



MATERIAL SAFETY DATA SHEETS

44

Arsenic trioxide

1. CHEMICAL IDENTITY

Chemical Name : Arsenic trioxide

Chemical Classification: Toxic

Trade Name :

Synonyms: Arsenous acid, Arsenous oxide, Arsenous acid anhydride, Arsenous sesqui oxide, Diarsenic trioxide, Arsenic(III) oxide

Formula : As₂O₃

CAS No: 1327-53-3

UN No: 1561

Regulated Identification

Shipping Name : Arsenic trioxide

Hazchem Code : 2Z

Codes / Label : Class 6.1, Toxic

Hazardous Waste ID No : 4

| HAZARDOUS INGREDIENTS | C.A.S. No. | HAZARDOUS INGREDIENTS | C.A.S. No. |
|-----------------------|------------|-----------------------|------------|
|-----------------------|------------|-----------------------|------------|

1 Arsenic trioxide

1327-53-3

3

2

4

2. PHYSICAL / CHEMICAL DATA

Boiling Pt. °C: 465

Physical State: Crystals

Appearance: Colourless/White. Colorless, cubic or fibrous (arsenolite).

Melting Pt °C: 312

Vapour Pressure @ 35°C mmHg: 2.47X10⁻⁴ mm Hg @ 25 deg C

Odour: Odourless.

Vapour Density(Air =1):

Solubility in water at 30°C g/100ml: 12 g/L

Others: Sparingly and slowly soluble in dilute HCl, alkali hydroxide.

Specific Gravity (Water =1): 4.15 g/cm³ (25 °C)

pH :

3. FIRE / EXPLOSION HAZARD DATA

Flammability : No

LEL:

Flash Point °C in OC:

TDG Flammability:

UEL:

Flash Point °C in CC:

Autoignition Temperature °C :

Explosion sensitivity to impact: Stable

Explosion sensitivity to static Electricity: Stable

Hazardous Combustion Products : Toxic fumes of arsenic trioxide and arsine may be formed in fire situations.

Hazardous Polymerization : Will not occur.

Combustible Liquid: No

Explosive Material: No

Corrosive Material No

Flammable Material: No

Oxidiser : No

Others:

Pyrophoric Material: No

Organic Peroxide : No

4. REACTIVITY DATA

Chemical Stability : Stable

Incompatibility with other material : chlorine trifluoride, fluorine, hydrogen fluoride, oxygen difluoride, and sodium chlorate.

Reactivity : Reacts vigorously with Rb₂C₂, C₁F₃, F₂, Hg, OF₂, NaClO₃. Can generate

arsine, which is an extremely poisonous gas, when arsenic compounds contact acid, alkalis, or water in the presence of an active metal.

Hazardous :
Reaction Products

5. HEALTH HAZARD DATA

Routes of entry: Inalation, Ingestion, Skin & Eyes.

Effects of Exposure / Symptoms:

Ingestion: Causes irritation of mucous membrane, loss of appetite, gastro-intestinal disorders. Over dose may cause arsenic poisoning but symptoms are delayed. Skin and eyes: Causes severe irritation.

Emergency Treatment :

Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do not use mouth-to-mouth respiration.

Skin: Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Ingestion: Induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Lime water, sweet milk or raw eggs may help relieve the effects of poisoning. Get medical attention immediately.

| | | | |
|------------------------------------|-----------------------|-------------------------|------------------------|
| LD50 (oral-rat) mg/kg: | 145 mg/kg | STEL: | |
| LC50 (rat) mg/kg: | | Odour Threshold: | |
| Permissible Exposure Limit: | 0.5 mg/m ³ | TLV (ACGIH) : | 0.01 mg/m ³ |

| NFPA Hazard Signals | Health | Flammability | Reactivity | Special |
|----------------------------|---------------|---------------------|-------------------|----------------|
| | 3 | 0 | 0 | |

6. PREVENTIVE MEASURES

Personal Protective Equipment : Provide full body protective overclothing, respirator, hand gloves, side covered safety goggles, shoes.

Handling : Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Do not allow contact with water.

Storage : Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Do not store in metal containers.

Precautions : Avoid contact with dust or solid.

7. EMERGENCY / FIRST AID MEASURES

FIRE:

Fire Extinguishing Media : Use water in flooding quantities as fog. Use "alcohol" foam, dry chemical or carbon dioxide.

Special Procedure : If material involved in fire: Extinguish fire using agent suitable for type of surrounding fire.

Unusual Hazards : May volatilise and form toxic fumes of As

EXPOSURE: First Aid Measures:

Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do not use mouth-to-mouth respiration.

Skin: Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Ingestion: Induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Lime water, sweet milk or raw eggs may help relieve the effects of poisoning. Get medical attention immediately.

Antidotes / Dosages:**SPILLS :**

Steps To Be Taken : Sweep and collect without making dust and wash the area with water and soap.

Waste Disposal Method: Seal all waste in vapour tight plastic bags for eventual disposal.

8. ADDITIONAL INFORMATION / REFERENCES

This chemical is very poisonous. A Suspected Human Carcinogen (SHC).

9. MANUFACTURERS / SUPPLIERS DATA

NAME OF FIRM :

Contact person

MAILING ADDRESS :

in Emergency :

TELEPHONE / TELEX NOS :

Local Bodies involved :

TELEGRAPHIC ADDRESS :

Standard Packing :

OTHERS :

Trem Card Details / Ref :

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