ionz

SAFETY DATA SHEET

Updated on 26/09/2024

1. Material Identification

Product Name : Phosphoric acid
Catalog Number : io-2859
CAS Number : 7664-38-2
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)

Note

>> Pictograms displayed are for > 99.9% (4242 of 4246) of reports that indicate hazard statements. This chemical does not meet GHS hazard criteria for < 0.1% (4 of 4246) of reports.

Pictogram(s)

GHS Hazard Statements

>> H290 (17.5%): May be corrosive to metals [Warning Corrosive to Metals]

>> H302 (13.8%): Harmful if swallowed [Warning Acute toxicity, oral]

>> H314 (99.9%): Causes severe skin burns and eye damage [Danger Skin corrosion/irritation]

>> H318 (16.5%): Causes serious eye damage [Danger Serious eye damage/eye irritation]

Precautionary Statement Codes

>> P234, P260, P264, P264+P265, P270, P280, P301+P317, P301+P330+P331, P302+P361+P354, P304+P340, P305+P354+P338, P316, P317, P321, P330, P363, P390, P405, P406, and P501

NFPA 704 Diamond

NFPA Health Rating

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

NFPA Fire Rating

>> 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA Instability Rating

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

EPA Safer Chemical:

EPA labels products so that consumers can easily choose ones that are safer for people and the environment. When consumers see the Safer Choice label on a product, they can be confident that the ingredients have been through a rigorous EPA review. The label means that EPA scientists have evaluated every ingredient in the product to ensure it meets Safer Choice's stringent criteria. When people use Safer Choice products, they are protecting their families and the environment by making safer chemical choices.

EPA Safer Chemical

>> Chemical: Phosphoric acid

>> Yellow triangle - The chemical has met Safer Choice Criteria for its functional ingredient-class, but has some hazard profile issues. Specifically, a chemical with this code is not associated with a low level of hazard concern for all human health and environmental endpoints. (See Safer Choice Criteria). While it is a best-in-class chemical and among the safest available for a particular function, the function fulfilled by the chemical should be considered an area for safer chemistry innovation.
△

Health Hazards:

>> Burns on mouth and lips, sour acrid taste, severe gastrointestinal irritation, nausea, vomiting, bloody diarrhea, difficult swallowing, severe abdominal pains, thirst, acidemia, difficult breathing, convulsions, collapse, shock, death. (USCG, 1999)

ERG 2024, Guide 154 (Phosphoric acid, solid; Phosphoric acid, solution)

>> TOXIC and/or CORROSIVE; inhalation, ingestion or skin contact with material may cause severe injury or death.

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

>> Avoid any skin contact.

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

>> Runoff from fire control or dilution water may be corrosive and/or toxic and cause environmental contamination.

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>> Excerpt from ERG Guide 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]:

>> Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Corrosives in contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For electric vehicles or equipment, ERG Guide 147 (lithium ion or sodium ion batteries) or ERG Guide 138 (sodium batteries) should also be consulted. (ERG, 2024)

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>> For electric vehicles or equipment, GUIDE 147 (lithium ion or sodium ion batteries) or GUIDE 138 (sodium batteries) should also be consulted.

>> Not combustible. Gives off irritating or toxic fumes (or gases) in a fire. Risk of fire and explosion on contact with incompatible substances. See Chemical Dangers.

3. Composition/Information On Ingredients

Chemical name : Phosphoric acid
CAS Number : 7664-38-2
Molecular Formula : H3O4P
Molecular Weight : 97.9950 g/mol

4. First Aid Measures

First Aid:

>> Excerpt from NIOSH Pocket Guide for Phosphoric acid:

>> Eye: IRRIGATE IMMEDIATELY - If this chemical contacts the eyes, immediately wash (irrigate) the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately.

>> Skin: WATER FLUSH IMMEDIATELY - If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly.

>> Breathing: RESPIRATORY SUPPORT - If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Keep the affected person warm and at rest. Get medical attention as soon as possible.

>> Swallow: MEDICAL ATTENTION IMMEDIATELY - If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2024)

ERG 2024, Guide 154 (Phosphoric acid, solid; Phosphoric acid, solution)

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

ERG 2024, Guide 154 (Phosphoric acid, solution; Phosphoric acid, solid)

>> General First Aid:

>> Call 911 or emergency medical service.

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First Aid Measures

Inhalation First Aid

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

Skin First Aid

>> Wear protective gloves when administering first aid. Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer immediately for medical attention .

Eye First Aid

>> Rinse with plenty of water for several minutes (remove contact lenses if easily possible). Refer immediately for medical attention.

Ingestion First Aid

>> Rinse mouth. Give nothing to drink. Do NOT induce vomiting. Refer immediately for medical attention.

