MATERIAL SAFETY DATA SHEET (MSDS)

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

1.1. Product identifier

<table>
<thead>
<tr>
<th>Product form</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC index no</td>
<td>602-033-00-1</td>
</tr>
<tr>
<td>EC no</td>
<td>203-628-5</td>
</tr>
<tr>
<td>CAS No</td>
<td>108-90-7</td>
</tr>
<tr>
<td>Product code</td>
<td>02737</td>
</tr>
<tr>
<td>Formula</td>
<td>C6H5Cl</td>
</tr>
<tr>
<td>Synonyms</td>
<td>Monochlorobenzene</td>
</tr>
</tbody>
</table>

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

1.2.1. Relevant identified uses

Use of the substance/mixture:

Industrial. For professional use only.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

LOBA CHEMIE PVT LTD.

107 Wode House Road, Jehangir Villa, Colaba

400005 Mumbai - INDIA

T +91 22 6663 6663 - F +91 22 6663 6699

info@lobachemie.com - www.lobachemie.com

1.4. Emergency telephone number

Emergency number: + 91 22 6663 6663 (9:00am - 6:00 pm)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

<table>
<thead>
<tr>
<th>Classification</th>
<th>H226</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquids, Category 3</td>
<td></td>
</tr>
<tr>
<td>Acute toxicity (oral), Category 4</td>
<td>H302</td>
</tr>
<tr>
<td>Acute toxicity (inhal.), Category 4</td>
<td>H332</td>
</tr>
<tr>
<td>Skin corrosion/irritation, Category 2</td>
<td>H315</td>
</tr>
<tr>
<td>Hazardous to the aquatic environment — Chronic Hazard, Category 2</td>
<td>H411</td>
</tr>
</tbody>
</table>

Full text of classification categories and H statements: see section 16
Classification according to Directive 67/548/EEC or 1999/45/EC
Not classified

Adverse physicochemical, human health and environmental effects
No additional information available

2.2. Label elements
Labelling according to Regulation (EC) No. 1272/2008 [CLP]
Hazard pictograms (CLP) : GHS02 GHS07 GHS09
Signal word (CLP) : Warning
Hazard statements (CLP) : H226 - Flammable liquid and vapour
H302+H332 - Harmful if swallowed or if inhaled
H315 - Causes skin irritation
H411 - Toxic to aquatic life with long lasting effects
Precautionary statements (CLP) : P273 - Avoid release to the environment
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER/doctor/...
P301+P330+P331+P310 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
Immediately call a POISON CENTER/doctor/...

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients
3.1. Substance

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
</tr>
</thead>
</table>
| CHLOROBENZENE FOR HPLC      | (CAS No) 108-90-7  
(EC no) 203-628-5  
(EC index no) 602-033-00-1 | 100 |

Full text of R- and H-phrases: see section 16

3.2. Mixture
Not applicable
### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

<table>
<thead>
<tr>
<th>Measures</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-aid measures after inhalation</td>
<td>Assure fresh air breathing. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.</td>
</tr>
<tr>
<td>First-aid measures after skin contact</td>
<td>Wash with plenty of soap and water. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Get medical advice/attention.</td>
</tr>
<tr>
<td>First-aid measures after eye contact</td>
<td>Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.</td>
</tr>
<tr>
<td>First-aid measures after ingestion</td>
<td>Rinse mouth. Do not induce vomiting. Get medical advice/attention.</td>
</tr>
</tbody>
</table>

#### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after skin contact: Causes skin irritation.

#### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

<table>
<thead>
<tr>
<th>Media</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsuitable extinguishing media</td>
<td>Do not use a heavy water stream.</td>
</tr>
</tbody>
</table>

#### 5.2. Special hazards arising from the substance or mixture

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire hazard</td>
<td>Flammable liquid and vapour.</td>
</tr>
<tr>
<td>Explosion hazard</td>
<td>May form flammable/explosive vapour-air mixture.</td>
</tr>
</tbody>
</table>

#### 5.3. Advice for firefighters

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures: No naked lights. No smoking. Remove ignition sources. Use special care to avoid static electric charges.

##### 6.1.1. For non-emergency personnel

Emergency procedures: Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

Protective equipment: Use personal protective equipment as required.

Emergency procedures: Ventilate area.

#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Collect spillage. On land, sweep or shovel into suitable containers.

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling: Avoid contact with skin and eyes. Do not breathe vapours. Provide good ventilation in process area to prevent formation of vapour. Keep away from sources of ignition - No smoking.
### Hygiene measures

Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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

**Storage conditions**: Keep container tightly closed. Keep in fireproof place.

**Incompatible materials**: Heat sources.

### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Exposure controls

**Hand protection**: Protective gloves

**Eye protection**: Chemical goggles or safety glasses

**Skin and body protection**: Wear suitable protective clothing

**Respiratory protection**: Wear respiratory protection

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Clear colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>almond like odour</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>1.1</td>
</tr>
<tr>
<td>Melting point</td>
<td>-45 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>132 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>27 °C</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>637 °C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Flammable</td>
</tr>
<tr>
<td></td>
<td>Flammable liquid and vapour</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>15.7 hPa at 25°C</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>3.9</td>
</tr>
</tbody>
</table>
Relative density : No data available
Density : 1.11
Solubility : Water: Insoluble in water
Log Pow : 2.89
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidising properties : No data available
Explosive limits : 7.1 - 1.3 vol %

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
No additional information available

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No additional information available

10.4. Conditions to avoid
Open flame. Heat. Sparks.

10.5. Incompatible materials
Oxidizing agent.

10.6. Hazardous decomposition products
No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity : Oral: Harmful if swallowed. Inhalation: Harmful if inhaled.

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : Not classified
Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity
No additional information available

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>CHLOROBENZENE FOR HPLC (108-90-7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil
No additional information available

12.5. Results of PBT and vPvB assessment
No additional information available

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
No additional information available

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

<table>
<thead>
<tr>
<th>UN-No. (ADR)</th>
<th>UN-No. (IMDG)</th>
<th>UN-No.(IATA)</th>
<th>UN-No.(ADN)</th>
<th>UN-No. (RID)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1134</td>
<td>1134</td>
<td>1134</td>
<td>Not regulated</td>
<td>Not regulated</td>
</tr>
</tbody>
</table>

14.2. UN proper shipping name

<table>
<thead>
<tr>
<th>Proper Shipping Name (ADR)</th>
<th>Proper Shipping Name (IMDG)</th>
<th>Proper Shipping Name (IATA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHLOROBENZENE</td>
<td>CHLOROBENZENE</td>
<td>CHLOROBENZENE</td>
</tr>
</tbody>
</table>
## CHLOROBENZENE FOR HPLC
### Safety Data Sheet

| Proper Shipping Name (ADN) | Not regulated |
| Proper Shipping Name (RID) | Not regulated |
| Transport document description (ADR) | UN 1134 CHLOROBENZENE, 3, III, (D/E), ENVIRONMENTALLY HAZARDOUS |
| Transport document description (IMDG) | UN 1134 CHLOROBENZENE, 3, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS (29°C c.c.) |
| Transport document description (IATA) | UN 1134 CHLOROBENZENE, 3, III, ENVIRONMENTALLY HAZARDOUS |

### 14.3. Transport hazard class(es)

#### ADR
- Transport hazard class(es) (ADR): 3
- Danger labels (ADR): 3

#### IMDG
- Transport hazard class(es) (IMDG): 3
- Danger labels (IMDG): 3

#### IATA
- Transport hazard class(es) (IATA): 3
- Hazard labels (IATA): 3

#### ADN
- Transport hazard class(es) (ADN): Not regulated

#### RID
- Transport hazard class(es) (RID): Not regulated

### 14.4. Packing group
- Packing group (ADR): III
- Packing group (IMDG): III
- Packing group (IATA): III
- Packing group (ADN): Not regulated
- Packing group (RID): Not regulated

### 14.5. Environmental hazards
- Dangerous for the environment: Yes
- Marine pollutant: Yes
- Other information: No supplementary information available
14.6. Special precautions for user

- Overland transport
  Classification code (ADR) : F1
  Limited quantities (ADR) : 5 L
  Excepted quantities (ADR) : E1
  Packing instructions (ADR) : P001, IBC03, LP01, R001
  Mixed packing provisions (ADR) : MP19
  Portable tank and bulk container instructions (ADR) : T2
  Portable tank and bulk container special provisions (ADR) : TP1
  Tank code (ADR) : LGBF
  Vehicle for tank carriage : FL
  Transport category (ADR) : 3
  Special provisions for carriage - Packages (ADR) : V12
  Special provisions for carriage - Operation (ADR) : S2
  Hazard identification number (Kemler No.) : 30
  Orange plates :

Tunnel restriction code (ADR) : D/E
EAC code : 2Y

- Transport by sea
  Limited quantities (IMDG) : 5 L
  Excepted quantities (IMDG) : E1
  Packing instructions (IMDG) : P001, LP01
  IBC packing instructions (IMDG) : IBC03
  Tank instructions (IMDG) : T2
  Tank special provisions (IMDG) : TP1
  EmS-No. (Fire) : F-E
  EmS-No. (Spillage) : S-D
  Stowage category (IMDG) : A
  Flash point (IMDG) : 29°C c.c.

- Air transport
  PCA Excepted quantities (IATA) : E1
  PCA Limited quantities (IATA) : Y344
  PCA limited quantity max net quantity (IATA) : 10L
  PCA packing instructions (IATA) : 355
  PCA max net quantity (IATA) : 60L
  CAO packing instructions (IATA) : 366
  CAO max net quantity (IATA) : 220L
  ERG code (IATA) : 3L

- Inland waterway transport
  Not regulated

- Rail transport
  Not regulated
No REACH Annex XVII restrictions
CHLOROBENZENE FOR HPLC is not on the REACH Candidate List
CHLOROBENZENE FOR HPLC is not on the REACH Annex XIV List

15.2. National regulations

Germany
AwSV/VvVwS Annex reference: Water hazard class (WGK) 2, hazardous to water (Classification according to VwVwS, Annex 2; WGK No 53)
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV: Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Denmark
Class for fire hazard: Class II-1
Store unit: 5 liter
Classification remarks: R10 <H226;H302+H332;H315;H411>; Emergency management guidelines for the storage of flammable liquids must be followed

15.2. Chemical safety assessment
No additional information available

SECTION 16: Other information

Full text of R-, H- and EUH-phrases:
Acute Tox. 4 (Inhalation) | Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4
Aquatic Chronic 2 | Hazardous to the aquatic environment — Chronic Hazard, Category 2
Flam. Liq. 3 | Flammable liquids, Category 3
Skin Irrit. 2 | Skin corrosion/irritation, Category 2
H226 | Flammable liquid and vapour
H302 | Harmful if swallowed
H315 | Causes skin irritation
H332 | Harmful if inhaled
H411 | Toxic to aquatic life with long lasting effects
This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.