

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATHESON TRI-GAS, INC.
150 Allen Road Suite 302
Basking Ridge, New Jersey 07920
Information: 1-800-416-2505

Emergency Contact:
CHEMTREC 1-800-424-9300
Calls Originating Outside the US:
703-527-3887 (Collect Calls Accepted)

SUBSTANCE: ZINC ARSENIDE

TRADE NAMES/SYNONYMS:
ZN3AS2; MAT25285

CHEMICAL FAMILY: arsenic, inorganic

CREATION DATE: Feb 01 1989
REVISION DATE: Dec 11 2008

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: ZINC ARSENIDE
CAS NUMBER: 56450-43-2
PERCENTAGE: 100.0

3. HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=2 FIRE=0 REACTIVITY=0

EMERGENCY OVERVIEW:

COLOR: gray

PHYSICAL FORM: crystals

MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, cancer hazard (in humans)

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: same as effects reported in short term ingestion, irritation, vomiting, digestive disorders, chest pain, difficulty breathing, headache, bluish skin color, lung congestion, nerve damage

LONG TERM EXPOSURE: white lines on the fingernails, hair loss, tearing, tingling sensation, paralysis,



cancer

SKIN CONTACT:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: itching

EYE CONTACT:

SHORT TERM EXPOSURE: irritation, itching, tearing

LONG TERM EXPOSURE: same as effects reported in short term exposure

INGESTION:

SHORT TERM EXPOSURE: garlic odor, metallic taste, white lines on the fingernails, hair loss, vomiting, digestive disorders, chest pain, headache, dizziness, disorientation, bluish skin color, kidney damage, liver damage, nerve damage, paralysis, effects on the brain, convulsions, coma

LONG TERM EXPOSURE: same as effects reported in other routes of exposure, blood disorders, cancer

4. FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

SKIN CONTACT: Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

EYE CONTACT: Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

INGESTION: If vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.

ANTIDOTE: dimercaprol, intramuscular; penicillamine, oral.

NOTE TO PHYSICIAN: For ingestion, consider gastric lavage and catharsis. Consider oxygen.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Negligible fire hazard.

EXTINGUISHING MEDIA: regular dry chemical, carbon dioxide, water, regular foam

Large fires: Use regular foam or flood with fine water spray.

FIRE FIGHTING: Move container from fire area if it can be done without risk. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

6. ACCIDENTAL RELEASE MEASURES

WATER RELEASE:

Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers.

OCCUPATIONAL RELEASE:

Do not touch spilled material. Stop leak if possible without personal risk. Small spills: Absorb with sand or other non-combustible material. Collect with absorbent into suitable container. Small dry spills: Collect spilled material in appropriate container for disposal. Move containers away from spill to a safe area. Large spills: Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry.

7. HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

ZINC ARSENIDE:

ARSENIC AND INORGANIC COMPOUNDS EXCEPT ARSINE:

10 ug(As)/m³ OSHA TWA

5 ug/m³ OSHA action level

0.01 mg(As)/m³ ACGIH TWA

0.002 mg(As)/m³ NIOSH recommended ceiling 15 minute(s)

VENTILATION: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear appropriate chemical resistant clothing.

GLOVES: Wear appropriate chemical resistant gloves. OSHA REGULATED SUBSTANCES: U.S. OSHA 29 CFR 1910.1018.

RESPIRATOR: The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.

OSHA Standard:

Respirator selection should comply with 29 CFR 1910.134, 29 CFR 1910.1018, and the final rule published in the Federal Register on August 24, 2006.

NIOSH Recommendations:

At any detectable concentration -

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Escape -

Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted acid gas canister having an N100, R100, or P100 filter.

Any appropriate escape-type, self-contained breathing apparatus.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: solid

COLOR: gray

PHYSICAL FORM: crystals

ODOR: Not available

MOLECULAR WEIGHT: 345.98

MOLECULAR FORMULA: ZN-AS-ZN-AS-ZN

BOILING POINT: Not applicable

MELTING POINT: 1859 F (1015 C)

VAPOR PRESSURE: Not applicable

VAPOR DENSITY: Not applicable

SPECIFIC GRAVITY (water=1): 5.528

WATER SOLUBILITY: insoluble

PH: Not applicable

VOLATILITY: Not applicable

ODOR THRESHOLD: Not available

EVAPORATION RATE: Not applicable

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

10. STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition. Avoid generating dust. Keep out of water supplies and sewers.

INCOMPATIBILITIES: acids

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: oxides of zinc, arsenic

POLYMERIZATION: Will not polymerize.

11. TOXICOLOGICAL INFORMATION

ZINC ARSENIDE:

CARCINOGEN STATUS: OSHA: Carcinogen; NTP: Known Human Carcinogen; IARC: Human Sufficient Evidence, Animal Limited Evidence, Group 1; EC: Category 1

LOCAL EFFECTS:

Irritant: inhalation, skin, eye

TARGET ORGANS: nervous system

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: diabetes, heart or cardiovascular disorders, immune system disorders or allergies, kidney disorders, liver disorders, nervous system disorders, skin disorders and allergies

12. ECOLOGICAL INFORMATION

Not available

13. DISPOSAL CONSIDERATIONS

Hazardous Waste Number(s): D004. Dispose of in accordance with U.S. EPA 40 CFR 262 for concentrations at or above the Regulatory level. Regulatory level- 5.0 mg/L. Dispose in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:

PROPER SHIPPING NAME: Arsenic compounds, solid, n.o.s. (ZINC ARSENIDE)

ID NUMBER: UN1557

HAZARD CLASS OR DIVISION: 6.1

PACKING GROUP: II

LABELING REQUIREMENTS: 6.1



CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

SHIPPING NAME: Arsenic compound, solid, n.o.s. (ZINC ARSENIDE)

UN NUMBER: UN1557

CLASS: 6.1

PACKING GROUP/CATEGORY: II

15. REGULATORY INFORMATION

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355 Subpart B): Not regulated.

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355 Subpart C): Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370 Subparts B and C):

ACUTE: Yes

CHRONIC: Yes

FIRE: No

REACTIVE: No

SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65):
ARSENIC AND INORGANIC COMPOUNDS (as As)

OSHA PROCESS SAFETY (29 CFR 1910.119): Not regulated.

STATE REGULATIONS:

California Proposition 65:

Known to the state of California to cause the following:

ARSENIC AND INORGANIC COMPOUNDS (as As)

Cancer (Feb 27, 1987)

Developmental toxicity (May 01, 1997)

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: Not determined.

NATIONAL INVENTORY STATUS:

U.S. INVENTORY (TSCA): Not listed on inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

CANADA INVENTORY (DSL/NDSL): Not determined.

16. OTHER INFORMATION

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