

SAFETY DATA SHEET

Version 5.1
Revision Date 08/17/2014
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1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	HCH	
Product Number	:	36756	
Brand	:	Fluka	
Product Use	:	For laboratory research purposes.	
Supplier	:	Sigma-Aldrich Canada Co. 2149 Winston Park Drive OAKVILLE ON L6H 6J8 CANADA	Manufacturer : Sigma-Aldrich Corporation 3050 Spruce St. St. Louis, Missouri 63103 USA
Telephone	:	+1 9058299500	
Fax	:	+1 9058299292	
Emergency Phone # (For both supplier and manufacturer)	:	1-800-424-9300	
Preparation Information	:	Sigma-Aldrich Corporation Product Safety - Americas Region 1-800-521-8956	

2. HAZARDS IDENTIFICATION

Emergency Overview

Target Organs

Central nervous system, Liver, Kidney, Blood, Reproductive system.

WHMIS Classification

D1A	Very Toxic Material Causing Immediate and Serious Toxic Effects	Highly Toxic
D2A	Very Toxic Material Causing Other Toxic Effects	Carcinogen

GHS Classification

Acute toxicity, Oral (Category 3)
Acute toxicity, Inhalation (Category 5)
Acute toxicity, Dermal (Category 4)
Carcinogenicity (Category 1B)
Effects on or via lactation
Acute aquatic toxicity (Category 1)
Chronic aquatic toxicity (Category 1)

GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H301	Toxic if swallowed.
H312	Harmful in contact with skin.
H333	May be harmful if inhaled.
H350	May cause cancer.
H362	May cause harm to breast-fed children.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P201 Obtain special instructions before use.
P263 Avoid contact during pregnancy/ while nursing.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P501 Dispose of contents/ container to an approved waste disposal plant.

HMIS Classification

Health hazard: 2
Chronic Health Hazard: *
Flammability: 0
Physical hazards: 0

Potential Health Effects

Inhalation Toxic if inhaled. May cause respiratory tract irritation.
Skin Toxic if absorbed through skin. May cause skin irritation.
Eyes May cause eye irritation.
Ingestion Toxic if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : C₆H₆Cl₆

CAS-No.	EC-No.	Index-No.	Concentration
(1α,2α,3β,4α,5β,6β)-1,2,3,4,5,6-Hexachlorocyclohexane			
319-84-6	206-270-8	602-042-00-0	25 %
1α,2α,3α,4β,5α,6β)-1,2,3,4,5,6-Hexachlorocyclohexane			
319-86-8	206-272-9	602-042-00-0	25 %
(1α,2β,3α,4β,5α,6β)-1,2,3,4,5,6-Hexachlorocyclohexane			
319-85-7	206-271-3	602-042-00-0	25 %
γ-1,2,3,4,5,6-Hexachlorocyclohexane			
58-89-9	200-401-2	602-043-00-6	25 %

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability

Not flammable or combustible.

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas

Explosion data - sensitivity to mechanical impact

No data available

Explosion data - sensitivity to static discharge

No data available

6. ACCIDENTAL RELEASE MEASURES**Personal precautions**

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

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.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE**Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Basis
γ-1,2,3,4,5,6-Hexachlorocyclohexane	58-89-9	TWA	0.5 mg/m ³	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks	Substance may be readily absorbed through intact skin			
		TWA	0.5 mg/m ³	Canada. British Columbia OEL
	Contributes significantly to the overall exposure by the skin route.			
		TWAEV	0.5 mg/m ³	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
	Skin (percutaneous)			
		TWA	0.5 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)

Personal protective equipment**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Specific engineering controls

Use mechanical exhaust or laboratory fumehood to avoid exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form	solid
Colour	No data available

Safety data

pH	No data available
Melting point/freezing point	Melting point/range: > 300 °C (> 572 °F)
Boiling point	No data available
Flash point	Not applicable
Ignition temperature	No data available
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapour pressure	No data available
Density	No data available
Water solubility	insoluble
Partition coefficient: n-octanol/water	log Pow: 3.78
Relative vapour density	No data available
Odour	No data available
Odour Threshold	No data available
Evaporation rate	No data available

10. STABILITY AND REACTIVITY**Chemical stability**

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

Conditions to avoid

No data available

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas

Other decomposition products - No data available

11. TOXICOLOGICAL INFORMATION**Acute toxicity**

Oral LD50

Inhalation LC50

Dermal LD50

Other information on acute toxicity

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

Eyes: No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: 2B - Group 2B: Possibly carcinogenic to humans (1 α ,2 α ,3 α ,4 β ,5 α ,6 β)-1,2,3,4,5,6-Hexachlorocyclohexane)

IARC: 2B - Group 2B: Possibly carcinogenic to humans ((1 α ,2 β ,3 α ,4 β ,5 α ,6 β)-1,2,3,4,5,6-Hexachlorocyclohexane)

IARC: 2B - Group 2B: Possibly carcinogenic to humans (γ -1,2,3,4,5,6-Hexachlorocyclohexane)

IARC: 2B - Group 2B: Possibly carcinogenic to humans ((1 α ,2 α ,3 β ,4 α ,5 β ,6 β)-1,2,3,4,5,6-Hexachlorocyclohexane)

Reproductive toxicity

No data available

Teratogenicity

No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

Aspiration hazard

No data available

Potential health effects

Inhalation

Toxic if inhaled. May cause respiratory tract irritation.

Ingestion

Toxic if swallowed.

Skin

Toxic if absorbed through skin. May cause skin irritation.

Eyes

May cause eye irritation.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects

No data available

Additional Information

RTECS: Not available

12. ECOLOGICAL INFORMATION

Toxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

PBT and vPvB assessment

No data available

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic life with long lasting effects.

13. DISPOSAL CONSIDERATIONS

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN number: 2811 Class: 6.1 Packing group: II
Proper shipping name: Toxic solids, organic, n.o.s. ((1 α ,2 β ,3 α ,4 β ,5 α ,6 β)-1,2,3,4,5,6-Hexachlorocyclohexane, (1 α ,2 α ,3 β ,4 α ,5 β ,6 β)-1,2,3,4,5,6-Hexachlorocyclohexane)
Reportable Quantity (RQ): 4 lbs
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

UN number: 2811 Class: 6.1 Packing group: II EMS-No: F-A, S-A
Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. ((1 α ,2 β ,3 α ,4 β ,5 α ,6 β)-1,2,3,4,5,6-Hexachlorocyclohexane, (1 α ,2 α ,3 β ,4 α ,5 β ,6 β)-1,2,3,4,5,6-Hexachlorocyclohexane)
Marine pollutant: Marine pollutant

IATA

UN number: 2811 Class: 6.1 Packing group: II
Proper shipping name: Toxic solid, organic, n.o.s. ((1 α ,2 β ,3 α ,4 β ,5 α ,6 β)-1,2,3,4,5,6-Hexachlorocyclohexane, (1 α ,2 α ,3 β ,4 α ,5 β ,6 β)-1,2,3,4,5,6-Hexachlorocyclohexane)

15. REGULATORY INFORMATION

WHMIS Classification

D1A	Very Toxic Material Causing Immediate and Serious Toxic Effects	Highly Toxic
D2A	Very Toxic Material Causing Other Toxic Effects	Carcinogen

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16. OTHER INFORMATION**Further information**

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