

ARSENIC TRIOXIDE (EXTRA PURE)

SECTION 1: PRODUCT IDENTIFICATION

Product Name: ARSENIC TRIOXIDE EXTRA PURE

Product Code: 090

CAS#: 1327-53-3

Synonym: Arsenic oxide; Arsenic Trioxide

Chemical Name: Diarsenic trioxide

Chemical Formula: As₂O₃

Formula Weight: 197.84

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Composition:

Name: ARSENIC TRIOXIDE EXTRA PURE

Toxicological Data on Ingredients:

Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Oral (Category 2), H300 Skin corrosion (Category 1B), H314 Carcinogenicity (Category 1A), H350 Acute aquatic toxicity (Category 1), H400 Chronic aquatic toxicity (Category 1), H410

SECTION 3: HAZARDS IDENTIFICATION

Potential Acute Health Effects:

Very hazardous in case of ingestion. Hazardous in case of skin contact (irritant), eye contact (irritant), inhalation. Severe over-exposure can result in death.

Potential Chronic Health Effects:

Carcinogenic effects: Classified A1 (Confirmed for human.) by ACGIH, 1 (Proven for human.) by IARC

Mutagenic effects: Mutagenic for mammalian somatic cells

Teratogenic effects: Classified POSSIBLE for human.

Developmental toxicity: Not available

The substance may be toxic to blood, kidneys, liver, cardiovascular system, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

SECTION 4: FIRST AID MEASURES

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

Serious Skin Contact: Not available.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available

SECTION 5: FIRE FIGHTING MEASURES



Flammability of the Product: Non Flammable.
Auto-Ignition Temperature: Not Applicable.
Flash Points: Not Applicable.
Flammable Limits: Not Applicable.
Products of Combustion: Not Applicable.
Fire Hazards in Presence of Various Substances: Not Applicable.
Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not Available.
Risks of explosion of the product in presence of static discharge: Not available
Fire Fighting Media and Instructions:
Small fire: Not Applicable.
Large fire: Not Applicable.
Special Remarks on Fire Hazards: When heated to decomposition it emits toxic fumes.
Special Remarks on Explosion Hazards: Arsenic trioxide + zinc will explode on heating.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements

Large Spill:

Poisonous Solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

SECTION 7: HANDLING AND STORAGE

Precautions:

Do not breathe gas/fumes/ vapour/spray. Wear suitable protective clothing In case of insufficient ventilation, wear suitable respiratory equipment If you feel unwell, seek medical attention and show the label when possible. Keep container tightly closed and in a well-ventilated place. Avoid contact with skin and eyes

Storage:

Keep container tightly closed. Keep container in a cool, well-ventilated area.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Safety glasses, Lab coat, Dust respirator, Gloves. Be sure to use an approved/certified respirator or equivalent.

Personal Protection in Case of a Large Spill: Splash goggles, Full suit, Dust respirator, Boots, Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES



Physical state and appearance Form	: Solid. (Amorphous solid powder or lumps.)
Odour	: Odourless.
Taste	: Tasteless.
Molecular Weight	: Not available
Colour	: White
pH	: Not available
Boiling Point	: 465°C (869°F)
Melting Point	: 312.3°C (594.1°F)
Critical Temperature	: Not available
Specific Density	: Not Available
Vapor Pressure	: Not Available
Vapor Density	: Not available
Volatility	: Not Available
Odor Threshold	: Not Available
Water/Oil Dist. Coeff.	: Not Available
Ionicity (in Water)	: Not Available
Dispersion Properties	: Not Available
Solubility	: Soluble in water.

SECTION 10: STABILITY AND REACTIVITY DATA

Stability: The product is chemically stable under standard ambient conditions.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials, moisture, dust generation, excess heat.

Incompatibility with various substances: Reactive with oxidizing agents, metals, acids.

Corrosivity: Non Corrosive in presence of glass.

Special Remarks on Reactivity: Dangerous when heated to decomposition. It emits toxic fumes of Arsenic. Dissolves in alkali to form arsenites. Incompatible with tannic acid, infusion of Chincona & other vegetable astringent infusions & decoctions, iron (in solution). Forms toxic volatile halides in contact in contact with halide acids. Forms volatile, highly toxic Arsine when reduced in acid solution. A vigorous reaction occurs between Oxygen Difluoride, Aluminum Chloride and Arsenic Trioxide. Chlorine Trifluoride + Arsenic Trioxide produces a violent reaction without flame. Can generate Arsine, which is an extremely poisonous gas, when arsenic compounds contact acid, alkalies, or water in the presence of an active metal (zinc, aluminum, manganese, sodium, iron, etc.)

Special Remarks on Corrosivity: Corrosive to metals in presence of moisture.

Polymerization: No Polymerization.

SECTION 11: TOXICOLOGICAL INFORMATION

Routes of Entry: Eye Contact and ingestion and Inhalation.

Toxicity to Animals:

LD₅₀: 14.6 mg/kg [Rat.]

LC₅₀: Not available.

Chronic Effects on Humans: Classified A1 (Confirmed for human.) by ACGIH, 1 (Proven for human.) by IARC. Mutagenic for mammalian somatic cells. May cause damage to the following organs: blood, kidneys, liver, cardiovascular system, central nervous system (CNS).

Other Toxic Effects on Humans: Very hazardous in case of ingestion..Hazardous in case of skin contact (irritant), of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Passes through the placental barrier in human. May affect genetic material. May cause adverse reproductive (paternal and maternal effects as well as fetotoxicity or post implantation mortality) and birth defects (teratogen). May cause cancer (tumorigenic)



Special Remarks on other Toxic Effects on Humans: Acute Potential Health Effects: Skin: May cause skin irritation. Eyes: May cause eye irritation. May also affect vision. Inhalation: May cause respiratory tract irritation with sore throat, coughing, shortness of breath, and delayed lung edema. Ingestion: May be fatal if swallowed. Causes severe digestive tract irritation. Symptoms may include garlic-like odor of breath, garlic taste, possible bloody diarrhea, Mee's Lines (transverse white lines on nails), abdominal pain, nausea, vomiting. May also affect the liver, blood (anemia, hemolysis, pancytopenia), urinary tract (Kidneys), cardiovascular system (lowering of blood pressure and changes in EKG), behavior/Central Nervous System, metabolism, and brain. Chronic Potential Health Effects: Skin: May cause dermatitis. Symptoms may include cracking, thickening, pigmentation and drying of the skin. Eyes: May cause irritation, and affect vision (photophobia, dimness of vision, diplopia)

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not Available.

BOD and COD: Not Available.

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic.

Special Remarks on the Products of Biodegradation: Not Available.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: Waste must be disposed of in accordance with federal, state and local environmental control regulations.

SECTION 14: TRANSPORT INFORMATION

UN number:

ADR/RID: 1561

IMDG: 1561

IATA: 1561

UN proper shipping name

ADR/RID: Arsenic trioxide

IMDG: Arsenic trioxide

IATA: Arsenic trioxide

Transport hazard class (es):

ADR/RID: 6.1

IMDG: 6.1

IATA: 6.1

Packaging group:

ADR/RID: II

IMDG: II

IATA: II

Environmental hazards:

ADR/RID: Yes

IMDG Marine pollutant: Yes

IATA: No

SECTION 15: OTHER REGULATORY INFORMATION

Federal and State Regulations: TSCA 8(b) inventory: Arsenic trioxide.

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC): R28- Very toxic if swallowed. R36/38- Irritating to eyes and skin. R45- May cause cancer. S1/2- Keep locked up and out of the reach of children. S28- After contact with skin, wash immediately with plenty of [***] S36/37- Wear suitable protective clothing and gloves. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S46- If swallowed, seek medical advice immediately and show this container or label. S53- Avoid exposure - obtain special instructions before use.



HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 0

Reactivity: 0

Personal Protection: E

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

Health: 3

Flammability: 0

Reactivity: 0

Specific hazard: Not Available.

Protective Equipment: Gloves, Lab coat, Safety glasses, and Dust respirator - be sure to use an approved/certified respirator or equivalent.

SECTION 16: OTHER INFORMATION

References: Full Text of H & R Statements:

H300 Fatal if swallowed.

H314 Causes severe skin burns and eye damage.

H350 May cause cancer.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

Other Special Considerations: Not available.

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