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# Material Safety Data Sheet

Version 4.0
Revision Date 06/25/2010
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## 1. PRODUCT AND COMPANY IDENTIFICATION

| | | |
|---|---|---|
| Product name | : | Hexachlorocyclopentadiene |
| Product Number | : | H6002 |
| Brand | : | Aldrich |
| Company | : | Sigma-Aldrich<br>3050 Spruce Street<br>SAINT LOUIS MO 63103<br>USA |
| Telephone | : | +18003255832 |
| Fax | : | +18003255052 |
| Emergency Phone # | : | (314) 776-6555 |

## 2. HAZARDS IDENTIFICATION

### Emergency Overview

**OSHA Hazards**
Highly toxic by inhalation, Toxic by ingestion, Toxic by skin absorption, Corrosive

**Other hazards which do not result in classification**
Lachrymator.

**GHS Label elements, including precautionary statements**

Pictogram

Signal word: Danger

Hazard statement(s)

| | |
|---|---|
| H302 | Harmful if swallowed. |
| H311 | Toxic in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H330 | Fatal if inhaled. |
| H410 | Very toxic to aquatic life with long lasting effects. |

Precautionary statement(s)

| | |
|---|---|
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P284 | Wear respiratory protection. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P310 | Immediately call a POISON CENTER or doctor/physician. |
| P501 | Dispose of contents/container to an approved waste disposal plant. |

**HMIS Classification**

| | |
|---|---|
| **Health hazard**: | 4 |
| **Flammability**: | 1 |
| **Physical hazards**: | 0 |

**NFPA Rating**

| | |
|---|---|
| **Health hazard**: | 4 |
| **Fire**: | 1 |
| **Reactivity Hazard**: | 0 |

**Potential Health Effects**

| | |
|---|---|
| **Inhalation** | May be fatal if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. |
| **Skin** | Toxic if absorbed through skin. Causes skin burns. |
| **Eyes** | Causes eye burns. |
| **Ingestion** | Toxic if swallowed. |

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : $C_5Cl_6$
Molecular Weight : 272.77 g/mol

| CAS-No. | EC-No. | Index-No. | Concentration |
|---|---|---|---|
| **Hexachlorocyclopentadiene** | | | |
| 77-47-4 | 201-029-3 | 602-078-00-7 | - |

## 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**
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

**In case of eye contact**
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.Continue rinsing eyes during transport to hospital.

**If swallowed**
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

## 5. FIRE-FIGHTING MEASURES

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

**Special protective equipment for fire-fighters**
Wear self contained breathing apparatus for fire fighting if necessary.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**
Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

**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**
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Normal measures for preventive fire protection.

**Conditions for safe storage**
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Moisture sensitive.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Components with workplace control parameters**

| Components | CAS-No. | Value | Control parameters | Update | Basis |
|---|---|---|---|---|---|
| Hexachlorocyclopentadiene | 77-47-4 | TWA | 0.01 ppm | 2007-01-01 | USA. ACGIH Threshold Limit Values (TLV) |
| Remarks | Upper Respiratory Tract irritation Not classifiable as a human carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of a lack of data. In vitro or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories. | | | | |
| | | TWA | 0.01 ppm<br>0.1 mg/m3 | 1989-01-19 | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |

**Personal protective equipment**

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) 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**
Tightly fitting safety goggles. Faceshield (8-inch minimum). 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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**

| | |
|---|---|
| Form | liquid |

**Safety data**

| | |
|---|---|
| pH | no data available |
| Melting point | -10 °C (14 °F) - lit. |
| Boiling point | 239 °C (462 °F) at 1,004 hPa (753 mmHg) - lit. |
| Flash point | 109.0 °C (228.2 °F) - closed cup |
| Ignition temperature | no data available |
| Lower explosion limit | no data available |
| Upper explosion limit | no data available |

| | |
|---|---|
| Density | 1.702 g/cm3 at 25 °C (77 °F) |
| Water solubility | no data available |

## 10. STABILITY AND REACTIVITY

**Chemical stability**
Stable under recommended storage conditions.

**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

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**
LD50 Oral - rat - 315.0 mg/kg

LC50 Inhalation - rat - 4.0 h - 2. ppm
Remarks: Behavioral:Somnolence (general depressed activity). Lungs, Thorax, or Respiration:Other changes.

