SAFETY DATA SHEET

Updated on 26/09/2024

1. Material Identification

Product Name : Arsenic pentoxide
Catalog Number : io-1760
CAS Number : 1303-28-2
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)

Pictogram(s)

GHS Hazard Statements

>> H300 (52.1%): Fatal if swallowed [Danger Acute toxicity, oral]

>> H301+H331 (31.5%): Toxic if swallowed or if inhaled [Danger Acute toxicity, oral; acute toxicity, inhalation]

>> H301 (47.9%): Toxic if swallowed [Danger Acute toxicity, oral]

>> H331 (100%): Toxic if inhaled [Danger Acute toxicity, inhalation]

>> H350 (100%): May cause cancer [Danger Carcinogenicity]

>> H400 (100%): Very toxic to aquatic life [Warning Hazardous to the aquatic environment, acute hazard]

>> H410 (100%): Very toxic to aquatic life with long lasting effects [Warning Hazardous to the aquatic environment, long-term hazard]

Precautionary Statement Codes

>> P203, P261, P264, P270, P271, P273, P280, P301+P316, P304+P340, P316, P318, P321, P330, P391, P403+P233, P405, and P501

Health Hazards:

>> This material is extremely toxic; the probable oral lethal dose for humans is 5-50 mg/kg, or between 7 drops and 1 teaspoonful for a 150-lb. person. It is irritating to eyes, nose, and throat. Chronic exposure may cause nerve damage to the extremities, alter cellular composition of the blood, and cause structural changes in blood components. There is sufficient evidence that inorganic arsenic compounds are skin and lung carcinogens in humans. (EPA, 1998)

ERG 2024, Guide 151 (Arsenic pentoxide)

>> Highly toxic, may be fatal if inhaled, ingested or absorbed through skin.

>> 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.

>> Fire may produce irritating or poisonous gases. Reacts with metal and may give off toxic arsine gas. Hazardous polymerization may not occur. (EPA, 1998)

ERG 2024, Guide 151 (Arsenic pentoxide)

>> Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

>> Containers may explode when heated.

>> Runoff may pollute waterways.

>> Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.

3. Composition/Information On Ingredients

Chemical name : Arsenic pentoxide
CAS Number : 1303-28-2
Molecular Formula : As2O5
Molecular Weight : 229.8400 g/mol

4. First Aid Measures

First Aid:

>> Warning: Effects usually appear within 30 minutes of exposure but may be delayed for several hours. Caution is advised.

>> Signs and Symptoms of Arsenic Pentoxide Exposure: Hypotension (low blood pressure), tachycardia (rapid heart rate), dehydration, intense thirst, difficulty swallowing, vomiting, abdominal pain, and diarrhea are among the first signs and symptoms noticed following acute arsenic pentoxide exposure. Headache, conjunctivitis (red, inflamed eyes), runny nose, and lacrimation (tearing) are also common. Garlic odor of breath and feces may be noted. Cardiovascular effects include shock, tachycardia (rapid heart rate), ventricular fibrillation, and other cardiac abnormalities. Pulmonary edema may occur. Altered mental status, seizures, and delirium are further complications of arsenic pentoxide exposure. Intense muscle cramping is common. Exposure to airborne dust is generally accompanied by irritation of exposed skin, eyes, and mucous membranes.

>> Emergency Life-Support Procedures: Acute exposure to arsenic pentoxide exposure may require decontamination and life support for the victims. Emergency personnel should wear protective clothing appropriate to the type and degree of contamination. Air-purifying or supplied-air respiratory equipment should also be worn, as necessary. Rescue vehicles should carry supplies such as plastic sheeting and disposable plastic bags to assist in preventing spread of contamination.

>> Inhalation Exposure:

>> 1. Move victims to fresh air. Emergency personnel should avoid self-exposure to arsenic pentoxide.

>> 2. Evaluate vital signs including pulse and respiratory rate, and note any trauma. If no pulse is detected, provide CPR. If not breathing, provide artificial respiration. If breathing is labored, administer oxygen or other respiratory support.

>> 3. RUSH to a health care facility!

>> 4. Obtain authorization and/or further instructions from the local hospital for administration of an antidote or performance of other invasive procedures.

>> Dermal/Eye Exposure:

>> 1. Remove victims from exposure. Emergency personnel should avoid self-exposure to arsenic pentoxide.

>> 3. Remove contaminated clothing as soon as possible.

