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MATERIAL SAFETY DATA SHEET (MSDS)

CHLOROBENZENE AR (MONOCHLOROBENZENE)

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name : CHLOROBENZENE AR (MONOCHLOROBENZENE)

Product code : SS0101502500

Identification of the product : Chlorobenzene
CAS No :108-90-7
EC No :203-628-5
Annex No :602-033-00-1

Chemical formula : C₆H₅Cl

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

Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet

Company identification : SUVCHEM
Chaitanya Tower, 2nd Floor, Office # 206,
Siddharth Nagar, S.V. Road,
Goregaon (West), Mumbai - 400062,
Maharashtra, India.
Contact: +91 22 28725393 / 94 / 95
Email ID: info@suvchem.com/care@suvchem.com

1.4. Emergency telephone number

Phone no. : + 91 22 28725393 / 94 / 95 (9:00am - 6:00 pm) [Office hours]

2. Hazards identification -DSD

2.1. Classification of the substance or mixture

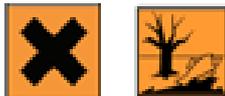
Classification EC 67/548 or EC 1999/45

Classification : R10
Xn; R20
N; R51-53

Hazard Class and Category Code(s), Regulation (EC) No 1272/2008 (CLP)

Health hazards : Acute toxicity, Inhalation - Category 4 - Warning (CLP : Acute Tox. 4) H332
Physical hazards : Flammable liquids - Category 3 - Warning (CLP : Flam. Liq. 3) H226
Environmental hazards : Hazardous to the aquatic environment - Chronic hazard - Category 2 (CLP : Aquatic Chronic 2) H411

2.2. Label elements

MATERIAL SAFETY DATA SHEET (MSDS)
CHLOROBENZENE AR (MONOCHLOROBENZENE)
2. Hazards identification -DSD (continued)
Labelling EC 67/548 or EC 1999/45
Symbol(s)

Symbol(s)

: Xn : Harmful
 N : Dangerous for the environment

R Phrase(s)

: R10 : Flammable.
 R20 : Harmful by inhalation.
 R51/53 : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S Phrase(s)

: S2 : Keep out of the reach of children.
 S24/25 : Avoid contact with skin and eyes.
 S61 : Avoid release to the environment. Refer to special instructions/Safety data sheets.

Contains

: Chlorobenzene

Labelling Regulation EC 1272/2008 (CLP)
Hazard pictograms

Signal words

: Warning

Hazard statements

: H226 : Flammable liquid and vapour.
 H332 : Harmful if inhaled.
 H411 : Toxic to aquatic life with long lasting effects.

Precautionary statements
• General

: P102: Keep out of reach of children.
 P103: Read label before use.
 P101: If medical advice is needed, have product container or label at hand.

• Prevention

: P240: Ground/bond container and receiving equipment.
 P241: Use explosion-proof electrical, ventilating, lighting, ..., equipment.
 P210: Keep away from heat, sparks, open flames or hot surfaces. - No smoking.
 P280: Wear protective gloves, protective clothing, eye protection, face protection.
 P271: Use only outdoors or in a well-ventilated area.
 P261: Avoid breathing dust, fume, gas, mist, vapours, spray.
 P273: Avoid release to the environment.
 P233: Keep container tightly closed.

• Response

: P391: Collect spillage.
 P304+P340: IF INHALED : Remove to fresh air and keep at rest in a position comfortable for breathing.
 P303+P361+P353: IF ON SKIN (or hair) : Remove immediately all contaminated clothing. Rinse skin with water/shower.
 P370+P378: In case of fire: Use for extinction.

MATERIAL SAFETY DATA SHEET (MSDS)

CHLOROBENZENE AR (MONOCHLOROBENZENE)

2. Hazards identification -DSD (continued)

- **Storage** : P403+P235: Store in well-ventilated place. Keep cool.
 - **Disposal considerations** : P501: Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
- Contains** : Chlorobenzene

2.3. Other hazards

- Other hazards** : The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.

3. Composition/information on ingredients

Substance / Preparation : Chlorobenzene
CAS No :108-90-7
EC No :203-628-5
Annex No :602-033-00-1
Substance.

Substance name	Contents	CAS No	EC No	Annex No	REACH Ref.	Classification
Chlorobenzene	100 %	108-90-7	203-628-5	602-033-00-1	----	R10 Xn; R20 N; R51-53 ----- Flam. Liq. 3 _ H226 Acute Tox. 4 (inhal) _ H332 Aquatic Chronic 2 _ H411

Contains no other components or impurities which will influence the classification of the product.

4. First aid measures

4.1. Description of first aid measures

- Inhalation** : Assure fresh air breathing. Allow the victim to rest. Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.
- Skin contact** : Wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing.
- Eye contact** : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
- Ingestion** : Obtain emergency medical attention. Do NOT induce vomiting. Rinse mouth.

