)

>> Relative vapor density (air = 1): 2.5

Vapor Pressure:

>> 72 mmHg at 68 °F (NTP, 1992)

>> Vapor pressure, kPa at 20 °C: 10.9

LogP:

>> 0.86

Stability/Shelf Life:

>> /n-Butylamine/ is stable in closed containers at room temperature under normal storage and handling conditions.

Autoignition Temperature:

>> 594 °F (USCG, 1999)

>> 312 °C

Decomposition:

>> When heated to decomposition it emits toxic fumes of /nitrogen oxides/.

Viscosity:

>> 0.574 mPa s at 25 °C

Corrosivity:

The ability of a chemical to damage or destroy other substances when it comes into contact.

>> It may corrode some metals in the presence of water.

Heat of Combustion:

>> -3018.4 kJ/mole (liquid) at 25 °C

Heat of Vaporization:

>> 35.72 kJ/mole at 25 °C

Surface Tension:

>> 23.44 mN/m at 25 °C

Ionization Potential:

>> 8.71 eV

Ionization Efficiency:

The ratio of the number of ions formed to the number of electrons or photons used in an ionization process.

Ionization mode

>> Positive

logIE

>> 2.65

pH

>> 2.7

Instrument

>> Agilent XCT

Ion source

>> Electrospray ionization

Additive

>> formic acid (5.3nM)

Organic modifier

>> MeCN (80%)

Reference

>> DOI:10.1038/s41598-020-62573-z

Polymerization:

Polymerization is a process of reacting monomer molecules together in a chemical reaction to form polymer chains or three-dimensional networks.

>> /n-Butylamine/ does not undergo hazardous polymerization.

Odor Threshold:

>> Odor Threshold Low: 0.08 [mmHg]

>> Detection odor threshold from AIHA (mean = 0.080 ppm)

Refractive Index:

>> Index of refraction: 1.4010 at 20 °C/D

Dissociation Constants:

Basic pKa

>> 10.7

pKa

>> 10.8 (at 20 °C)

>> pKa = 10.78 at 20 °C (conjugate acid)

Relative Evaporation Rate:

The rate at which a material will vaporize (evaporate, change from liquid to vapor), compared to the rate of vaporization of a specific known material.

>> 7.3 (butyl acetate = 1)

10. Stability And Reactivity

>> Highly flammable. Dissolves in water with evolution of heat. The resulting solutions are basic.

>> Highly Flammable

11. Toxicological Information

Exposure Routes:

>> The substance can be absorbed into the body by inhalation of its vapour, through the skin and by ingestion.

>> inhalation, skin absorption, ingestion, skin and/or eye contact

Inhalation Exposure

>> Sore throat. Cough. Burning sensation. Headache. Flushing of the face. Vomiting. Dizziness. Shortness of breath. Laboured breathing. Symptoms may be delayed.

Skin Exposure

>> MAY BE ABSORBED! Pain. Redness. Blisters. Skin burns.

Eye Exposure

>> Pain. Redness. Severe deep burns. Loss of vision.

Ingestion Exposure

>> Burning sensation. Abdominal pain. Diarrhoea. Nausea. Vomiting. Shock or collapse.

>> irritation eyes, skin, nose, throat; headache; skin flush, burns

Target Organs:

Organs that are affected by exposure to this chemical. Information in this section reflects human data unless otherwise noted.

>> Eyes, skin, respiratory system

Adverse Effects:

An adverse effect is an undesired harmful effect resulting from a medical treatment or other intervention.

>> Dermatotoxin - Skin burns.

>> Toxic Pneumonitis - Inflammation of the lungs induced by inhalation of metal fumes or toxic gases and vapors.

Toxicity Data:

>> LCLo (rat) = 4,000 ppm/4H

Antidote and Emergency Treatment:

>> Basic treatment: Establish a patent airway (oropharyngeal or nasopharyngeal airway, if needed). Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilations if necessary. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for pulmonary edema and treat if necessary ... . Monitor for shock and treat if necessary ... . Anticipate seizures and treat if necessary ... . For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with 0.9% saline (NS) during transport ... . Do not use emetics. For ingestion, rinse mouth and administer 5 mg/kg up to 200 ml of water for dilution if the patent can swallow, has a strong gag reflex, and does not drool. Administer activated charcoal ... . Cover skin burns with dry sterile dressings after decontamination ... . /Organic bases/Amines and related compounds/

Human Toxicity Excerpts:

>> /SIGNS AND SYMPTOMS/ Workers with daily exposures of from 5 to 10 ppm complain of nose, throat, and eye irritation, and headaches. ... Daily exposures to less than 5 ppm (most often between 1 and 2 ppm) produce no complaints or symptoms.