>> 4. If eye exposure has occurred, eyes must be flushed with lukewarm water for at least 15 minutes.

>> 5. Wash exposed skin areas THOROUGHLY with soap and water.

>> 6. RUSH to a health care facility!

>> 7. Obtain authorization and/or further instructions from the local hospital for administration of an antidote or performance of other invasive procedures.

>> Ingestion Exposure:

>> 1. Evaluate vital signs including pulse and respiratory rate, and note any trauma. If no pulse is detected, provide CPR. If not breathing, provide artificial respiration. If breathing is labored, administer oxygen or other respiratory support.

>> 2. RUSH to a health care facility!

>> 3. Obtain authorization and/or further instructions from the local hospital for administration of an antidote or performance of other invasive procedures.

>> 4. Vomiting may be induced with syrup of Ipecac. If elapsed time since ingestion of arsenic pentoxide is unknown or suspected to be greater than 30 minutes, do not induce vomiting and proceed to Step

>> 5. Ipecac should not be administered to children under 6 months of age.Warning: Ingestion of arsenic pentoxide may result in sudden onset of seizures or loss of consciousness. Syrup of Ipecac should be administered only if victims are alert, have an active gag-reflex, and show no signs of impending seizure or coma. If ANY uncertainty exists, proceed to Step

>> 5.The following dosages of Ipecac are recommended: children up to 1 year old, 10 mL (1/3 oz); children 1 to 12 years old, 15 mL (1/2 oz); adults, 30 mL (1 oz). Ambulate (walk) the victims and give large quantities of water. If vomiting has not occurred after 15 minutes, Ipecac may be readministered. Continue to ambulate and give water to the victims. If vomiting has not occurred within 15 minutes after second administration of Ipecac, administer activated charcoal.

>> 5. Activated charcoal may be administered if victims are conscious and alert. Use 15 to 30 g (1/2 to 1 oz) for children, 50 to 100 g (1-3/4 to 3-1/2 oz) for adults, with 125 to 250 mL (1/2 to 1 cup) of water.

>> 6. Promote excretion by administering a saline cathartic or sorbitol to conscious and alert victims. Children require 15 to 30 g (1/2 to 1 oz) of cathartic; 50 to 100 g (1-3/4 to 3- 1/2 oz) is recommended for adults. (EPA, 1998)

ERG 2024, Guide 151 (Arsenic pentoxide)

>> 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.

>> 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 immediately for medical attention.

Skin First Aid

>> Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention .

Eye First Aid

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

Ingestion First Aid

>> Rinse mouth. Refer immediately for medical attention.

5. Fire Fighting Measures

>> Isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing.

>> For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)

>> In case of fire in the surroundings, use appropriate extinguishing media.

>> Arsenic pentoxide is non-combustible; the substance itself does not burn, but it may decompose upon heating to produce corrosive and/or toxic fumes.

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

>> For small fires use dry chemical, CO2, or water spray.

>> For large fires use water spray, fog, or regular foam. Move containers from the fire area if it is possible to do so without risk to personnel. Dike fire control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams.

>> For fire involving tanks or car/trailer loads, fight the fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after the fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tanks. Always stay away from tanks engulfed in fire.

>> For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from the area and let the fire burn.

>> If the situation allows, control and properly dispose of run-off (effluent).

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 151 [Substances - Toxic (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 151 (Arsenic pentoxide)

>> 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

>> 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: complete protective clothing including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Sweep spilled substance into covered sealable containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Store and dispose of according to local regulations.

Accidental Release Measures

Public Safety: ERG 2024, Guide 151 (Arsenic pentoxide)

>> 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.

Spill or Leak: ERG 2024, Guide 151 (Arsenic pentoxide)

>> 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.

>> Cover with plastic sheet to prevent spreading.

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

>> DO NOT GET WATER INSIDE CONTAINERS.

>> For solids, prevent dust cloud and avoid inhalation of dust.

7. Handling And Storage

Safe Storage:

>> Separated from strong bases, reducing agents and food and feedstuffs. Dry. Well closed.

Storage Conditions:

>> Store in tightly-closed containers in a cool, well-ventilated area away from metals, acids and other incompatible materials.

8. Exposure Control/ Personal Protection

>> 0.01 [mg/m3], as As

>> 0.01 [mg/m3], as As

>> 0.01 mg/m

EU-OEL

>> (inhalable fraction): 0.01 mg/m

MAK (Maximale Arbeitsplatz Konzentration)

>> skin absorption (H); carcinogen category: 1; germ cell mutagen group: 3A.

