

ALFAAL14297

Hexachloroethane

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

产品说明:
Product Description: 六氯乙烷, 99%
 Hexachloroethane

Cat No. : L14297
Synonyms Ethane hexachloride; 1,1,1,2,2,2-Hexachloroethane; Ethylene hexachloride
CAS No 67-72-1
Molecular Formula C₂Cl₆

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 Product Safety Department

Recommended Use Laboratory chemicals.
Uses advised against No Information available

SECTION 2. HAZARD IDENTIFICATION

Physical State
Powder Solid

Appearance
White

Odor
Strong

Emergency Overview

Causes serious eye irritation. Suspected of causing cancer. Harmful to aquatic life. Very toxic to aquatic life with long lasting effects. May be harmful if swallowed.

Classification of the substance or mixture

| | |
|-----------------------------------|-----------------------|
| Acute Oral Toxicity | Category 5 |
| Serious Eye Damage/Eye Irritation | Category 2B |
| Carcinogenicity | Category 2 |
| Acute aquatic toxicity | Category 1 Category 3 |
| Chronic aquatic toxicity | Category 1 |

Label Elements

**Signal Word****Warning****Hazard Statements**

H319 - Causes serious eye irritation
H351 - Suspected of causing cancer
H410 - Very toxic to aquatic life with long lasting effects
H303 - May be harmful if swallowed

Precautionary Statements**Prevention**

P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P280 - Wear eye protection/ face protection
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood

Response

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308 + P313 - IF exposed or concerned: Get medical advice/attention

Storage

P403 - Store in a well-ventilated place

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Physical and Chemical Hazards

None identified.

Health Hazards

Causes serious eye irritation. Suspected of causing cancer. May be harmful if swallowed.

Environmental hazards

Harmful to aquatic life. Very toxic to aquatic life with long lasting effects. . Is not likely mobile in the environment due its low water solubility. Spillage unlikely to penetrate soil.
No information available

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS No | Weight % |
|------------------|---------|----------|
| Hexachloroethane | 67-72-1 | <=100 |

SECTION 4. FIRST AID MEASURES**General Advice**

If symptoms persist, call a physician.

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Ingestion

Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

Most important symptoms and effects

None reasonably foreseeable.

Self-Protection of the First Aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Notes to Physician

Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Water mist may be used to cool closed containers. Water spray. Carbon dioxide (CO₂). Dry chemical. Chemical foam.

Extinguishing media which must not be used for safety reasons

No information available.

Specific Hazards Arising from the Chemical

Non-combustible. Do not allow run-off from fire-fighting to enter drains or water courses.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES**Personal Precautions**

Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation.

Environmental Precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

Methods for Containment and Clean Up

Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

Refer to protective measures listed in Sections 8 and 13.

SECTION 7. HANDLING AND STORAGE**Handling**

Wear personal protective equipment/face protection. Avoid dust formation. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place.

Specific Use(s)

Use in laboratories

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Hexachloroethane

Control Parameters

| Component | China | Taiwan | Hong Kong | The United Kingdom |
|------------------|-----------------------------------|--|-----------|--------------------|
| Hexachloroethane | TWA: 10 mg/m ³ Skin | TWA: 1 ppm TWA: 9.7 mg/m ³ | - | - |

| Component | ACGIH TLV | OSHA PEL | NIOSH IDLH | European Union |
|------------------|--------------------|--|--|----------------|
| Hexachloroethane | TWA: 1 ppm Skin | (Vacated) TWA: 1 ppm (Vacated) TWA: 10 mg/m ³ Skin TWA: 1 ppm TWA: 10 mg/m ³ | IDLH: 300 ppm TWA: 1 ppm TWA: 10 mg/m ³ | |

Legend:

X - Listed '-' - Not Listed TP - Indicates a substance that is the subject of a proposed TSCA Section 4 test rule

Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

Exposure Controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

Personal protective equipment

Eye Protection Goggles (European standard - EN 166)

Hand Protection Protective gloves

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments |
|---|-----------------------------------|-----------------|-------------|-----------------------|
| Nitrile rubber Neoprene Natural rubber PVC | See manufacturers recommendations | - | EN 374 | (minimum requirement) |

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure

Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Large scale/emergency use Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced
Recommended Filter type: Particulates filter conforming to EN 143

Small scale/Laboratory use Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
Recommended half mask:- Particle filtering: EN149:2001
When RPE is used a face piece Fit Test should be conducted

| | |
|--|---|
| Hygiene Measures | Handle in accordance with good industrial hygiene and safety practice. |
| Environmental exposure controls | Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained. |

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|--|--------------------------------|--|
| Appearance | White | |
| Physical State | Powder Solid | |
| Odor | Strong | |
| Odor Threshold | No data available | |
| pH | Not applicable | |
| Melting Point/Range | 184 - 190 °C / 363.2 - 374 °F | |
| Softening Point | No data available | |
| Boiling Point/Range | No information available | @ 777 mmHg |
| Flash Point | No information available | Method - No information available |
| Evaporation Rate | Not applicable | Solid |
| Flammability (solid,gas) | No information available | |
| Explosion Limits | No data available | |
| Vapor Pressure | 0.66 mbar @ 20 °C | |
| Vapor Density | Not applicable | Solid |
| Specific Gravity / Density | 2.091 | |
| Bulk Density | No data available | |
| Water Solubility | 0.05 g/l (22°C) | practically insoluble |
| Solubility in other solvents | No information available | |
| Partition Coefficient (n-octanol/water) | | |
| Component | log Pow | |
| Hexachloroethane | 4.14 | |
| Autoignition Temperature | No data available | |
| Decomposition Temperature | 300 °C | |
| Viscosity | Not applicable | Solid |
| Explosive Properties | No information available | |
| Oxidizing Properties | No information available | |
| Molecular Formula | C ₂ Cl ₆ | |
| Molecular Weight | 236.74 | |