LD50 Dermal - rabbit - 430.0 mg/kg

**Skin corrosion/irritation**
Skin - rabbit - Severe skin irritation - 4 h

**Serious eye damage/eye irritation**
Eyes - rabbit - Severe eye irritation - 0.1 h

**Respiratory or skin sensitization**
no data available

**Germ cell mutagenicity**
no data available

**Carcinogenicity**

| | |
|---|---|
| IARC: | No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| ACGIH: | No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. |
| NTP: | No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. |
| OSHA: | No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. |

**Reproductive toxicity**
no data available

**Specific target organ toxicity - single exposure (GHS)**
no data available

**Specific target organ toxicity - repeated exposure (GHS)**
no data available

**Aspiration hazard**
no data available

**Potential health effects**

| | |
|---|---|
| **Inhalation** | May be fatal if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. |
| **Ingestion** | Toxic if swallowed. |
| **Skin** | Toxic if absorbed through skin. Causes skin burns. |

**Eyes** Causes eye burns.

**Signs and Symptoms of Exposure**
Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Additional Information**
RTECS: GY1225000

## 12. ECOLOGICAL INFORMATION

**Toxicity**

| | |
|---|---|
| Toxicity to fish | NOEC - Lepomis macrochirus (Bluegill) - 0.065 mg/l - 96.0 h |
| | LC50 - Pimephales promelas (fathead minnow) - 0.0070 mg/l - 96.0 h |
| Toxicity to daphnia and other aquatic invertebrates. | Immobilization EC50 - Daphnia magna (Water flea) - 0.21 mg/l - 24 h |
| | NOEC - Daphnia magna (Water flea) - 0.018 mg/l - 48 h |

**Persistence and degradability**

**Bioaccumulative potential**

| | |
|---|---|
| Bioaccumulation | Leuciscus idus (Golden orfe) - 3 d<br>Bioconcentration factor (BCF): 1,230 |

**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: 2646 Class: 6.1 Packing group: I
Proper shipping name: Hexachlorocyclopentadiene
Reportable Quantity (RQ): 10 lbs
Marine pollutant: No
Poison Inhalation Hazard: Hazard zone B

**IMDG**
UN-Number: 2646 Class: 6.1 Packing group: I EMS-No: F-A, S-A
Proper shipping name: HEXACHLOROCYCLOPENTADIENE
Marine pollutant: No

**IATA**

UN-Number: 2646 Class: 6.1
Proper shipping name: Hexachlorocyclopentadiene
IATA Passenger: Not permitted for transport
IATA Cargo: Not permitted for transport

## 15. REGULATORY INFORMATION

**OSHA Hazards**
Highly toxic by inhalation, Toxic by ingestion, Toxic by skin absorption, Corrosive

**DSL Status**
All components of this product are on the Canadian DSL list.

**SARA 302 Components**

| | CAS-No. | Revision Date |
|---|---|---|
| Hexachlorocyclopentadiene | 77-47-4 | 2007-07-01 |

**SARA 313 Components**

| | CAS-No. | Revision Date |
|---|---|---|
| Hexachlorocyclopentadiene | 77-47-4 | 2007-07-01 |

**SARA 311/312 Hazards**
Acute Health Hazard

**Massachusetts Right To Know Components**

| | CAS-No. | Revision Date |
|---|---|---|
| Hexachlorocyclopentadiene | 77-47-4 | 2007-07-01 |

**Pennsylvania Right To Know Components**

| | CAS-No. | Revision Date |
|---|---|---|
| Hexachlorocyclopentadiene | 77-47-4 | 2007-07-01 |

**New Jersey Right To Know Components**

| | CAS-No. | Revision Date |
|---|---|---|
| Hexachlorocyclopentadiene | 77-47-4 | 2007-07-01 |

**California Prop. 65 Components**
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

## 16. OTHER INFORMATION

**Further information**
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