

1 Identification

Product identifier

Product name: Hexachloroethane

Stock number: 16972, L14297

CAS Number:
67-72-1

EC number:
200-666-4

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

Identified use: SU24 Scientific research and development

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757
Email: tech@alfa.com
www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency telephone number:

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

2 Hazard(s) identification

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)



GHS08 Health hazard

Carc. 1A H350 May cause cancer.

Hazards not otherwise classified No information known.

Label elements

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

Hazard pictograms



GHS08

Signal word

Danger

Hazard statements

H350 May cause cancer.

Precautionary statements

P281 Use personal protective equipment as required.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification

D2A - Very toxic material causing other toxic effects



Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH	1	Health (acute effects) = 1
FIRE	1	Flammability = 1
REACTIVITY	1	Physical Hazard = 1

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances

CAS# Description:

67-72-1 Hexachloroethane

Identification number(s):

EC number: 200-666-4

4 First-aid measures

Description of first aid measures

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek medical treatment.

Product name: Hexachloroethane											
Information for doctor Most important symptoms and effects, both acute and delayed No further relevant information available. Indication of any immediate medical attention and special treatment needed No further relevant information available.											
5 Fire-fighting measures Extinguishing media Suitable extinguishing agents Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Special hazards arising from the substance or mixture If this product is involved in a fire, the following can be released: Carbon monoxide and carbon dioxide Hydrogen chloride (HCl) Advice for firefighters Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit.											
6 Accidental release measures Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation Environmental precautions: Do not allow material to be released to the environment without proper governmental permits. Methods and material for containment and cleaning up: Dispose of contaminated material as waste according to section 13. Prevention of secondary hazards: No special measures required. Reference to other sections See Section 7 for information on safe handling See Section 8 for information on personal protection equipment. See Section 13 for disposal information.											
7 Handling and storage Handling Precautions for safe handling Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation at the workplace. Open and handle container with care. Information about protection against explosions and fires: No information known. Conditions for safe storage, including any incompatibilities Storage Requirements to be met by storerooms and receptacles: No special requirements. Information about storage in one common storage facility: Store away from oxidizing agents. Further information about storage conditions: Keep container tightly sealed. Store in cool, dry conditions in well sealed containers. Specific end use(s) No further relevant information available.											
8 Exposure controls/personal protection Additional information about design of technical systems: Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute. Components with limit values that require monitoring at the workplace: Hexachloroethane ppm ACGIH TLV 1 Australia TWA 10 Belgium TWA 1 Denmark TWA 1 Finland TWA 1, 3-STEL (skin) France VME 1, 10-VLE Germany MAK 1 Korea TLV 1 Netherlands MAC-TGG 1 Switzerland MAK-W 1 USA PEL 1 Control parameters Components with limit values that require monitoring at the workplace: 67-72-1 Hexachloroethane (100.0%)<table><tr><td>PEL (USA)</td><td>Long-term value: 10 mg/m³, 1 ppm Skin</td></tr><tr><td>REL (USA)</td><td>Long-term value: 10 mg/m³, 1 ppm Skin; See Pocket Guide Apps. A and C</td></tr><tr><td>TLV (USA)</td><td>Long-term value: 9.7 mg/m³, 1 ppm Skin</td></tr><tr><td>EL (Canada)</td><td>Long-term value: 1 ppm Skin; IARC 2B</td></tr><tr><td>EV (Canada)</td><td>Long-term value: 1 ppm</td></tr></table> Additional information: No data Exposure controls Personal protective equipment General protective and hygienic measures The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work. Store protective clothing separately. Maintain an ergonomically appropriate working environment. Breathing equipment: Use suitable respirator when high concentrations are present. Protection of hands: Impervious gloves		PEL (USA)	Long-term value: 10 mg/m³, 1 ppm Skin	REL (USA)	Long-term value: 10 mg/m³, 1 ppm Skin; See Pocket Guide Apps. A and C	TLV (USA)	Long-term value: 9.7 mg/m³, 1 ppm Skin	EL (Canada)	Long-term value: 1 ppm Skin; IARC 2B	EV (Canada)	Long-term value: 1 ppm
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EV (Canada)	Long-term value: 1 ppm										
(Contd. on page 3) USA											

Product name: Hexachloroethane

Check protective gloves prior to each use for their proper condition.
The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.
Penetration time of glove material (in minutes) Not determined
Eye protection: Safety glasses
Body protection: Protective work clothing.

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9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form: Crystalline
Color: Colorless
Odor: Camphor-like
Odor threshold: Not determined.

pH-value: Not applicable.

Change in condition

Melting point/Melting range: 190-195 °C (374-383 °F)
Boiling point/Boiling range: Not determined
Sublimation temperature / start: Not determined

Flash point: Not applicable
Flammability (solid, gaseous) Not determined.
Ignition temperature: Not determined
Decomposition temperature: Not determined
Auto igniting: Not determined.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower: Not determined
Upper: Not determined
Vapor pressure at 20 °C (68 °F): 0.53 hPa
Density at 20 °C (68 °F): 2.09 g/cm³ (17.441 lbs/gal)
Relative density Not determined.
Vapor density Not applicable.
Evaporation rate Not applicable.
Solubility in / Miscibility with
Water: Insoluble
Partition coefficient (n-octanol/water): Not determined.
Viscosity:
dynamic: Not applicable.
kinematic: Not applicable.
Other information No further relevant information available.

10 Stability and reactivity

Reactivity No information known.

Chemical stability Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications.

Possibility of hazardous reactions No dangerous reactions known

Conditions to avoid No further relevant information available.

