

# SAFETY DATA SHEET

## 1. PRODUCT

### 1.1 Product identifiers

Name: Phenothiazine

CAS-No.: 92-84-2

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 4), H302

Skin sensitisation (Category 1), H317

Specific target organ toxicity - repeated exposure, Oral (Category 2), Blood, H373

Acute aquatic toxicity (Category 3), H402

Chronic aquatic toxicity (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 GHS Label elements, including precautionary statements

Pictogram	
Signal word	Warning
Hazard statement(s)	H302 Harmful if swallowed. H317 May cause an allergic skin reaction. H373 May cause damage to organs (Blood) through prolonged or repeated exposure if swallowed. H412 Harmful to aquatic life with long lasting effects.
Precautionary statement(s)	P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P264 Wash skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P272 Contaminated work clothing should not be allowed out of the workplace. P273 Avoid release to the environment. P280 Wear protective gloves. P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P314 Get medical advice/ attention if you feel unwell. P321 Specific treatment (see supplemental first aid instructions on this label). P330 Rinse mouth. P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention. P363 Wash contaminated clothing before reuse. P501 Dispose of contents/ container to an approved waste disposal plant.

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

No data available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Formula:  $C_{12}H_9NS$   
Molecular weight: 199.27 g/mol  
CAS-No.: 92-84-2

**Hazardous components**

Component	Classification	Concentration
<b>Phenothiazine</b>		
	Acute Tox. 4; Skin Sens. 1; STOT RE 2; Aquatic Acute 3; Aquatic Chronic 3; H302, H317, H373, H412	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

**4. FIRST AID MEASURES****4.1 Description of first aid measures**

<b>General advice</b>
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
<b>If inhaled</b>
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
<b>In case of skin contact</b>
Wash off with soap and plenty of water. Consult a physician.
<b>In case of eye contact</b>
Flush eyes with water as a precaution.
<b>If swallowed</b>
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**4.2 Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**4.2 Indication of any immediate medical attention and special treatment needed**

No data available

**5. FIREFIGHTING MEASURES****5.1 Extinguishing media****Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**5.2 Special hazards arising from the substance or mixture**

No data available

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**5.4 Further information**

No data available

**6. ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

**6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment

must be avoided.

### 6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Phenothiazine	92-84-2	TWA	5 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Skin irritation Eye photosensitization Danger of cutaneous absorption		
		TWA	5.000000 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
		Skin irritation Eye photosensitization Danger of cutaneous absorption		
		TWA	5.000000 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
		Potential for dermal absorption		
		PEL	5 mg/m <sup>3</sup>	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		Skin		

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

Eye/face protection	Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
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Skin protection	<p>Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.</p> <p>Full contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)</p> <p>Splash contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374</p> <p>If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.</p>
Body Protection	Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Respiratory protection	For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Control of environmental exposure	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance	Form: pellets Colour: light yellow
Odour	odourless
Odour Threshold	No data available
pH	7 at 10 g/l at 20 °C (68 °F)
Melting point/freezing point	Melting point/range: 182 - 187 °C (360 - 369 °F) - lit.
Initial boiling point and boiling range	371 °C (700 °F) - lit.
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	The product is not flammable. - Flammability (solids)
Upper/lower flammability or explosive limits	No data available
Vapour pressure	53 hPa (40 mmHg) at 290 °C (554 °F)
Vapour density	No data available
Relative density	No data available
Water solubility	0.127 g/l at 23 °C (73 °F) - OECD Test Guideline 105 - slightly soluble
Partition coefficient: n-octanol/water	log Pow: ca.3.78 at 25 °C (77 °F)
Auto-ignition temperature	397 °C (747 °F) at 1,013 hPa (760 mmHg)
Decomposition temperature	> 250 °C (> 482 °F) -
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

### 9.2 Other safety information

Bulk density: 0.65 g/l

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

No data available

### 10.5 Incompatible materials

Strong oxidizing agents

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides

Other decomposition products - No data available

In the event of fire: see section 5

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

<b>Acute toxicity</b>
LD50 Oral - Rat - male and female - 1,370 mg/kg Inhalation: No data available LD50 Dermal - Rat - male and female - > 2,000 mg/kg (OECD Test Guideline 402) No data available
<b>Skin corrosion/irritation</b>
Skin - Rabbit Result: No skin irritation - 4 h (OECD Test Guideline 404)
<b>Serious eye damage/eye irritation</b>
Eyes - Rabbit Result: No eye irritation (OECD Test Guideline 405)
<b>Respiratory or skin sensitisation</b>
Causes photosensitivity. Exposure to light can result in allergic reactions resulting in dermatologic lesions, which can vary from sunburnlike responses to edematous, vesiculated lesions, or bullae Maximisation Test - Guinea pig May cause sensitisation by skin contact. (OECD Test Guideline 406)
<b>Germ cell mutagenicity</b>
Ames test S. typhimurium Result: negative Rat - male Result: negative
<b>Carcinogenicity</b>
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
<b>Reproductive toxicity</b>
No data available Reproductive toxicity - Rat - Oral Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). No data available
<b>Specific target organ toxicity -single exposure</b>
No data available
<b>Specific target organ toxicity -repeated exposure</b>
Oral - May cause damage to organs through prolonged or repeated exposure. - Blood
<b>Aspiration hazard</b>
No data available

**Additional Information**

RTECS: SN5075000  
anemia, Discoloration of the skin.

**12. ECOLOGICAL INFORMATION****12.1 Toxicity**

Toxicity to fish	static test LC50 - Oncorhynchus mykiss (rainbow trout) - 70.7 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 11.92 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test EC50 - Desmodesmus subspicatus (green algae) - > 100 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	Respiration inhibition IC50 - Sludge Treatment - > 100 mg/l - 3 h (OECD Test Guideline 209)

**12.2 Persistence and degradability**

Biodegradability	aerobic Result: 0 % - Not readily biodegradable. (OECD Test Guideline 301D) Chemical Oxygen Demand (COD) 2,337 mg/g
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**12.3 Bioaccumulative potential**

Bioaccumulation	Cyprinus carpio (Carp) - 56 d at 25 °C - 0.02 mg/l Bioconcentration factor (BCF): 127 - 660
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**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life with long lasting effects.

Additional ecological information:

No data available

Dissolved organic

carbon (DOC)

8 mg/g

**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods**

<b>Product</b>
Offer surplus and non-recyclable solutions to a licensed disposal company.
<b>Contaminated packaging</b>
Dispose of as unused product.

**14. TRANSPORT INFORMATION****DOT (US)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

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**15. REGULATORY INFORMATION****SARA 302 Components**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Acute Health Hazard

**Massachusetts Right To Know Components**

Component	CAS-No.	Revision Date
Phenothiazine	92-84-2	1994-04-01

**Pennsylvania Right To Know Components**

Component	CAS-No.	Revision Date
Phenothiazine	92-84-2	1994-04-01

**New Jersey Right To Know Components**

Component	CAS-No.	Revision Date
Phenothiazine	92-84-2	1994-04-01

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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**16. OTHER INFORMATION****Full text of H-Statements referred to under sections 2 and 3.**

Acute Tox. Acute toxicity

Aquatic Acute Acute aquatic toxicity

Aquatic Chronic Chronic aquatic toxicity

H302 Harmful if swallowed.

H317 May cause an allergic skin reaction.

H373 May cause damage to organs through prolonged or repeated exposure if swallowed.

H402 Harmful to aquatic life.

H412 Harmful to aquatic life with long lasting effects.

**HMIS Rating**

Health hazard: 2

Chronic Health Hazard:

Flammability: 0

Physical Hazard 0

**NFPA Rating**

Health hazard: 2

Fire Hazard: 0

Reactivity Hazard: 0

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