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

Skin First Aid

>> Wear protective gloves when administering first aid. Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer immediately for medical attention.

Eye First Aid

>> Rinse with plenty of water for several minutes (remove contact lenses if easily possible). Refer immediately for medical attention.

Ingestion First Aid

>> Rinse mouth. Give nothing to drink. Do NOT induce vomiting. Refer immediately for medical attention.

5. Fire Fighting Measures

>> Flammable /hydrogen/ gas is formed on contact with metals.

>> Excerpt from ERG Guide 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]:

>> SMALL FIRE: Dry chemical, CO2 or water spray.

>> LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. If it can be done safely, move undamaged containers away from the area around the fire. Dike runoff from fire control for later disposal.

>> FIRE INVOLVING TANKS, RAIL TANK CARS OR HIGHWAY TANKS: Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles. Do not get water inside containers. 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. (ERG, 2024)

>> In case of fire in the surroundings, use appropriate extinguishing media. In case of fire: keep drums, etc., cool by spraying with water. NO direct contact of the substance with water.

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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 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]:

>> IMMEDIATE PRECAUTIONARY MEASURE: Isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.

>> 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 154 (Phosphoric acid, solid; Phosphoric acid, solution)

>> Immediate precautionary measure

>> Isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.

>> Spill

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

>> Fire

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Spillage Disposal:

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

>> Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered containers. Carefully collect remainder. Then wash away with plenty of water. Then store and dispose of according to local regulations.

Accidental Release Measures

Public Safety: ERG 2024, Guide 154 (Phosphoric acid, solid; Phosphoric acid, solution)

>> 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 154 (Phosphoric acid, solid; Phosphoric acid, solution)

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

>> Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

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

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

>> Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

>> DO NOT GET WATER INSIDE CONTAINERS.

Public Safety: ERG 2024, Guide 154 (Phosphoric acid, solution; Phosphoric acid, solid)

>> 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.

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7. Handling And Storage

Safe Storage:

>> Dry. Well closed. Separated from food and feedstuffs and incompatible materials. See Chemical Dangers. Ventilation along the floor.

Storage Conditions:

>> Store in cool, dry, well-ventilated location. Separate from alkalies and most metals.

8. Exposure Control/ Personal Protection

REL-TWA (Time Weighted Average)

>> 1 mg/m³

REL-STEL (Short Term Exposure Limit)

>> 3 mg/m³

>> TWA 1 mg/m3 ST 3 mg/m3

>> 1.0 [mg/m3]

PEL-TWA (8-Hour Time Weighted Average)

>> 1 mg/m³

>> 1.0 [mg/m3]

TLV-STEL

>> 3.0 [mg/m3]

>> 1 mg/m

TLV-TWA (Time Weighted Average)

>> 1 mg/m³ [1992]

TLV-STEL (Short Term Exposure Limit)

>> 3 mg/m³ [1992]

EU-OEL

>> 1 mg/m

MAK (Maximale Arbeitsplatz Konzentration)

>> (inhalable fraction): 2 mg/m

Emergency Response: ERG 2024, Guide 154 (Phosphoric acid, solid; Phosphoric acid, solution)

>> Small Fire

>> Dry chemical, CO2 or water spray.

>> Large Fire

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

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

>> Dike runoff from fire control for later disposal.

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

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

>> Do not get water inside containers.

>> 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.

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

>> ERPG-1: 3 mg/m3 - one hour exposure limit: 1 = mild transient health effects or objectionable odor [AIHA]

>> ERPG-2: 30 mg/m3 - one hour exposure limit: 2 = impaired ability to take protective action [AIHA]

>> ERPG-3: 150 mg/m3 - one hour exposure limit: 3 = life threatening health effects [AIHA]

Inhalation Risk:

>> A harmful contamination of the air will not or will only very slowly be reached on evaporation of this substance at 20 °C.

Effects of Short Term Exposure:

>> The substance is corrosive to the eyes, skin and respiratory tract. Corrosive on ingestion. Inhalation may cause asthma-like reactions (RADS). Exposure could cause asphyxiation due to swelling in the throat. Inhalation of high concentrations may cause lung oedema, but only after initial corrosive effects on the eyes and the upper respiratory tract have become manifest. Inhalation of high concentrations may cause pneumonitis.

Effects of Long Term Exposure:

>> The substance may have effects on the upper respiratory tract and lungs. This may result in chronic inflammation and reduced lung function . Mists of this strong inorganic acid are carcinogenic to humans.

Acceptable Daily Intakes:

An estimate of the amount of a chemical in food or drinking water that can be consumed daily over a lifetime without presenting an appreciable risk to health. It is usually expressed as milligrams of the substance per kilogram of body weight per day and applies to chemicals such as food additives, pesticide residues and veterinary drugs.