Emergency Response: ERG 2024, Guide 151 (Arsenic pentoxide)

>> Small Fire

>> Dry chemical, CO2 or water spray.

>> Large Fire

>> Water spray, fog or regular 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.

>> Avoid aiming straight or solid streams directly onto the product.

>> 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.

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

Inhalation Risk:

>> Evaporation at 20 °C is negligible; a harmful concentration of airborne particles can, however, be reached quickly.

Effects of Short Term Exposure:

>> The substance and the aerosol are irritating to the eyes, respiratory tract and skin. The substance may cause effects on the blood, cardiovascular system, liver and central nervous system. The effects may be delayed. Medical observation is indicated.

>> Chronic low-level exposure to arsenic typically occurs from occupational or environmental sources. Chronic exposure to arsenic carries an increased risk of skin, lung, bladder, and possibly liver cancers. Exposure to arsenic (organic) does not cause reproductive or developmental toxicity but has been associated with degeneration of certain nerves (peripheral sensorimotor neuropathy) and peripheral vascular disease. The sequence of chronic arsenic poisoning is as follows: weakness (malaise); appetite loss (anorexia); liver enlargement (hepatomegaly); yellowish coloration of the skin and tissues (jaundice); and gastrointestinal complaints. Inhalation exposure can lead to inflammation of the membranes of the eyes (conjunctivitis), irritation of the throat and respiratory tract, and perforation of the nasal septum. Skin changes include inflammation (dermatitis), darkening, pigmentation changes, and hyperkeratosis (thickening of the outer layer of the skin, especially the palms and soles); these changes can take 3 to 7 years to appear. Eye effects of chronic arsenic exposure include tear production (lacrimation) and pigment spots in certain eye tissues (corneal and conjunctival epithelium).

Effects of Long Term Exposure:

>> The substance may have effects on the skin (hyperkeratosis), cardiovascular system, bone marrow (hematopoietic changes), central nervous system, peripheral nervous system, kidneys and liver. This substance is carcinogenic to humans. Causes toxicity to human reproduction or development.

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.

>> WHO= 0.002 mg/kg /Inorganic arsenic compounds, as As; from table/

Exposure Prevention

>> PREVENT DISPERSION OF DUST! AVOID ALL CONTACT! IN ALL CASES CONSULT A DOCTOR!

Inhalation Prevention

>> Use closed system and breathing protection.

Skin Prevention

>> Protective gloves. Protective clothing.

Eye Prevention

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

Ingestion Prevention

>> Do not eat, drink, or smoke during work. Wash hands before eating.

Exposure Control and Personal Protection

Protective Clothing: ERG 2024, Guide 151 (Arsenic pentoxide)

>> 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.

Exposure Summary

>> Biological Exposure Indices (BEI) [ACGIH] - Inorganic arsenic plus methylated metabolites in urine = 35 ug As/L; end of workweek;

9. Physical And Chemical Properties

Molecular Weight:

>> 229.84

Exact Mass:

>> 229.81776

Physical Description:

>> Arsenic pentoxide appears as a white crystalline solid. Noncombustible. Corrosive to metals in the presence of moisture. Toxic by ingestion.

>> WHITE HYGROSCOPIC POWDER.

Color/Form:

>> White amorphous powder

Boiling Point:

>> Boiling point (-H2O): 160 °C /Hemihydrate/

Melting Point:

>> 599 °F (EPA, 1998)

Flash Point:

>> Not flammable (EPA, 1998)

Solubility:

>> In water, 65.8 g/100 g at 20 °C

>> Solubility in water, g/100ml at 20 °C: 65.8 (good)

Density:

>> 4.32 (EPA, 1998) - Denser than water; will sink

>> 4.3 g/cm³

Stability/Shelf Life:

>> Gradually deliquesces on exposure to air

Decomposition:

>> Arsenic pentoxide is thermally unstable & begins to decompose near the melting point, about 300 °C. The vapor obtained is /completely/ dissociated into oxygen & arsenic trioxide.

>> 315 °C

Corrosivity:

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

>> Corrosive to metals in the presence of moisture.

10. Stability And Reactivity

>> Dissolves in water to give solutions of arsenic acid.