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

- Symptoms relating to use** : Danger of serious damage to health by prolonged exposure through inhalation.

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

MATERIAL SAFETY DATA SHEET (MSDS)

CHLOROBENZENE AR (MONOCHLOROBENZENE)

4. First aid measures (continued)

General information : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

5. Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media : Do not use a heavy water stream.
Surrounding fires : Use water spray or fog for cooling exposed containers.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products : Under fire conditions, hazardous fumes will be present.

5.3. Advice for fire-fighters

Protection against fire : Do not enter fire area without proper protective equipment, including respiratory protection.
Special procedures : Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For emergency responders : Equip cleanup crew with proper protection. Ventilate area.
Technical measures : Use special care to avoid static electric charges.
Special precautions : Remove ignition sources. No naked lights. No smoking.
For non-emergency personnel : Evacuate unnecessary personnel.

6.2. Environmental precautions

Environmental precautions : Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.
 Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Clean up methods : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Store away from other materials. Collect spillage.

6.4. Reference to other sections

MATERIAL SAFETY DATA SHEET (MSDS)

CHLOROBENZENE AR (MONOCHLOROBENZENE)

6. Accidental release measures (continued)

See section 8. Exposure controls/personal protection

7. Handling and storage

7.1. Precautions for safe handling

Handling	: Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Handle empty containers with care because residual vapours are flammable. Take precautionary measures against static discharge. Use only outdoors or in a well-ventilated area. Avoid breathing dust, fume, gas, mist, vapours, spray.
Technical protective measures	: Provide good ventilation in process area to prevent formation of vapour. Proper grounding procedures to avoid static electricity should be followed. Use only non-sparking tools. Use explosion-proof electrical, ventilating, lighting, ..., equipment.
Special precautions	: No naked lights. No smoking.

7.2. Conditions for safe storage, including any incompatibilities

Storage	: Keep only in the original container in a cool, well ventilated place. Keep in fireproof place. Keep container tightly closed. Ground/bond container and receiving equipment.
Storage - away from	: Strong bases. Strong acids. Sources of ignition. Direct sunlight. Heat sources.

7.3. Specific end use(s)

Specific end use(s) : None.

8. Exposure controls/personal protection

8.1. Exposure controls

Personal protection	: Avoid all unnecessary exposure.
• Respiratory protection	: In case of insufficient ventilation, wear suitable respiratory equipment.
• Hand protection	: Wear protective gloves.
• Eye protection	: Chemical goggles or safety glasses.
• Others	: When using, do not eat, drink or smoke.

8.2. Control parameters

Occupational Exposure Limits : No data available.

MATERIAL SAFETY DATA SHEET (MSDS)
CHLOROBENZENE AR (MONOCHLOROBENZENE)
9. Physical and chemical properties
9.1. Information on basic physical and chemical properties

Physical state at 20 °C	: Liquid.
Colour	: Clear Colorless
Odour	: Almond like odour
Odour threshold	: No data available.
pH value	: No data available.
Melting point [°C]	: -450C
Decomposition point [°C]	: N/A
Critical temperature [°C]	: N/A
Auto-ignition temperature [°C]	: 637°C
Flammability (solid, gas)	: Flammable. Flammable liquid and vapour.
Flash point [°C]	: 27 °C
Boiling point [°C]	: 132 °C
Initial boiling point [°C]	: N/A
Final boiling point [°C]	: N/A
Evaporation rate	: 1,1
Vapour pressure [20°C]	: 15.7 hPa at 25,0 °C
Vapour pressure mm/Hg	: N/A
Vapour density	: 3,9
Density [g/cm3]	: 1,11
Relative density, gas (air=1)	: N/A
Relative density, liquid (water=1)	: 1.106 g/cm3 at 25 °C
Solubility in water [% weight]	: Insoluble.
Solubility in water	: N/A
Log Pow octanol / water at 20°C	: No data available.
Solubility	: N/A
Viscosity at 40°C [mm2/s]	: N/A

9.2. Other information

Explosive properties	: N/A
Explosion limits - upper [%]	: 7,10%
Explosion limits - lower [%]	: 1,30%
Oxidising properties	: No data available.

MATERIAL SAFETY DATA SHEET (MSDS)

CHLOROBENZENE AR (MONOCHLOROBENZENE)

10. Stability and reactivity

10.1. Reactivity

Reactivity : Not established.

10.2. Chemical stability

Chemical stability : Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions : Not established.

10.4. Conditions to avoid

Conditions to avoid : Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks.

10.5. Incompatible materials

Materials to avoid : Strong acids. Strong bases.

10.6. Hazardous decomposition products

Hazardous decomposition products : Fumes. Carbon monoxide. Carbon dioxide.
May release flammable gases.

11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity

- **Inhalation** : Harmful if inhaled.
- **Dermal** : Based on available data, the classification criteria are not met.
- **Ingestion** : Based on available data, the classification criteria are not met.

