

# Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
 	<p><b>Toxic compound, do not ingest or inhale. Avoid all contact with this material.</b></p> <p>Irritating to skin, eyes, and the respiratory system.  <b>POSSIBLE MUTAGEN. MINIMIZE EXPOSURE.</b>                      Sensitizer.                      Photosensitizer.</p>	   

## Section I. Chemical Product and Company Identification

Chemical Name	<b>Phenothiazine</b>		
Catalog Number	P0106	Supplier	TCI America 9211 N. Harborgate St. Portland OR 1-800-423-8616
Synonym	2,3,5,6-Dibenzo-1,4-thiazine		
Chemical Formula	C <sub>12</sub> H <sub>9</sub> NS		
CAS Number	92-84-2	In case of Emergency Call	<b>Chemtrec®</b> <b>(800) 424-9300 (U.S.)</b> <b>(703) 527-3887 (International)</b>

## Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Phenothiazine	92-84-2	Min. 97.0 (GC)	This compound is classified as a possible mutagen. There is no acceptable exposure limit for a mutagen.	Mouse LD <sub>50</sub> (oral) 5000mg/kg Mouse LD <sub>50</sub> (intravenous) 178mg/kg Rabbit LD <sub>50</sub> (oral) 4000mg/kg

## Section III. Hazards Identification

Acute Health Effects	Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.
Chronic Health Effects	<p><b>CARCINOGENIC EFFECTS</b> : Not available.</p> <p><b>MUTAGENIC EFFECTS</b> : Not available.</p> <p><b>TERATOGENIC EFFECTS</b> : Not available.</p> <p><b>DEVELOPMENTAL TOXICITY</b> Reproductive: rat (oral) 1250mg/kg. duration: female 1-22 days of pregnancy. Effects on fertility- post-implantation mortality. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.</p>

## Section IV. First Aid Measures

Eye Contact	Check for and remove any contact lenses. DO NOT use an eye ointment. Flush eyes with running water for a minimum of 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention. Treat symptomatically and supportively.
Skin Contact	After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. Seek medical attention. Treat symptomatically and supportively. Wash any contaminated clothing before reusing.
Inhalation	If the victim is not breathing, perform artificial respiration. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention. Treat symptomatically and supportively.
Ingestion	INDUCE VOMITING by sticking finger in throat. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt, or waistband. If the victim is not breathing, administer artificial respiration. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively.

## Section V. Fire and Explosion Data

Flammability	Combustible.	Auto-Ignition	Not available.
Flash Points	Not available.	Flammable Limits	Not available.
Combustion Products	These products are toxic carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO, NO <sub>2</sub> ), sulfur oxides (SO <sub>x</sub> ).		
Fire Hazards	No specific information is available regarding the flammability of this compound in the presence of various materials.		

**Continued on Next Page**      **Emergency phone number (800) 424-9300**

Explosion Hazards 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.  
No additional information is available regarding the risks of explosion.

Fire Fighting Media and Instructions SMALL FIRE: Use DRY chemicals, CO<sub>2</sub>, water spray or foam.  
LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet.

### Section VI. Accidental Release Measures

Spill Cleanup Instructions Toxic solid. Irritating material. Mutagenic material.  
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. Eliminate all sources of ignition. Consult federal, state, and/or local authorities for assistance on disposal. Finish cleaning the spill by rinsing any contaminated surfaces with copious amounts of water. Consult federal, state, and/or local authorities for assistance on disposal.

### Section VII. Handling and Storage

Handling and Storage Information TOXIC. IRRITANT. POSSIBLE MUTAGEN. SENSITIZER. PHOTSENSITIZER. Handle with caution and minimize exposure. Keep away from heat and sources of ignition. Mechanical exhaust required. When not in use, tightly seal the container and store in a dry, cool place. Avoid excessive heat and light. DO NOT ingest. DO NOT breathe dust. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Treat symptomatically and supportively. Avoid contact with skin and eyes.  
Always store away from incompatible compounds such as oxidizing agents, acids.

### Section VIII. 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. Boots. Gloves. A MSHA/NIOSH approved respirator must be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.



Exposure Limits This compound is classified as a possible mutagen. There is no acceptable exposure limit for a mutagen.

### Section IX. Physical and Chemical Properties

Physical state @ 20°C	Yellow to pale-green powder.	Solubility	Very soluble in acetone. Freely soluble in benzene.
Specific Gravity	Not available.		Soluble in alcohol, and mineral oils. Practically insoluble in petroleum ether, and chloroform.
Molecular Weight	199.28	Partition Coefficient	Not available.
Boiling Point	371°C (699.8°F)	Vapor Pressure	Not available.
Melting Point	182 to 187°C (359.6 to 368.6°F)	Vapor Density	Not available.
Refractive Index	Not available.	Volatility	Not available.
Critical Temperature	Not available.	Odor	Slight odor.
Viscosity	Not available.	Taste	Tasteless.

### Section X. Stability and Reactivity Data

Stability This material is stable if stored under proper conditions. (See Section VII for instructions)

Conditions of Instability May discolor on exposure to light. Avoid excessive heat and light.

Incompatibilities Reactive with strong oxidizing agents, strong acids.

### Section XI. Toxicological Information

RTECS Number SN5075000

Routes of Exposure Eye contact. Inhalation. Ingestion. Skin contact.

Toxicity Data  
Mouse LD<sub>50</sub> (oral) 5000mg/kg  
Mouse LD<sub>50</sub> (intravenous) 178mg/kg  
Rabbit LD<sub>50</sub> (oral) 4000mg/kg

Chronic Toxic Effects	<p><b>CARCINOGENIC EFFECTS</b> : Not available.</p> <p><b>MUTAGENIC EFFECTS</b> : Not available.</p> <p><b>TERATOGENIC EFFECTS</b> : Not available.</p> <p><b>DEVELOPMENTAL TOXICITY</b> Reproductive: rat (oral) 1250mg/kg. duration: female 1-22 days of pregnancy.</p> <p>Effects on fertility- post-implantation mortality.</p> <p>Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.</p>
Acute Toxic Effects	<p>Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.</p>

### Section XII. Ecological Information

Ecotoxicity	Not available.
Environmental Fate	<p>Phenothiazine's production and use as an insecticide, medication/anthelmintic, polymerization inhibitor, an antioxidant and in the manufacture of promethazine hydrochloride, pharmaceuticals, dyes, chlorpromazine and related antipsychotic drugs may result in its release to the environment through various waste streams. Phenothiazine has been detected in the Niagara River, in river sediments near Niagara Falls, and in industrial effluent. If released to soil, phenothiazine will have slight mobility. Volatilization of phenothiazine will not be important from moist or dry soil surfaces. The adsorptivity of phenothiazine is expected to be sensitive to pH since phenothiazine is a base with a pKa of 2.52. According to a MITI biodegradation study, biodegradation of phenothiazine will not be an important fate process in soil or water. If released to water, phenothiazine will adsorb to suspended solids and sediment. Phenothiazine will be essentially non-volatile from water surfaces. Experimental BCF values of 127-660 and 180-528 suggest that phenothiazine will bioconcentrate in aquatic organisms. If released to the atmosphere phenothiazine will exist as both vapor and particulate. Vapor-phase phenothiazine is degraded in the atmosphere by reaction with photochemically produced hydroxyl radicals with an estimated half-life of about 2 hours. Particulate-phase phenothiazine may be physically removed from the air by dry deposition. Occupational exposure to phenothiazine can occur through dermal contact and ingestion. (SRC)</p>

### Section XIII. Disposal Considerations

Waste Disposal	<p>Recycle to process, if possible. Consult your local or regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state, and local regulations when disposing of this substance.</p>
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### Section XIV. Transport Information

DOT Classification	Not a DOT controlled material (United States).
PIN Number	Not applicable.
Proper Shipping Name	Not applicable.
Packing Group (PG)	Not applicable.
DOT Pictograms	

### Section XV. Other Regulatory Information and Pictograms

TSCA Chemical Inventory (EPA)	This compound is <b>ON</b> the EPA Toxic Substances Control Act (TSCA) inventory list.
WHMIS Classification (Canada)	WHMIS CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).
EINECS Number (EEC)	202-196-5
EEC Risk Statements	<p>R23/24/25- Toxic by inhalation, in contact with skin and if swallowed.</p> <p>R20/21/22- Harmful by inhalation, in contact with skin and if swallowed.</p> <p>R36/37/38- Irritating to eyes, respiratory system and skin.</p>
Japanese Regulatory Data	Not available.

### Section XVI. Other Information

Version 1.0  
Validated on 3/10/1998.  
Printed 3/17/2005.

#### Notice to Reader

TCl laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.