Incompatible materials: No information known.

Hazardous decomposition products: Carbon monoxide and carbon dioxide

11 Toxicological information

Information on toxicological effects

Acute toxicity: No effects known.

LD/LC50 values that are relevant for classification: No data

Skin irritation or corrosion: Irritant to skin and mucous membranes.

Eye irritation or corrosion: Irritating effect.

Sensitization: No sensitizing effects known.

Germ cell mutagenicity: No effects known.

Carcinogenicity:

May cause cancer.

IARC-2B: Possibly carcinogenic to humans: limited evidence in humans in the absence of sufficient evidence in experimental animals.

NTP-R: Reasonably anticipated to be a carcinogen: limited evidence from studies in humans or sufficient evidence from studies in experimental animals.

ACGIH A3: Animal carcinogen: Agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) not considered relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans.

Available evidence suggests that the agent is not likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.

EPA-C: Possible human carcinogen: limited evidence of carcinogenicity in animals in the absence of human data.

Reproductive toxicity: No effects known.

Specific target organ system toxicity - repeated exposure: No effects known.

Specific target organ system toxicity - single exposure: No effects known.

Aspiration hazard: No effects known.

Other information (about experimental toxicology):

Tumorigenic effects have been observed on tests with laboratory animals.

Reproductive effects have been observed on tests with laboratory animals.

Mutagenic effects have been observed on tests with laboratory animals.

Subacute to chronic toxicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) reports the following effects in laboratory animals:

Behavioral - muscle weakness.

Liver - changes in liver weight.

Liver - other changes.

Liver - tumors.

Nutritional and Gross Metabolic - weight loss or decreased weight gain.

Kidney, Ureter, Bladder - changes in tubules (including acute renal failure, acute tubular necrosis).

Kidney, Ureter, Bladder - changes in bladder weight.

Kidney, Ureter, Bladder - tumors.

Related to Chronic Data - death.

Related to Chronic Data - changes in testicular weight.

Brain and Coverings - changes in brain weight.

Endocrine - changes in spleen weight.

Reproductive - Fertility - litter size (e.g. # fetuses per litter; measured before birth).

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USA

Product name: Hexachloroethane	(Contd. of page 3)
Reproductive - Fertility - other measures of fertility. Tumorigenic - carcinogenic by RTECS criteria. Tumorigenic - neoplastic by RTECS criteria. Subacute to chronic toxicity: Hexachloroethane is a strong irritant and can be absorbed through the skin. Exposure may cause depression, weakness, staggering and muscle twitching. Causes liver and kidney injury. Shows carcinogenic effects in animal tests. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.	

12 Ecological information
Toxicity Aquatic toxicity: No further relevant information available. Persistence and degradability No further relevant information available. Bioaccumulative potential No further relevant information available. Mobility in soil No further relevant information available. Ecotoxical effects: Remark: Toxic for aquatic organisms Additional ecological information: General notes: Do not allow material to be released to the environment without proper governmental permits. Toxic for aquatic organisms Do not allow product to reach ground water, water course or sewage system, even in small quantities. Danger to drinking water if even extremely small quantities leak into the ground. Also poisonous for fish and plankton in water bodies. Toxic to aquatic life. May cause long lasting harmful effects to aquatic life. Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. Other adverse effects No further relevant information available.

13 Disposal considerations
Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations.

14 Transport information	
UN-Number DOT, IMDG, IATA	UN3077
UN proper shipping name DOT IMDG, IATA	Environmentally hazardous substances, solid, n.o.s. (Hexachloroethane) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Hexachloroethane)
Transport hazard class(es) DOT, IMDG  Class Label Class Label IATA   Class Label	9 Miscellaneous dangerous substances and articles. 9 9 (M7) Miscellaneous dangerous substances and articles 9 9 Miscellaneous dangerous substances and articles. 9
Packing group DOT, IMDG, IATA	III
Environmental hazards: Special marking (ADR): Special marking (IATA):	Symbol (fish and tree) Symbol (fish and tree)
Special precautions for user	Warning: Miscellaneous dangerous substances and articles
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information: DOT Marine Pollutant (DOT):	No
UN "Model Regulation":	UN3077, Environmentally hazardous substances, solid, n.o.s. (Hexachloroethane), 9, III

15 Regulatory information
Safety, health and environmental regulations/legislation specific for the substance or mixture GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Hazard pictograms  GHS08 Signal word Danger
(Contd. on page 5) USA

Product name: **Hexachloroethane**

Hazard statements
H350 May cause cancer.
Precautionary statements
P281 Use personal protective equipment as required.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
All components of this product are listed on the Canadian Domestic Substances List (DSL).

SARA Section 313 (specific toxic chemical listings)
67-72-1 Hexachloroethane
California Proposition 65
Prop 65 - Chemicals known to cause cancer
67-72-1 Hexachloroethane

Prop 65 - Developmental toxicity Substance is not listed.
Prop 65 - Developmental toxicity, female Substance is not listed.
Prop 65 - Developmental toxicity, male Substance is not listed.
Information about limitation of use:
Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.
For use only by technically qualified individuals.
This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.
Other regulations, limitations and prohibitive regulations
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.
Substance is not listed.
Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information
Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.
Department issuing SDS: Global Marketing Department
Date of preparation / last revision 11/23/2015 / -
Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
vPvB: very Persistent and very Bioaccumulative
ACGIH: American Conference of Governmental Industrial Hygienists (USA)
OSHA: Occupational Safety and Health Administration (USA)
NTP: National Toxicology Program (USA)
IARC: International Agency for Research on Cancer
EPA: Environmental Protection Agency (USA)