>> FAO/WHO EXPERT COMMITTEE ON FOOD ADDITIVES...RECOMMENDED.../LEVELS/ FOR TOTAL DIETARY PHOSPHORUS...UNCONDITIONAL ACCEPTANCE LEVEL /OF LESS THAN 30 MG/KG BODY WT/ IS CONSIDERED SAFE IN ANY TYPE OF DIET...CONDITIONAL ACCEPTANCE LEVEL /OF 30-70 MG/KG BODY WT/ IS ACCEPTABLE ONLY WHEN DIETARY CALCIUM LEVEL IS HIGH /PHOSPHATES/

Fire Prevention

>> NO contact with incompatible materials: See Chemical Dangers

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 154 (Phosphoric acid, solid; Phosphoric acid, solution)

>> 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.

Protective Clothing: ERG 2024, Guide 154 (Phosphoric acid, solution; Phosphoric acid, solid)

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

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Maximum Allowable Concentration (MAK)

>> 2.0 [mg/m3], inhalable fraction[German Research Foundation (DFG)]

9. Physical And Chemical Properties

Molecular Weight:

>> 97.995

Exact Mass:

>> 97.97689557

Physical Description:

>> Phosphoric acid appears as a clear colorless liquid or transparent crystalline solid. The pure solid melts at 42.35 °C and has a density of 1.834 g / cm3. Liquid is usually an 85% aqueous solution. Shipped as both a solid and liquid. Corrosive to metals and tissue. Used in making fertilizers and detergents and in food processing.

>> HYGROSCOPIC COLOURLESS CRYSTALS.

Color/Form:

>> Unstable orthorhombic crystals or clear syrupy liquid

Odor:

>> Odorless

Taste:

The sensation of flavor perceived in the mouth and throat on contact with a substance.

>> Acid taste

Boiling Point:

>> greater than 266 °F at 760 mmHg (USCG, 1999)

>> 158 °C

Melting Point:

>> 108 °F (NIOSH, 2024)

>> 42 °C

Solubility:

>> Miscible (NIOSH, 2024)

>> Solubility in water: miscible

Density:

>> 1.892 at 77 °F (USCG, 1999) - Denser than water; will sink

>> 1.9 g/cm³

Vapor Density:

>> Relative vapor density (air = 1): 3.4

Vapor Pressure:

>> 0.03 mmHg (NIOSH, 2024)

>> Vapor pressure, Pa at 25 °C:

LogP:

>> -2.150

>> -0.77 (estimated)

Autoignition Temperature:

>> Not flammable (USCG, 1999)

Decomposition:

>> Combustion by-products include oxides of phosphorus.

>> 213 °C

Viscosity:

>> 3.86 mPa.s (40% solution at 20 °C).

>> 40 mm^2/s at 20 °C

Corrosivity:

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

>> Corrosive to ferrous metals and alloys

pH:

pH is an expression of hydrogen ion concentration in water. Specifically, pH is the negative logarithm of hydrogen ion (H+) concentration (mol/L) in an aqueous solution. The term is used to indicate basicity or acidity of a solution on a scale of 0 to 14, with pH 7 being neutral.

>> pH = 1.5 (0.1 N aqueous solution)

Polymerization:

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

>> Violent polymerization with: Azo compounds; Epoxides; And polymerizable compounds.

Refractive Index:

>> Index of refraction: 1.34203 at 17.5 °C/D, 10% solution; 1.35032 at 17.5 °C/D, 20% solution; 1.35846 at 17.5 °C/D, 30% solution /Phosphoric acid solutions/

Dissociation Constants:

>> pK1: 2.15; pK2: 7.09; pK3: 12.32

10. Stability And Reactivity

>> Soluble in water with small release of heat.

11. Toxicological Information

EPA Provisional Peer-Reviewed Toxicity Values:

This section provides the EPA Provisional Peer-Reviewed Toxicity Values (PPRTVs) and links of related assessment documents.

Chemical Substance

>> Phosphoric Acid

Reference Dose (RfD), Chronic

>> 4.86 x 10^1 mg/kg-day

Reference Dose (RfD), Subchronic

>> 4.86 x 10^1 mg/kg-day

PPRTV Assessment

>> PDF Document

Weight-Of-Evidence (WOE)

>> Inadequate information to assess carcinogenic potential

Last Revision

>> 2011

Carcinogen Classification:

This section provides the International Agency for Research on Cancer (IARC) Carcinogenic Classification and related monograph links. In the IARC Carcinogenic classification, chemicals are categorized into four groups: Group 1 (carcinogenic to humans), Group 2A (probably carcinogenic to humans), Group 2B (possibly carcinogenic to humans), and Group 3 (not classifiable as to its carcinogenicity to humans).

>> No indication of carcinogenicity to humans (not listed by IARC).