SECTION 10. STABILITY AND REACTIVITY

| | |
|---------------------------------|--|
| Stability | Stable under normal conditions. |
| Hazardous Reactions | None under normal processing. |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Conditions to Avoid | Excess heat. Incompatible products. |
| Materials to avoid | Strong oxidizing agents. Strong bases. Metals. |

Hazardous Decomposition Products Carbon monoxide (CO). Carbon dioxide (CO₂). Chlorine. Phosgene. Hydrogen chloride gas.

SECTION 11. TOXICOLOGICAL INFORMATION

Product Information

(a) acute toxicity;

SAFETY DATA SHEET**Hexachloroethane**

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|------------------|--------------------|--------------------|-----------------|
| Hexachloroethane | 4460 mg/kg (Rat) | 32 g/kg (Rabbit) | |

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; Category 2

(d) respiratory or skin sensitization;
Respiratory No data available
Skin No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

The table below indicates whether each agency has listed any ingredient as a carcinogen

| Component | EU | UK | Germany | IARC |
|------------------|----|----|---------|----------|
| Hexachloroethane | | | | Group 2B |

(g) reproductive toxicity;
Reproductive Effects No data available
Experiments have shown reproductive toxicity effects on laboratory animals.

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs None known.

(j) aspiration hazard; Not applicable
Solid

Other Adverse Effects The toxicological properties have not been fully investigated.

Symptoms / effects, both acute and delayed No information available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity effects The product contains following substances which are hazardous for the environment. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

| Component | Freshwater Fish | Water Flea | Freshwater Algae | Microtox |
|------------------|---|------------|------------------|----------|
| Hexachloroethane | LC50: 727 - 1920 µg/L, 96h (Oncorhynchus mykiss) LC50: 967 - 1250 µg/L, 96h (Pimephales promelas) LC50: 712 - 1030 µg/L, 96h (Lepomis macrochirus) | | | |

Persistence and Degradability

SAFETY DATA SHEET**Hexachloroethane****Persistence
Degradation in sewage
treatment plant**

May persist.
Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Bioaccumulative Potential

Product has a high potential to bioconcentrate

| Component | log Pow | Bioconcentration factor (BCF) |
|------------------|---------|-------------------------------|
| Hexachloroethane | 4.14 | No data available |

Mobility in soil

Spillage unlikely to penetrate soil Is not likely mobile in the environment due its low water solubility Is not likely mobile in the environment due its low water solubility and propensity to bind to soil particles

**Endocrine Disruptor Information
Persistent Organic Pollutant
Ozone Depletion Potential**

This product does not contain any known or suspected endocrine disruptors
This product does not contain any known or suspected substance
This product does not contain any known or suspected substance

SECTION 13. DISPOSAL CONSIDERATIONS**Waste from Residues/Unused
Products**

Should not be released into the environment. Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging

Dispose of this container to hazardous or special waste collection point.

Other Information

Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not let this chemical enter the environment.

SECTION 14. TRANSPORT INFORMATION**Road and Rail Transport**

| | |
|-------------------------|--|
| UN-No | UN3077 |
| Proper Shipping Name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. |
| Technical Shipping Name | Hexachloroethane |
| Hazard Class | 9 |
| Packing Group | III |

IMDG/IMO

| | |
|-------------------------|--|
| UN-No | UN3077 |
| Proper Shipping Name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. |
| Technical Shipping Name | Hexachloroethane |
| Hazard Class | 9 |
| Packing Group | III |

IATA

| | |
|-------------------------|--|
| UN-No | UN3077 |
| Proper Shipping Name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. |
| Technical Shipping Name | Hexachloroethane |
| Hazard Class | 9 |
| Packing Group | III |

Special Precautions for User

No special precautions required

Hexachloroethane

SECTION 15. REGULATORY INFORMATION

International Inventories

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

| Component | The Inventory of Hazardous Chemicals (2015 Edition) | List of dangerous goods GB 12268 - 2012 | TCSI | IECSC | EINECS | TSCA | DSL | PICCS | ENCS | ISHL | AICS | KECL |
|------------------|---|---|------|-------|-----------|------|-----|-------|------|------|------|----------|
| Hexachloroethane | X | - | X | X | 200-666-4 | X | X | X | X | X | X | KE-18412 |

National Regulations

| Component | Toxic Chemical Substances Control Act |
|--------------------------------------|---------------------------------------|
| Hexachloroethane 67-72-1 (≤100) | Class I (1 wt%) TRQ = 50 kg |

SECTION 16. OTHER INFORMATION

| | |
|-------------------------|---|
| Prepared By | Health, Safety and Environmental Department |
| Creation Date | 24-Nov-2010 |
| Revision Date | 21-Jul-2022 |
| Revision Summary | SDS sections updated. |

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Chemical incident response training.

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

Predicted No Effect Concentration (PNEC)

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

BCF - Bioconcentration factor

VOC (volatile organic compound)

Key literature references and sources for data<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet