PHENOTHIAZINE
CAS NO 92-84-2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers
Product 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, Industrial & for professional use only.

1.3 Details of the supplier of the safety data sheet
Company : Central Drug House (P) Ltd
7/28 Vardaan House
New Delhi -110002
INDIA

Telephone : +91 11 49404040
Email : care@cdhfinechemical.com

1.4 Emergency telephone number
Emergency Phone # : +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
Acute toxicity, Oral (Category 4), H302
Skin sensitisation (Category 1), H317
Specific target organ toxicity - repeated exposure, Oral (Category 2), Blood, H373
Chronic aquatic toxicity (Category 3), H412

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

2.2 Label elements
Labelling according Regulation (EC) No 1272/2008
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)

P273 Avoid release to the environment.
P280 Wear protective gloves.

Supplemental Hazard Statements

2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances
Formula: C_{12}H_{9}NS
Molecular weight: 199.27 g/mol
CAS-No.: 92-84-2
EC-No.: 202-196-5

Hazardous ingredients according to Regulation (EC) No 1272/2008

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenothiazine</td>
<td>Acute Tox. 4; Skin Sens. 1;</td>
<td>&lt;= 100 %</td>
</tr>
<tr>
<td>CAS-No.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>92-84-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EC-No.</td>
<td>STOT RE 2; Aquatic Chronic 3; H302, H317, H373, H412</td>
<td></td>
</tr>
<tr>
<td>202-196-5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
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

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 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
Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.
SECTION 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.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. 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
Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Storage class (TRGS 510): Combustible Solids

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

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).

Skin protection
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.

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 r (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.
SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance
   Form: pellets
   Colour: light yellow

b) Odour
   Odourless

c) Odour Threshold
   No data available

d) pH
   7 at 10 g/l at 20 °C

e) Melting point/freezing point
   Melting point/range: 182 - 187 °C - lit.
   Melting point/range: 183 - 187 °C

f) Initial boiling point and boiling range
   371 °C - lit.

g) Flash point
   No data available

h) Evaporation rate
   No data available

i) Flammability (solid, gas)
   The product is not flammable. - Flammability (solids)

j) Upper/lower flammability or explosive limits
   No data available

k) Vapour pressure
   53 hPa at 290 °C

l) Vapour density
   No data available

m) Relative density
   No data available

n) Water solubility
   0.127 g/l at 23 °C - OECD Test Guideline 105 - slightly soluble

o) Partition coefficient: n-octanol/water
   Log Pow: ca.3.78 at 25 °C

p) Auto-ignition temperature
   397 °C
   at 1,013 hPa

q) Decomposition temperature
   > 250 °C

r) Viscosity
   No data available

s) Explosive properties
   No data available

t) Oxidizing properties
   No data available

9.2 Other safety information

   Bulk density
   0.65 g/l

SECTION 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

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - male and female - 1,370 mg/kg(Phenothiazine)
LD50 Dermal - Rat - male and female - > 2,000 mg/kg(Phenothiazine)
(OECD Test Guideline 402)

Skin corrosion/irritation
Skin - Rabbit(Phenothiazine)
Result: No skin irritation - 4 h
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit(Phenothiazine)
Result: No eye irritation
(OECD Test Guideline 405)

Respiratory or skin sensitisation
Causes photosensitivity. Exposure to light can result in allergic reaction sunburnlike responses to edematous, vesiculated lesions, or bullae(Phenothiazine)
Maximisation Test - Guinea pig(Phenothiazine)
May cause sensitisation by skin contact.
(OECD Test Guideline 406)

Germ cell mutagenicity
Ames test(Phenothiazine)
S. typhimurium
Result: negative
(Phenothiazine)
Rat - male
Result: negative

Carcinogenicity
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.

Reproductive toxicity

Specific target organ toxicity - single exposure
No data available(Phenothiazine)

Specific target organ toxicity - repeated exposure
Oral - May cause damage to organs through prolonged or repeated exposure. - Blood

Aspiration hazard
No data available(Phenothiazine)

Additional Information
RTECS: SN5075000
anemia, Discoloration of the skin.(Phenothiazine)

SECTION 12: Ecological information

12.1 Toxicity
Toxicity to fish static test LC50 - Oncorhynchus mykiss (rainbow trout) - 70.7 mg/l - 96 h(Phenothiazine)
(OECD Test Guideline 203)
12.2 Persistence and degradability
Biodegradability aerobic (Phenothiazine)
Result: 0 % - Not readily biodegradable.
(OECD Test Guideline 301D)

Chemical Oxygen Demand (COD)
2,337 mg/g(Phenothiazine)

12.3 Bioaccumulative potential
Bioaccumulation Cyprinus carpio (Carp) - 56 d at 25 °C - 0.02 mg/l(Phenothiazine)
Bioconcentration factor (BCF): 127 - 660

12.4 Mobility in soil
No data available(Phenothiazine)

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects
Harmful to aquatic life with long lasting effects.
Additional ecological information No data available
Dissolved organic carbon (DOC) 8 mg/g (Phenothiazine)

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chem scrubber.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number
ADR/RID: - IMDG: - IATA: -

14.2 UN proper shipping name
ADR/RID: Not dangerous goods
IMDG: Not dangerous goods
IATA: Not dangerous goods

14.3 Transport hazard class(es)
ADR/RID: - IMDG: - IATA: -

14.4 Packaging group
ADR/RID: - IMDG: - IATA: -
14.5 Environmental hazards
ADR/RID: no                        IMDG Marine pollutant: no             IATA: no

14.6 Special precautions for user
No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H302    Harmful if swallowed.
H317    May cause an allergic skin reaction.
H373    May cause damage to organs through prolonged or repeated exposure if swallowed.
H412    Harmful to aquatic life with long lasting effects.

Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be
used only as a guide. The information in this document is based on the present state of our knowledge
and is applicable to the product with regard to appropriate safety precautions. It does not represent any
guarantee of the properties of the product. Central Drug House (P) Ltd and its Affiliates shall not be
held liable for any damage resulting from handling or from contact with the above product. See
www.cdhfinechemical.com for additional terms and conditions of sale.