Corrosion : Based on available data, the classification criteria are not met.

Irritation : Based on available data, the classification criteria are not met.

Sensitization : Based on available data, the classification criteria are not met.

Mutagenicity : Based on available data, the classification criteria are not met.

Carcinogenicity : Based on available data, the classification criteria are not met.

Toxic for reproduction : Based on available data, the classification criteria are not met.

STOT-single exposure : Based on available data, the classification criteria are not met.

STOT-repeated exposure : Based on available data, the classification criteria are not met.

MATERIAL SAFETY DATA SHEET (MSDS)

CHLOROBENZENE AR (MONOCHLOROBENZENE)

11. Toxicological information (continued)

Aspiration hazard : Based on available data, the classification criteria are not met.

12. Ecological information

12.1. Toxicity

Toxicity information : Toxic to aquatic life with long lasting effects.

12.2. Persistence - degradability

Persistence - degradability : May cause long-term adverse effects in the environment.

12.3. Bioaccumulative potential

Bioaccumulative potential : Not established.

12.4. Mobility in soil

Mobility in soil : Not established.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment : The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.

12.6. Other adverse effects

Environmental precautions : Avoid release to the environment.

13. Disposal considerations

13.1. Waste treatment methods

General : Avoid release to the environment. Dispose in a safe manner in accordance with local/national regulations.
 Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Special precautions : Handle empty containers with care because residual vapours are flammable.

14. Transport information

14.1. Land transport (ADR-RID)

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CHLOROBENZENE AR (MONOCHLOROBENZENE)
14. Transport information (continued)

Proper shipping name : CHLOROBENZENE
 UN N° : 1134
 H.I. nr : 30
 ADR - Class : 3
 Labelling - Transport : 3 : Flammable liquid.



ADR - Classification code : F1
 ADR - Group : III
 ADR - Packing instructions : P001 R001 LP001
 ADR - Limited Quantity : 5 L
 ADR - Tunnel code : D/E : Bulk or tank carriage: Passage forbidden through tunnels of category D and E. Other carriage: Passage forbidden through tunnels of category E.


14.2. Sea transport (IMDG) [English only]

Proper shipping name : CHLOROBENZENE
 UN N° : 1134
 IMO-IMDG - Class or division : 3 : Flammable liquid.
 IMO-IMDG - Packing group : III
 IMO-IMDG - Packing instructions : P001 LP01
 IMO-IMDG - Limited quantities : 5 L
 IMO-IMDG - Marine pollution : Yes
 EMS-Nr : F-E S-D

14.3. Air transport (ICAO-IATA) [English only]

Proper shipping name : CHLOROBENZENE
 UN N° : 1134
 IATA - Class or division : 3 : Flammable liquid.
 IATA - Packing group : III
 IATA - Passenger and Cargo Aircraft : ALLOWED
 - Passenger and Cargo - Packing instruction : 355

MATERIAL SAFETY DATA SHEET (MSDS)

CHLOROBENZENE AR (MONOCHLOROBENZENE)

14. Transport information (continued)

- Passenger and Cargo - Maximum Quantity/Packing	: 60 L
IATA - Cargo only	: ALLOWED
- Cargo only - Packing instruction	: 366
- Cargo only - Maximum Quantity/Packing	: 220 L
IATA - Limited Quantities	: 10 L
ERG-Nr	: 3L

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Safety, health and environmental regulations/legislation specific for the substance or mixture	: Ensure all national/local regulations are observed.
REACH Restrictions - Annex XVII	: The components of this product are not subject to restrictions.
REACH Authorisation - Annex XIV	: The components of this product are not subject to authorization.

15.2. Chemical Safety Assessment

Chemical Safety Assessment	: It has not been carried out.
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16. Other information

Revision	: Revision - See : *
Abbreviations and acronyms	: PBT: persistent, bioaccumulative and toxic. vPvB: very persistent and very bioaccumulative
Sources of key data used	: REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
List of relevant R phrases (heading 3)	: R10 : Flammable. R20 : Harmful by inhalation. R51/53 : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
List of full text of H-statements in section 3	: H226 : Flammable liquid and vapour. H332 : Harmful if inhaled. H411 : Toxic to aquatic life with long lasting effects.
Further information	: None.

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MATERIAL SAFETY DATA SHEET (MSDS)
CHLOROBENZENE AR (MONOCHLOROBENZENE)

In accordance with REACH Regulation (CE) N° 1907/2006 and with CLP Regulation (CE) N° 1272/2008

DISCLAIMER:

- **SUVCHEM** Products are to be used as Lab Chemicals for R&D only. Not for drug, medicinal, household or other uses.
- **SUVCHEM** shall not be responsible for any damage resulting from handling or from contact with the above product.
- **SUVCHEM** provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product.

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