



HEXACHLOROBENZENE (13C6, 99%)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 2/10/2011 Revision date: 3/20/2023 Supersedes: 10/26/2016 Version: 5.0

SECTION 1: Identification

1.1. Identification

Product form : Substance
Substance name : HEXACHLOROBENZENE (13C6, 99%)
CAS-No. : 118-74-1
Product code : CLM-351
Formula : *C6Cl6
Synonyms : HCB

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Cambridge Isotope Laboratories, Inc.
50 Frontage Rd
01810
ANDOVER, MA, 01810
USA
T 1-800-322-1174
cilsales@isotope.com - www.isotope.com

1.4. Emergency telephone number

Emergency number : 1-703-741-5970
Chemtrec 1-800-424-9300 24 hours

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Carcinogenicity Category 1B	H350	May cause cancer (Dermal, Inhalation, oral)
Specific target organ toxicity (repeated exposure) Category 1	H372	Causes damage to organs through prolonged or repeated exposure (Dermal, Inhalation, oral)
Hazardous to the aquatic environment – Chronic Hazard Category 1	H410	Very toxic to aquatic life with long lasting effects

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger
Hazard statements (GHS US) : H350 - May cause cancer (Dermal, Inhalation, oral)
H372 - Causes damage to organs through prolonged or repeated exposure (Dermal, Inhalation, oral)
H410 - Very toxic to aquatic life with long lasting effects
Precautionary statements (GHS US) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe dust, fume, gas, mist, spray, vapors.

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P264 - Wash Both hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P273 - Avoid release to the environment.
P280 - Wear protective clothing, protective gloves.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P314 - Get medical advice/attention if you feel unwell.
P391 - Collect spillage.
P405 - Store locked up.
P501 - Dispose of contents/container to Comply with applicable regulations.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name	Product identifier	%	GHS US classification
HEXACHLOROBENZENE (13C6, 99%) (Main constituent)	CAS-No.: 118-74-1	100	Carc. 1B, H350 STOT RE 1, H372 Aquatic Chronic 1, H410

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
First-aid measures after inhalation : If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.
First-aid measures after skin contact : Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.
First-aid measures after eye contact : Flush eye with water for 15 minutes. Get medical attention.
First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms : 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.
Symptoms/effects : May cause damage to organs through prolonged or repeated exposure (in contact with skin, if inhaled, if swallowed). May cause cancer (in contact with skin, if inhaled, if swallowed).
Symptoms/effects after inhalation : May be harmful if inhaled. May cause respiratory tract irritation.
Symptoms/effects after skin contact : May be harmful if absorbed through skin. May cause skin irritation.
Symptoms/effects after eye contact : Contact may cause eye irritation.
Symptoms/effects after ingestion : May be harmful if swallowed.

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4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

5.2. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Wear self contained breathing apparatus for fire fighting if necessary.
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 : Not flammable or combustible.

6.1.1. For non-emergency personnel

Emergency procedures : Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

6.1.2. For emergency responders

No additional information available

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 material for containment and cleaning up

For containment : Take up mechanically (sweeping, shoveling) and collect in suitable container for disposal.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.
Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep container tightly closed in a dry and well-ventilated place.
Storage conditions : Store at room temperature away from light and moisture.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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USA - ACGIH - Occupational Exposure Limits

ACGIH OEL TWA	0.002 mg/m ³ Central Nervous System impairment. Porphyrin effects. Skin damage. Confirmed animal carcinogen with unknown relevance to humans. Danger of cutaneous absorption. USA. ACGIH Threshold Limit Values (TLV)
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USA - OSHA - Occupational Exposure Limits

OSHA PEL C	0.002 mg/m ³ California permissible exposure limits for chemical contaminants (Title 8, Article 107) - Skin
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8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.

Hand protection:

Wear suitable protective clothing and gloves

Eye protection:

Wear safety glasses with side shields (or goggles) and a face shield.

Skin and body protection:

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection:

When appropriate, use NIOSH/CEN approved respirator.

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Powder.
Color	: White to light yellow
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: 227 – 229 °C (441 - 444 °F)
Freezing point	: No data available
Boiling point	: 323 – 326 °C (613 - 619 °F)
Flash point	: No data available

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Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Molecular mass	: 290.74 g/mol (Labeled)
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

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 if stored under recommended conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Formed under fire conditions: carbon oxides, Hydrogen chloride gas.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

HEXACHLOROBENZENE (13C6, 99%) (118-74-1)

LD50 oral rat	10000 mg/kg
LC50 Inhalation - Rat	3600 mg/m ³

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Additional data	LD50 Oral - Cat - 800 mg/kg LD50 Oral - Rabbit - 1,830 mg/kg LD50 Oral Mouse - 1760 mg/kg LD50 - Oral - Mammal - 1400 mg/kg Remarks: Behavioral: Somnolence (general depressed activity). Gastrointestinal: Necrotic changes. Blood: Changes in erythrocyte (RBC) count.
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: May cause cancer (Dermal, Inhalation, oral).

