Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

SDS Reference Number: 02735

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

1.1. Product identifier

Product form Substance

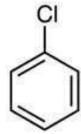
CHLOROBENZENE FOR SYNTHESIS Trade name

EC Index-No. 602-033-00-1 EC-No. 203-628-5 CAS-No. 108-90-7 Product code B-00757

Type of product Organic compound

Formula C6H5CI

Chemical structure



Synonyms : Phenyl chloride, Monochlorobenzene

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

Relevant identified uses

Use of the substance/mixture : Industrial. For professional use only

Use of the substance/mixture : Laboratory chemicals

Manufacture of substances

1.3. Details of the supplier of the safety data sheet

Bio-Chem Chemicals

5455, Nicholson Road Science Market, Ambala Cantt. 133001 Haryana (India)

+91-82952 41953

info@biofinechemical.com - www.biofinechemical.com

1.4. Emergency telephone number

: +91 99921 51495 (10.00am - 06.30pm) (Office Hours) Emergency number

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flammable liquids, Category 3 H226 Acute toxicity (inhal.), Category 4 H332 Skin corrosion/irritation, Category 2 H315 Hazardous to the aquatic environment - Chronic Hazard, H411

Category 2

Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Flammable liquid and vapour, Harmful if inhaled, Causes skin irritation, Toxic to aquatic life with long lasting effects.

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2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP) : Warning

Hazard statements (CLP) : H226 - Flammable liquid and vapour.

H315 - Causes skin irritation. H332 - Harmful if inhaled.

H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements (CLP) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.

No smoking.

P233 - Keep container tightly closed.

P240 - Ground and bond container and receiving equipment.

P273 - Avoid release to the environment.

P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water.

P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 - Call a POISON CENTRE or doctor if you feel unwell.

2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

| Name | Product identifier | % |
|------|--|-----|
| | CAS-No.: 108-90-7 EC-No.: 203-628-5 EC Index-No.: 602-033-00-1 | 100 |

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Call a poison center or a doctor if you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Allow affected person to

breathe fresh air. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or a doctor if you feel unwell.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water,

followed by warm water rinse. Wash with plenty of water/.... Get medical advice/attention. Rinse skin with water/shower. Take off immediately all contaminated clothing. If skin

irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy

to do. Continue rinsing. Get medical advice/attention.

First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Get medical advice/attention. Call a poison center or

a doctor if you feel unwell.

First-aid measures for first aider : First aid workers will be equipped with suitable personal protective equipment.

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

Symptoms/effects after inhalation : Although no appropriate human or animal health effects data are known to exist, this

material is expected to be an inhalation hazard.

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Symptoms/effects after skin contact : Causes skin irritation. Irritation. Symptoms/effects after eye contact : None under normal conditions. Symptoms/effects after ingestion : None under normal conditions.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide. Dry powder. Foam. Water spray.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable liquid and vapour.

Explosion hazard : May form flammable/explosive vapour-air mixture.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper

protective equipment, including respiratory protection.

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

Do not attempt to take action without suitable protective equipment. Self-contained

breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges. No open flames.

No smoking. Stop leak if safe to do so. Notify authorities if product enters sewers or public

waters. Absorb spillage to prevent material damage.

For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Ventilate spillage area. Evacuate unnecessary personnel. No open flames, no sparks, and

no smoking. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and

eyes.

For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Use personal protective

equipment as required. For further information refer to section 8: "Exposure

controls/personal protection".

Emergency procedures : Ventilate area. Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage. Contain any spills with dikes or absorbents to prevent migration and entry

into sewers or streams. Stop leak without risks if possible.

Methods for cleaning up : Take up liquid spill into absorbent material. Collect spillage. On land, sweep or shovel into

suitable containers. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.

Precautions for safe handling

: Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Avoid contact with skin and eyes. Do not breathe vapours. Keep away from heat, hot surfaces, sparks, open flames and other ignition

breathe vapours. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective

equipment. Use only outdoors or in a well-ventilated area. Avoid breathing

dust/fume/gas/mist/vapours/spray.

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. Wash

contaminated clothing before reuse. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond

container and receiving equipment. Use explosion-proof electrical/ventilating/lighting

equipment.

Storage conditions : Keep container tightly closed. Keep in fireproof place. Store in a well-ventilated place. Keep

cool.

Incompatible materials : Heat sources.

Packaging materials : Store always product in container of same material as original container.

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

Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protection equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Personal protective equipment symbol(s):







Eye and face protection

Eye protection:

Chemical goggles or safety glasses

Skin protection

Skin and body protection:

Wear a mask

Hand protection:

Protective gloves

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Respiratory protection

Respiratory protection:

Wear appropriate mask. [In case of inadequate ventilation] wear respiratory protection.

Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state Colour Colourless. Appearance Clear liquid. Molecular mass : 112.56 g/mol Odour : almond like odour. Odour threshold : 0.09 - 59.8 ppm Melting point : Not applicable : **-**45 °C Freezing point : 132 °C Boiling point Flammability : Flammable

Flammable liquid and vapour.

Lower explosion limit : 1.3 vol %
Upper explosion limit : 9.6 vol %
Flash point : 29 °C
Auto-ignition temperature : 590 °C
Decomposition temperature : > 132 °C
pH : Not available
Viscosity, kinematic : 0.729 mm²/s

Viscosity, dynamic : 0.806 mPa·s at 20 °C
Solubility : Water: Immiscible in water
Ethanol: Miscible in ethanol

Ethanol: Miscible in ethan

Partition coefficient n-octanol/water (Log Kow) : Not available Partition coefficient n-octanol/water (Log Pow) : 2.89

Vapour pressure : 12 mm Hg at 25 °C
Vapour pressure at 50 °C : Not available

Density : 1.105 g/cm³ at 20 °C

Relative density : 1.11 at 20 °C

Relative vapour density at 20 °C : 3.88 (Air = 1)

Particle characteristics : Not applicable

9.2. Other information

Other safety characteristics

Relative evaporation rate (butylacetate=1) : 1

Refractive index : 1,5241 at 20 °C/D

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable liquid and vapour.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

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10.4. Conditions to avoid

Open flame. Heat. Sparks. Avoid contact with hot surfaces. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified : Not classified Acute toxicity (dermal) : Harmful if inhaled. Acute toxicity (inhalation) Skin corrosion/irritation : Causes skin irritation. Serious eve damage/irritation : Not classified : Not classified Respiratory or skin sensitisation Germ cell mutagenicity : Not classified Carcinogenicity : Not classified Reproductive toxicity : Not classified STOT-single exposure : Not classified STOT-repeated exposure : Not classified Aspiration hazard Not classified

Viscosity, kinematic 0.729 mm²/s

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Toxic to aquatic life with long lasting effects.

Ecology - water : Toxic to aquatic life with long lasting effects.

Hazardous to the aquatic environment, short-term

(acute)

: Not classified

Hazardous to the aquatic environment, long-term

: Toxic to aquatic life with long lasting effects.

(chronic)

12.2. Persistence and degradability

| CHLOROBENZENE FOR SYNTHESIS (108-90-7) | |
|--|--------------------|
| Persistence and degradability | Rapidly degradable |

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12,5, Results of PBT and vPvB assessment

No additional information available

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12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation : Disposal must be done according to official regulations.

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Sewage disposal recommendations : Disposal must be done according to official regulations.

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance

with local, regional, national and/or international regulation. Disposal must be done

according to official regulations.

Additional information : Handle empty containers with care because residual vapours are flammable. Flammable

vapours may accumulate in the container. Do not re-use empty containers.

SECTION 14: Transport information

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

14.1. UN number or ID number

 UN-No. (ADR)
 : UN 1134

 UN-No. (IMDG)
 : UN 1134

 UN-No. (IATA)
 : UN 134

 UN-No. (ADN)
 : UN 134

 UN-No. (RID)
 : UN 134

14.2. UN proper shipping name

Proper Shipping Name (ADR) : CHLOROBENZENE
Proper Shipping Name (IMDG) : CHLOROBENZENE
Proper Shipping Name (IATA) : Chlorobenzene
Proper Shipping Name (ADN) : CHLOROBENZENE
Proper Shipping Name (RID) : CHLOROBENZENE

Transport document description (ADR) : UN 1134 CHLOROBENZENE, 3, III, (D/E)

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
Transport document description (ADN) : UN 1134 CHLOROBENZENE, 3, III, ENVIRONMENTALLY HAZARDOUS
Transport document description (RID) : 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

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IATA

Transport hazard class(es) (IATA) : 3

Danger labels (IATA)



ADN

Transport hazard class(es) (ADN) : 3
Danger labels (ADN) : 3



RID

Transport hazard class(es) (RID) : 3

Danger labels (RID) : 3



14.4. Packing group

Packing group (ADR) : III
Packing group (IMDG) : III
Packing group (IATA) : III
Packing group (ADN) : III
Packing group (RID) : III

14.5. Environmental hazards

Dangerous for the environment : Yes
Marine pollutant : Yes
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-D

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR) : F1
Limited quantities (ADR) : 5I
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 : TP1

(ADR)

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

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Orange plates : 30

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 Stowage category (IMDG) Α Flash point (IMDG) 29°C c.c. MFAG-No 130

Air transport

: E1 PCA Excepted quantities (IATA) 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

Classification code (ADN) : F1
Limited quantities (ADN) : 5 L
Excepted quantities (ADN) : E1
Carriage permitted (ADN) : T