Non-Human Toxicity Excerpts:

>> /LABORATORY ANIMALS: Acute Exposure/ N-butylamine ... at measured concn of 3000 to 5000 ppm produces an immediate irritant response, labored breathing, and pulmonary edema with death of all rats in minutes to hours. 10 and 50 percent vol/vol aq solutions and the undiluted base produce severe skin and eye burns in animals.

Non-Human Toxicity Values:

>> LD50 Rat oral 500 mg/kg

Populations at Special Risk:

>> ... Employees /with chronic respiratory, skin, or eye disease are/ at increased risk from butylamine exposure.

12. Ecological Information

ICSC Environmental Data:

>> The substance is harmful to aquatic organisms.

Fish/Seafood Concentrations:

Concentrations of this compound in fish or seafood.

>> n-Butylamine was not detected in herring or cod roe (detection limit not given)(1).

13. Disposal Considerations

Spillage Disposal

>> Evacuate danger area! Consult an expert! Personal protection: chemical protection suit including self-contained breathing apparatus. Ventilation. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

Disposal Methods

>> SRP: The most favorable course of action is to use an alternative chemical product with less inherent propensity for occupational exposure or environmental contamination. Recycle any unused portion of the material for its approved use or return it to the manufacturer or supplier. Ultimate disposal of the chemical must consider: the material's impact on air quality; potential migration in soil or water; effects on animal, aquatic, and plant life; and conformance with environmental and public health regulations.

>> Incineration; incinerator is equipped with a scrubber or thermal unit to reduce NOx emissions. Alternatively it may be poured into sodium bisulfate, neutralized and flushed with water.

>> /Absorb small spills with paper and/ burn the paper in a suitable location away from combustible materials. Large quantities can be reclaimed or collected & atomized in suitable combustion chamber equipped with appropriate effluent gas cleaning device.

14. Transport Information

DOT

Butylamine
3
UN Pack Group: II
Reportable Quantity of 1000 lb or 454 kg

IATA

Butylamine
3, 8
UN Pack Group: II

15. Regulatory Information

Clean Water Act Requirements:

The Clean Water Act (CWA) of 1972 establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Under CWA, the U.S. Environmental Protection Agency (EPA) developed the Toxic Pollutant List (40 CFR Part 401.15) and the Priority Pollutant List (40 CFR Part 423, Appendix A). These lists are to be used by EPA and States to develop the Effluent Guidelines regulations and ensure water quality criteria and standards.

>> Butylamine is designated as a hazardous substance under section 311(b)(2)(A) of the Federal Water Pollution Control Act and further regulated by the Clean Water Act Amendments of 1977 and 1978. These regulations apply to discharges of this substance. This designation includes any isomers and hydrates, as well as any solutions and mixtures containing this substance.

Regulatory Information

The Australian Inventory of Industrial Chemicals

>> Chemical: 1-Butanamine

REACH Registered Substance

>> Status: Active Update: 27-03-2023 https://echa.europa.eu/registration-dossier/-/registered-dossier/13605

>> Status: Active Update: 29-10-2021 https://echa.europa.eu/registration-dossier/-/registered-dossier/25391

New Zealand EPA Inventory of Chemical Status

>> 1-Butanamine: HSNO Approval: HSR001090 Approved with controls

16. Other Information

Toxic Combustion Products:

Toxic products (e.g., gases and vapors) produced from the combustion of this chemical.

>> TOXIC OXIDES OF NITROGEN MAY FORM IN FIRE.

Other Safety Information

Chemical Assessment

>> Evaluation - Chemicals that are unlikely to require further regulation to manage risks to environment

"The information provided is believed to be accurate but is not comprehensive and should be used as a reference. It reflects our current knowledge and is intended for safety guidance related to the product. This document does not constitute a warranty of the product's properties. Ionz is not responsible for any damages resulting from handling or contact with the product incorrectly."