HEXACHLOROBENZENE (13C6, 99%) (118-74-1)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Causes damage to organs through prolonged or repeated exposure (Dermal, Inhalation, oral).
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Potential Adverse human health effects and symptoms	: 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.
Symptoms/effects	: May cause damage to organs through prolonged or repeated exposure (in contact with skin, if inhaled, if swallowed). May cause cancer (in contact with skin, if inhaled, if swallowed).
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory tract irritation.
Symptoms/effects after skin contact	: May be harmful if absorbed through skin. May cause skin irritation.
Symptoms/effects after eye contact	: Contact may cause eye irritation.
Symptoms/effects after ingestion	: May be harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

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

HEXACHLOROBENZENE (13C6, 99%) (118-74-1)	
LC50 - Fish [1]	7.6 mg/l <i>Lepomis macrochirus</i> (Bluegill) - 96 h
EC50 - Other aquatic organisms [1]	> 0.005 mg/l <i>Daphnia magna</i> (Water flea) - 48 h
NOEC (chronic)	> 0.0048 mg/l <i>Pimephales promelas</i> (fathead minnow) - 96 h

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

HEXACHLOROBENZENE (13C6, 99%) (118-74-1)	
Bioconcentration factor (BCF REACH)	22000
Bioaccumulative potential	Bioaccumulation <i>Pimephale promelas</i> (fathead minnow) - 32 d - 0.0003 mg/l.

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12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other adverse effects : Environmental precautions. Disposal must be done according to official regulations. Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.

Product/Packaging disposal recommendations : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Ecology - waste materials : Dispose of as unused product.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

DOT NA No : UN2729

UN-No. (TDG) : UN2729

UN-No. (IMDG) : 2729

UN-No. (IATA) : 2729

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Hexachlorobenzene

Proper Shipping Name (TDG) : HEXACHLOROBENZENE

Proper Shipping Name (IMDG) : HEXACHLOROBENZENE

Proper Shipping Name (IATA) : Hexachlorobenzene

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 6.1

Hazard labels (DOT) : 6.1



TDG

Transport hazard class(es) (TDG) : 6.1

Hazard labels (TDG) : 6.1



IMDG

Transport hazard class(es) (IMDG) : 6.1

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Hazard labels (IMDG) : 6.1



IATA

Transport hazard class(es) (IATA) : 6.1

Hazard labels (IATA) : 6.1



14.4. Packing group

Packing group (DOT) : III

Packing group (TDG) : III

Packing group (IMDG) : III

Packing group (IATA) : III

14.5. Environmental hazards

Dangerous for the environment : Yes

Marine pollutant : Yes



Other information : No supplementary information available.

14.6. Special precautions for user

DOT

UN-No.(DOT) : UN2729

DOT Special Provisions (49 CFR 172.102) : B3 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks and DOT 57 portable tanks are not authorized.

IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2).

IP3 - Flexible IBCs must be sift-proof and water-resistant or must be fitted with a sift-proof and water-resistant liner.

T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2)

TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.

DOT Packaging Exceptions (49 CFR 173.xxx) : 153

DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx) : 241

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DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 220 L
DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

TDG

UN-No. (TDG) : UN2729
Explosive Limit and Limited Quantity Index : 5 kg
Excepted quantities (TDG) : E1
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index : 100 kg
Emergency Response Guide (ERG) Number : 152

IMDG

Limited quantities (IMDG) : 5 kg
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P002, LP02
IBC packing instructions (IMDG) : IBC08
IBC special provisions (IMDG) : B3
Tank instructions (IMDG) : T1
Tank special provisions (IMDG) : TP33
EmS-No. (Fire) : F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage) : S-A - SPILLAGE SCHEDULE Alfa - TOXIC SUBSTANCES
Stowage category (IMDG) : A
Flash point (IMDG) : '
Properties and observations (IMDG) : White needle-like crystals. Insoluble in water. Decomposes when heated, evolving highly toxic fumes. Toxic if swallowed, by skin contact or by dust inhalation.
MFAG-No : 152

IATA

PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y645
PCA limited quantity max net quantity (IATA) : 10kg
PCA packing instructions (IATA) : 670
PCA max net quantity (IATA) : 100kg
CAO packing instructions (IATA) : 677
CAO max net quantity (IATA) : 200kg
ERG code (IATA) : 6L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

HEXACHLOROBENZENE (13C6, 99%) (118-74-1)

SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

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Name	CAS-No.	Listing	Commercial status	Flags
HEXACHLOROBENZENE (13C6, 99%)	118-74-1	Not present	-	

15.2. International regulations

CANADA

HEXACHLOROBENZENE (13C6, 99%) (118-74-1)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

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CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a "technically qualified individual" as defined by 40 CFR 720.3(ee). The use of this material for "commercial purposes" as defined by 40 CFR 720.3(r) is not permitted in the United States.

15.3. US State regulations

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U.S. - California - Proposition 65 - Carcinogens List	Yes
U.S. - California - Proposition 65 - Developmental Toxicity	Yes
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	Yes
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Yes
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

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Revision date

: 03/20/2023

Other information

: This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

Full text of H-phrases	
H350	May cause cancer
H372	Causes damage to organs through prolonged or repeated exposure
H410	Very toxic to aquatic life with long lasting effects

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