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Material Safety Data Sheet

Phenothiazine MSDS

Section 1: Chemical Product and Company Identification

Product Name: Phenothiazine

Catalog Codes: SLP3244

CAS#: 92-84-2

RTECS: SN5075000

TSCA: TSCA 8(b) inventory: Phenothiazine

CI#: Not available.

Synonym: Dibenzoparathiazine; Thiodiphenylamine; Dibenzothiazine

Chemical Name: Phenothiazine

Chemical Formula: C₁₂H₉NS

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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Phenothiazine	92-84-2	100

Toxicological Data on Ingredients:

Phenothiazine: ORAL (LD50): Acute: 5000 mg/kg [Mouse].

Section 3: Hazards Identification

Potential Acute Health Effects:

Hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (sensitizer).

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to blood, liver, spleen, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

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. Cold water may be used. WARM water MUST be used. Get medical attention.

Skin Contact:

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

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. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Serious Ingestion:

Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flash Points: Not available.

Flammable Limits: Not available.

Products of Combustion: These products are carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂...).

Fire Hazards in Presence of Various Substances: Slightly flammable to flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks.

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: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

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:

Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. 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:

Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids.

Storage:

Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 24°C (75.2°F).

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:

Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

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:

TWA: 5 (mg/m³) from ACGIH (TLV) [United States] SKIN TWA: 5 STEL: 10 (mg/m³) [Canada] SKIN TWA: 5 (mg/m³) from NIOSH SKIN Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid. (Powdered solid. Granular solid. Flakes solid.)

Odor: Slight.

Taste: Tasteless.

Molecular Weight: 199.26 g/mole

Color: Grayish-Green to Greenish Yellow

pH (1% soln/water): Not available.

Boiling Point: 371°C (699.8°F)

Melting Point: 185.1°C (365.2°F)

Critical Temperature: Not available.

Specific Gravity: Not available.

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: The product is more soluble in oil; log(oil/water) = 4.2

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, diethyl ether, acetone.

Solubility: Easily soluble in acetone. Soluble in diethyl ether. Very slightly soluble in cold water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Excess heat, incompatible materials

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

Corrosivity: Not available.

Special Remarks on Reactivity: Light and Air Sensitive. Readily oxidized by sunlight and air. Darkens to deep olive green on exposure to light.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Inhalation. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD50): 5000 mg/kg [Mouse].

Chronic Effects on Humans: May cause damage to the following organs: blood, liver, spleen, central nervous system (CNS).

Other Toxic Effects on Humans:

Hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation. Slightly hazardous in case of skin contact (sensitizer).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: May cause adverse reproductive effects (female fertility (postimplantation mortality)) based on animal data.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: May cause skin irritation. It may be absorbed through skin and may cause nausea, vomiting, diarrhea, and headache. Eyes: Dust may cause severe eye irritation. May cause Photosensitized Keratitis with Corneal Edema, which only develops in sunlight. Inhalation: Dust may cause respiratory tract irritation. Ingestion: May cause gastrointestinal tract irritation with nausea, vomiting, diarrhea, abdominal pain. May affect behavior (headache, antipsychotic) and central nervous system (CNS depressant). May also affect the liver (jaundice, enlarged liver), spleen, and blood (normocytic anemia). Chronic Potential Health Effects: Skin: Repeated and prolonged contact may sensitization dermatitis. It may be absorbed through the skin and repeated absorption may affect the blood (hemolytic anemia, hypothermia or hyperthermia), liver (jaundice, hyperglycemia, enlarged liver), and spleen (enlarged spleen). Eyes: Repeated and prolonged exposure may cause conjunctivitis, dryness of eyes, discoloration of the conjunctiva, sclera, and skin surrounding the eyes. May affect vision (blurred vision, night blindness, dilated or sluggish pupils, corneal opacity, electrooculogram disturbances). Ingestion: Repeated exposure may cause similar symptoms to acute exposure.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 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 product itself and its products of degradation are not 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

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information

Federal and State Regulations:

Illinois toxic substances disclosure to employee act: Phenothiazine Rhode Island RTK hazardous substances: Phenothiazine Pennsylvania RTK: Phenothiazine Minnesota: Phenothiazine Massachusetts RTK: Phenothiazine New Jersey: Phenothiazine California Director's List of Hazardous Substances: Phenothiazine TSCA 8(b) inventory: Phenothiazine TSCA 8(d) H and S data reporting: Phenothiazine

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):

Not controlled under WHMIS (Canada).

DSCL (EEC):

R36/38- Irritating to eyes and skin. S2- Keep out of the reach of children. S46- If swallowed, seek medical advice immediately and show this container or label.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 1

Reactivity: 0

Personal Protection: E

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

Health: 2

Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/09/2009 06:31 PM

Last Updated: 05/21/2016 12:00 PM

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