Exposure Routes:

>> Serious local effects by all routes of exposure.

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

Inhalation Exposure

>> Cough. Sore throat. Burning sensation. Shortness of breath. Laboured breathing.

Skin Exposure

>> Redness. Pain. Blisters. Serious skin burns.

Eye Exposure

>> Redness. Pain. Severe burns.

Ingestion Exposure

>> Burns in mouth and throat. Burning sensation behind the breastbone. Abdominal pain. Vomiting. Shock or collapse.

>> irritation eyes, skin, upper respiratory system; eye, skin, burns; dermatitis

Target Organs:

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

>> Respiratory

>> 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:

>> LC50 (rat) > 850 mg/m3/1H

Antidote and Emergency Treatment:

>> Irrigate eyes with water; wash contaminated part of body with soap and water; gastric lavage (stomach wash) taking care not to perforate the gastrointestinal tract, if swallowed.

Human Toxicity Excerpts:

>> /HUMAN EXPOSURE STUDIES/ Studies on 15 students, who drank 2000-4000 mg of phosphoric acid in fruit juices every day for 10 days, and on 2 males who received 3900 mg of phosphoric acid every day for 14 days, revealed no observable change in urine composition indicative of a disturbed metabolism.

Non-Human Toxicity Excerpts:

>> /LABORATORY ANIMALS: Acute Exposure/ Application of 0.5mL of commercial product to clipped skin of New Zealand albino rabbits under semi-occlusive dressings for ... 4 hr. /Solutions of/ 75 and 80% phosphoric acid was considered as non-corrosive while 85% acid was corrosive /to skin./ ... /After/ 24 hr, solutions from 75 - 85% phosphoric acid were corrosive to skin.

Human Toxicity Values:

Quantitative human toxicity values (e.g., lethal dose) for this compound.

>> TCLo inhalation human 100 mg/cu m

Non-Human Toxicity Values:

>> LC50 Rabbit inhalation 1.689 mg/L 1 hr

Populations at Special Risk:

>> Chronic pulmonary disease: In persons with impaired pulmonary function, especially those with obstructive airway diseases, the breathing of phosphoric acid dust or mist might cause exacerbation of symptoms due to its irritant

properties. Skin disease: Phosphoric acid dust, mist, or solutions may cause dermatitis. Persons with pre-existing skin disorders may be more susceptible to the effects of this agent.

12. Ecological Information

Resident Soil (mg/kg)

>> 7.80e+04

Industrial Soil (mg/kg)

>> 1.10e+06

Resident Air (ug/m3)

>> 1.00e+01

Industrial Air (ug/m3)

>> 4.40e+01

Tapwater (ug/L)

>> 2.00e+04

MCL (ug/L)

>> 1.5E+01(G)

Chronic Oral Reference Dose (mg/kg-day)

>> 1.00e+00

Chronic Inhalation Reference Concentration (mg/m3)

>> 1.00e-02

Volatile

>> Volatile

Mutagen

>> Mutagen

Fraction of Contaminant Absorbed in Gastrointestinal Tract

>> 1

ICSC Environmental Data:

>> The substance is harmful to aquatic organisms.

13. Disposal Considerations

Spillage Disposal

>> Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered containers. Carefully collect remainder. Then wash away with plenty of water. Then store and dispose of according to local regulations.

>> Evacuate danger area! Consult an expert! Personal protection: chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Collect leaking liquid in sealable containers. Absorb liquid in sand or inert absorbent. 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 harm/injury/toxicity 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 and plant life; and conformance with environmental and public health regulations.

>> Technology appropriate for incineration: Rotary kiln.

>> Technology appropriate for incineration: Venturi scrubber.

>> Neutralization & landfill: Neutralize with soda ash or soda ash-slaked lime mixture (1:1) and bury in an approved landfill.

14. Transport Information

DOT

Phosphoric acid
8
UN Pack Group: III
Reportable Quantity of 5000 lb or 2270 kg

IATA

Phosphoric acid
8,
UN Pack Group: III

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.

>> Phosphoric acid 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: Phosphoric acid

REACH Registered Substance

>> Status: Active Update: 12-05-2023 https://echa.europa.eu/registration-dossier/-/registered-dossier/15531

>> Status: Active Update: 23-12-2015 https://echa.europa.eu/registration-dossier/-/registered-dossier/16672

New Zealand EPA Inventory of Chemical Status

>> Phosphoric acid: Does not have an individual approval but may be used under an appropriate group standard

16. Other Information

Toxic Combustion Products:

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

>> ... Combustion by-products include oxides of phosphorus.

Other Safety Information

Chemical Assessment

>> IMAP assessments - Phosphoric acid: Environment tier I assessment

>> IMAP assessments - Phosphoric acid: Human health tier II assessment

"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."