>> Water-Reactive

11. Toxicological Information

Toxicity Summary:

>> Arsenic and its metabolites disrupt ATP production through several mechanisms. At the level of the citric acid cycle, arsenic inhibits pyruvate dehydrogenase and by competing with phosphate it uncouples oxidative phosphorylation, thus inhibiting energy-linked reduction of NAD+, mitochondrial respiration, and ATP synthesis. Hydrogen peroxide production is also increased, which might form reactive oxygen species and oxidative stress. Arsenic's carginogenicity is influenced by the arsenical binding of tubulin, which results in aneuploidy, polyploidy and mitotic arrests. The binding of other arsenic protein targets may also cause altered DNA repair enzyme activity, altered DNA methylation patterns and cell proliferation. (T1, A17)

Evidence for Carcinogenicity:

Evidence that this chemical does or may cause cancer. The information here is collected from various sources by the Hazardous Substances Data Bank (HSDB).

>> Classification of carcinogenicity: 1) evidence in humans: sufficient; 2) evidence in animals: limited. Overall summary evaluation of carcinogenic risk to humans is Group 1: Carcinogenic to humans. NOTE: This evaluation applies to the group of chemicals as a whole and not necessarily to all individual chemicals within the group. /Arsenic and arsenic compounds/

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).

>> 1, carcinogenic to humans. (L135)

Health Effects:

>> Arsenic poisoning can lead to death from multi-system organ failure, probably from necrotic cell death, not apoptosis. Arsenic is also a known carcinogen, esepcially in skin, liver, bladder and lung cancers. (T1, L20)

Exposure Routes:

>> The substance can be absorbed into the body by inhalation of its aerosol and by ingestion.

>> Arsenic pentoxide is readily absorbed into the body via ingestion, inhalation, and through mucosal membranes. Unless it is mixed with a solvent to enhance absorption, arsenic pentoxide is minimally absorbed through intact skin. Arsenic pentoxide can be absorbed through broken skin. Eye exposure to arsenic pentoxide can cause irritation, but it is not associated with systemic toxicity.

Inhalation Exposure

>> Cough. Sore throat. Headache. Dizziness. Weakness. Shortness of breath. Chest pain. See Ingestion.

Skin Exposure

>> Redness. Burning sensation. Pain.

Eye Exposure

>> Redness. Pain.

Ingestion Exposure

>> Vomiting. Abdominal pain. Diarrhoea. Severe thirst. Muscle cramps. Shock or collapse. Symptoms may be delayed.

>> Exposure to lower levels of arsenic can cause nausea and vomiting, decreased production of red and white blood cells, abnormal heart rhythm, damage to blood vessels, and a sensation of burn (T1).

Adverse Effects:

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

>> Neurotoxin - Sensorimotor

>> Occupational hepatotoxin - Secondary hepatotoxins: the potential for toxic effect in the occupational setting is based on cases of poisoning by human ingestion or animal experimentation.

>> Aplastic anemia - The presence of increased methemoglobin in the blood; the compound is classified as primary toxic effect.

>> Reproductive Toxin - A chemical that is toxic to the reproductive system, including defects in the progeny and injury to male or female reproductive function. Reproductive toxicity includes developmental effects. See Guidelines for Reproductive Toxicity Risk Assessment.

>> IARC Carcinogen - Class 1: International Agency for Research on Cancer classifies chemicals as established human carcinogens.

>> NTP Carcinogen - Known to be a human carcinogen.

>> ACGIH Carcinogen - Confirmed Human.

Toxicity Data:

>> LD50: 8 mg/kg (Oral, Rat) (T14)

Minimum Risk Level:

The minimal risk level (MRL) is an estimate of the amount of a chemical a person can eat, drink, or breathe each day without a detectable risk to health

>> Acute Oral: 0.005 mg/kg/day (L134) Chronic Oral: 0.0003 mg/kg/day (L134) Chronic Inhalation: 0.01 mg/m3 (L134)

Treatment:

Treatment when exposed to toxin

>> Arsenic poisoning can be treated by chelation therapy, using chelating agents such as dimercaprol, EDTA or DMSA. Charcoal tablets may also be used for less severe cases. In addition, maintaining a diet high in sulfur helps eliminate arsenic from the body. (L20)

Antidote and Emergency Treatment:

>> Immediate first aid: Remove patient from contact with the material. Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. /Arsenic and related compounds/

Human Toxicity Excerpts:

>> /SIGNS AND SYMPTOMS/ In man, symptoms of acute inorganic arsenic poisoning occurring as consequence of ... ingestion consist of burning & dryness of oral & nasal cavities, GI disturbance, & muscle spasms; vertigo, delirium, & coma may occur. Edema of face & about eyelids may also be evident. Chronic arsenic intoxication is characterized by malaise & fatigue, GI disturbances, hyperpigmentation & peripheral neuropathy may ultimately occur. Pale bands on fingernails & toes may develop. Clinical pathology may reveal anemia (slightly hypochromic) and basophilic stippling. Red cell disruption, decr red cell production, and leukopenia are frequently observed /from chronic exposure/. /Arsenic/

Non-Human Toxicity Excerpts:

>> /GENOTOXICITY/ Positive results were obtained in a rec assay in B. subtilis with 0.05 M arsenic pentoxide.

Non-Human Toxicity Values:

>> LD50 Rat oral 8 mg/kg

12. Ecological Information

ICSC Environmental Data:

>> The substance is toxic to aquatic organisms. It is strongly advised not to let the chemical enter into the environment.

13. Disposal Considerations

Spillage Disposal

>> Evacuate danger area! Consult an expert! Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Sweep spilled substance into covered sealable containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Store and dispose of according to local regulations.

Disposal Methods

>> SRP: Wastewater from contaminant suppression, cleaning of protective clothing/equipment, or contaminated sites should be contained and evaluated for subject chemical or decomposition product concentrations. Concentrations shall

be lower than applicable environmental discharge or disposal criteria. Alternatively, pretreatment and/or discharge to a permitted wastewater treatment facility is acceptable only after review by the governing authority and assurance that "pass through" violations will not occur. Due consideration shall be given to remediation worker exposure (inhalation, dermal and ingestion) as well as fate during treatment, transfer and disposal. If it is not practicable to manage the chemical in this fashion, it must be evaluated in accordance with EPA 40 CFR Part 261, specifically Subpart B, in order to determine the appropriate local, state and federal requirements for disposal.

>> Generators of waste (equal to or greater than 100 kg/mo) containing this contaminant, EPA hazardous waste number P011, must conform with USEPA regulations in storage, transportation, treatment and disposal of waste.[

>> Generators of waste (equal to or greater than 100 kg/mo) containing this contaminant, EPA hazardous waste number D004, must conform with USEPA regulations in storage, transportation, treatment and disposal of waste. /Arsenic/[

>> Dissolve in a minimum of concentrated hydrochloric acid. Dilute with water until white precipitate forms. Add HCl to dissolve. Saturate with H2S; filter and wash precipitate and return to supplier. Alternatively, precipitate with heavy metals such as lime or ferric hydroxide in lieu of H2S...

>> For more Disposal Methods (Complete) data for ARSENIC PENTOXIDE (9 total), please visit the HSDB record page.

14. Transport Information

DOT

Arsenic pentoxide
6.1
UN Pack Group: II

IATA

Arsenic pentoxide
6.1,
UN Pack Group: II

15. Regulatory Information

Federal Drinking Water Standards:

Federal drinking water standards (e.g. maximum containment level (MCL)) for this chemical. These standards are legally enforceable.

>> 10 ug/L /Arsenic/

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.

>> Arsenic pentoxide 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: Arsenic oxide (As2O5)

REACH Restricted Substance

>> Restricted substance: Diarsenic pentaoxide

>> EC: 215-116-9

REACH Substances of Very High Concern (SVHC)

>> Substance: Diarsenic pentaoxide

>> EC: 215-116-9

>> Date of inclusion: >28-Oct-2008

>> Reason for inclusion: Carcinogenic (Article 57a)

New Zealand EPA Inventory of Chemical Status

>> Arsenic oxide: HSNO Approval: HSR003240 Approved with controls

16. Other Information

Toxic Combustion Products:

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

>> Poisonous gases including arsenic fumes are produced in fire.

Other Safety Information

Chemical Assessment

>> IMAP assessments - Arsenic pentoxide and arsenic acid: Human health tier II assessment

>> Evaluation - Water soluble arsenic compounds

Methods of Dissemination

>> Indoor Air: Arsenic pentoxide can be released into indoor air as fine particles (aerosol).

>> Water: Arsenic pentoxide can be used to contaminate water.

>> Food: Arsenic pentoxide can be used to contaminate food.

>> Outdoor Air: Arsenic pentoxide can be released into outdoor air as fine particles (aerosol).

>> Agricultural: If arsenic pentoxide is released into the air as fine particles (aerosol), it has the potential to contaminate agricultural products.