Equipment required (ADN) : PP, EX, A Ventilation (ADN) : VE01 Number of blue cones/lights (ADN) : 0

Rail transport

Classification code (RID) : F1
Limited quantities (RID) : 5L
Excepted quantities (RID) : E1

Packing instructions (RID) : P001, IBC03, LP01, R001

Mixed packing provisions (RID) : MP19
Portable tank and bulk container instructions (RID) : T2
Portable tank and bulk container special provisions : TP1

(RID)

Tank codes for RID tanks (RID) : LGBF
Transport category (RID) : 3
Special provisions for carriage – Packages (RID) : W12
Colis express (express parcels) (RID) : CE4
Hazard identification number (RID) : 30

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

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SECTION 15: Regulatory information

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

EU-Regulations

REACH Annex XVII (Restriction List)

| EU restriction list (REACH Annex XVII) | |
|--|-----------------------------|
| Reference code | Applicable on |
| 3(a) | CHLOROBENZENE FOR SYNTHESIS |
| 3(b) | CHLOROBENZENE FOR SYNTHESIS |
| 3(c) | CHLOROBENZENE FOR SYNTHESIS |
| 40. | CHLOROBENZENE FOR SYNTHESIS |

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

National regulations

France

| Occupational diseases | |
|-----------------------|---|
| Code | Description |
| RG 9 | Diseases caused by halogenated derivatives of aromatic hydrocarbons |

Germany

Water hazard class (WGK) : WGK 3, Highly hazardous to water (Classification according to AwSV). Hazardous Incident Ordinance (12. BImSchV) Is not subject to the Hazardous Incident Ordinance (12. BlmSchV)

Netherlands

SZW-lijst van kankerverwekkende stoffen

SZW-lijst van mutagene stoffen SZW-lijst van reprotoxische stoffen - Borstvoeding

SZW-lijst van reprotoxische stoffen -

Vruchtbaarheid SZW-lijst van reprotoxische stoffen – Ontwikkeling : The substance is not listed The substance is not listed

The substance is not listed The substance is not listed

: The substance is not listed

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Denmark

Class for fire hazard : Class II-1 Store unit : 5 liter

Classification remarks : R10 <H226;H315;H332;H411>; Emergency management guidelines for the storage of

flammable liquids must be followed

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

| Abbreviations and acronyms: | | |
|-----------------------------|---|--|
| ADN | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways | |
| ADR | European Agreement concerning the International Carriage of Dangerous Goods by Road | |
| ATE | Acute Toxicity Estimate | |
| BCF | Bioconcentration factor | |
| BLV | Biological limit value | |
| BOD | Biochemical oxygen demand (BOD) | |
| COD | Chemical oxygen demand (COD) | |
| DMEL | Derived Minimal Effect level | |
| DNEL | Derived-No Effect Level | |
| EC-No. | European Community number | |
| EC50 | Median effective concentration | |
| EN | European Standard | |
| IARC | International Agency for Research on Cancer | |
| IATA | International Air Transport Association | |
| IMDG | International Maritime Dangerous Goods | |
| LC50 | Median lethal concentration | |
| LD50 | Median lethal dose | |
| LOAEL | Lowest Observed Adverse Effect Level | |
| NOAEC | No-Observed Adverse Effect Concentration | |
| NOAEL | No-Observed Adverse Effect Level | |
| NOEC | No-Observed Effect Concentration | |
| OECD | Organisation for Economic Co-operation and Development | |
| OEL | Occupational Exposure Limit | |
| PBT | Persistent Bioaccumulative Toxic | |
| PNEC | Predicted No-Effect Concentration | |
| RID | Regulations concerning the International Carriage of Dangerous Goods by Rail | |
| SDS | Safety Data Sheet | |
| STP | Sewage treatment plant | |
| ThOD | Theoretical oxygen demand (ThOD) | |
| TLM | Median Tolerance Limit | |
| | | |

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| Abbreviations and acronyms: | |
|-----------------------------|--|
| voc | Volatile Organic Compounds |
| CAS-No. | Chemical Abstract Service number |
| N.O.S. | Not Otherwise Specified |
| vPvB | Very Persistent and Very Bioaccumulative |
| ED | Endocrine disruptor |

| Full text of H- and EUH-statements: | | |
|-------------------------------------|---|--|
| Acute Tox. 4 (Inhalation) | Acute toxicity (inhal.), Category 4 | |
| Aquatic Chronic 2 | Hazardous to the aquatic environment – Chronic Hazard, Category 2 | |
| Flam. Liq. 3 | Flammable liquids, Category 3 | |
| H226 | Flammable liquid and vapour. | |
| H315 | Causes skin irritation. | |
| H332 | Harmful if inhaled. | |
| H411 | Toxic to aquatic life with long lasting effects. | |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 | |

Safety Data Sheet (SDS), EU

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.