## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1 Product identifiers

<table>
<thead>
<tr>
<th>Product name</th>
<th>Diphenylamine</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS-No.</td>
<td>122-39-4</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Identified uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory chemicals, Industrial &amp; for professional use only</td>
</tr>
</tbody>
</table>

### 1.3 Details of the supplier of the safety data sheet

<table>
<thead>
<tr>
<th>Company</th>
<th>Central Drug House (P) Ltd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>7/28 Vardaan House</td>
</tr>
<tr>
<td></td>
<td>New Delhi-10002</td>
</tr>
<tr>
<td></td>
<td>INDIA</td>
</tr>
<tr>
<td>Telephone</td>
<td>+91 11 49404040</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:care@cdhfinechemical.com">care@cdhfinechemical.com</a></td>
</tr>
</tbody>
</table>

### 1.4 Emergency telephone number

<table>
<thead>
<tr>
<th>Emergency Phone #</th>
<th>+91 11 49404040 (9:00am - 6:00 pm) [Office hours]</th>
</tr>
</thead>
</table>

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]**

- Acute toxicity, Inhalation (Category 3)
- Acute toxicity, Dermal (Category 3)
- Acute toxicity, Oral (Category 3)
- Specific target organ toxicity - repeated exposure (Category 2)
- Acute aquatic toxicity (Category 1)
- Chronic aquatic toxicity (Category 1)

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Danger of cumulative effects. Toxic by inhalation, in contact with skin and if swallowed.

### 2.2 Label elements

**Labelling according Regulation (EC) No 1272/2008 [CLP]**

- **Pictogram**

<table>
<thead>
<tr>
<th>Signal word</th>
<th>Hazard statement(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Danger</td>
<td>H301, H311, H331, H373, H410</td>
</tr>
<tr>
<td></td>
<td>Toxic if swallowed.</td>
</tr>
<tr>
<td></td>
<td>Toxic in contact with skin.</td>
</tr>
<tr>
<td></td>
<td>Toxic if inhaled.</td>
</tr>
<tr>
<td></td>
<td>May cause damage to organs through prolonged or repeated exposure.</td>
</tr>
<tr>
<td></td>
<td>Very toxic to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>
Precautionary statement(s)
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P311 Call a POISON CENTER or doctor/ physician.
P501 Dispose of contents/ container to an approved waste disposal plant.

Supplemental Hazard Statements


Hazard symbol(s)

R-phrase(s)
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R33 Danger of cumulative effects.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)
S28 After contact with skin, wash immediately with plenty of soap and water.
S36/37 Wear suitable protective clothing and gloves.
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S60 This material and its container must be disposed of as hazardous waste.
S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets.

2.3 Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphenylamine</td>
<td></td>
</tr>
<tr>
<td>CAS-No.</td>
<td>122-39-4</td>
</tr>
<tr>
<td>EC-No.</td>
<td>204-539-4</td>
</tr>
<tr>
<td>Index-No.</td>
<td>612-026-00-5</td>
</tr>
</tbody>
</table>

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. Take victim immediately to hospital. 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
Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer., Nausea, Vomiting, Liver injury may occur., Kidney injury may occur.

4.3 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
Carbon oxides, nitrogen oxides (NOx)

5.3 Advice for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information
no data available

6. ACCIDENTAL RELEASE MEASURES
6.1 Personal precautions, protective equipment and emergency procedures
Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

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.

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.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific end use(s)
no data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
8.1 Control parameters
Components with workplace control parameters

8.2 Exposure controls
Appropriate engineering controls
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

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
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties
a) Appearance
   Form: crystalline
   Colour: white
b) Odour
   no data available
c) Odour Threshold
   no data available
d) pH
   no data available
e) Melting point/freezing point
   Melting point/range: 52.5 - 54.0 °C
f) Initial boiling point and boiling range
   302 °C - lit.
g) Flash point
   153 °C - closed cup
h) Evaporation rate
   no data available
i) Flammability (solid, gas)
   no data available
j) Upper/lower flammability or explosive limits
   no data available
k) Vapour pressure
   1 hPa at 108 °C
l) Vapour density
   no data available
m) Relative density
   1.160 g/cm3
n) Water solubility
   insoluble
o) Partition coefficient: n-octanol/water
   log Pow: 3.5
p) Auto-ignition temperature
   no data available
q) Decomposition temperature
   no data available
r) Viscosity
   no data available
s) Explosive properties
   no data available
t) Oxidizing properties
   no data available

9.2 Other safety information
Bulk density 0.61 g/l
Surface tension 39.3 mN/m at 60 °C
10. **STABILITY AND REACTIVITY**

10.1 **Reactivity**

no data available

10.2 **Chemical stability**

no data available

10.3 **Possibility of hazardous reactions**

no data available

10.4 **Conditions to avoid**

no data available

10.5 **Incompatible materials**

Strong oxidizing agents, Strong acids

10.6 **Hazardous decomposition products**

Other decomposition products - no data available

11. **TOXICOLOGICAL INFORMATION**

11.1 **Information on toxicological effects**

**Acute toxicity**

LD50 Oral - rat - 1.120 mg/kg

Remarks: Behavioral: Somnolence (general depressed activity). Respiratory disorder

Blood: Methemoglobinemia - Carboxyhemoglobin.

Inhalation: no data available

Dermal: no data available

**Skin corrosion/irritation**

no data available

**Serious eye damage/eye irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

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**

Developmental Toxicity - rat - Oral
Specific Developmental Abnormalities: Urogenital system.

**Specific target organ toxicity - single exposure**

no data available

**Specific target organ toxicity - repeated exposure**

May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard**

no data available

**Potential health effects**

**Inhalation**
May be fatal if inhaled. May cause respiratory tract irritation.

**Ingestion**
Harmful if swallowed.

**Skin**
Toxic if absorbed through skin. May cause skin irritation.

**Eyes**
May cause eye irritation.
Signs and Symptoms of Exposure
Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer. Nausea, Vomiting, Liver injury may occur., Kidney injury may occur.

Additional Information
RTECS: JJ7800000

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish
LC50 - Pimephales promelas (fathead minnow) - 3.79 mg/l - 96.0 h
LC0 - Leuciscus idus (Golden orfe) - 20 mg/l - 48.0 h

Toxicity to daphnia and other aquatic invertebrates
EC50 - Daphnia magna (Water flea) - 0.27 - 0.36 mg/l - 48 h

Toxicity to algae
EC50 - Desmodesmus subspicatus (green algae) - 0.048 mg/l - 72 h
IC50 - Desmodesmus subspicatus (green algae) - 1.5 mg/l - 72 h

12.2 Persistence and degradability

Biodegradability
Result: According to the results of tests of biodegradability this product is not readily biodegradable.

no data available

12.3 Bioaccumulative potential

Bioaccumulation
Cyprinus carpio (Carp) - Bioconcentration factor (BCF): 253

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

Very toxic to aquatic life.

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 chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

14.1 UN number
ADR/RID: 3077  IMDG: 3077  IATA: 3077

14.2 UN proper shipping name
ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Diphenylamine)
IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Diphenylamine)
IATA: Environmentally hazardous substance, solid, n.o.s. (Diphenylamine)

14.3 Transport hazard class(es)
ADR/RID: 9  IMDG: 9  IATA: 9

14.4 Packaging group
ADR/RID: III  IMDG: III  IATA: III

14.5 Environmental hazards
ADR/RID: yes  IMDG Marine Pollutant: yes  IATA: yes
14.6 Special precautions for user

Further information
EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

15. REGULATORY INFORMATION
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
no data available

15.2 Chemical Safety Assessment
no data available

16. OTHER INFORMATION

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.