

# Custom Hexachlorocyclopentadiene

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Date of issue: 28/12/2017

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Version: 1.0

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Mixture  
 Product name : Custom Hexachlorocyclopentadiene  
 Product code : AL0-130234  
 Product group : Trade product

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

##### 1.2.1. Relevant identified uses

Main use category : Laboratory Use  
 Industrial/Professional use spec : Industrial  
 For professional use only

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

Phenova  
 6390 Joyce Dr. Suite 100  
 80403 Golden, CO - United States  
 T 1-866-942-2978 - F 1-866-283-0269  
[info@phenova.com](mailto:info@phenova.com) - [www.phenova.com](http://www.phenova.com)

#### 1.4. Emergency telephone number

Emergency number : ChemTel Assistance (US/Canada) 1-800-255-3924  
 ChemTel Assistance (International) +1 813-248-0585

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Liq. 2	H225
Acute Tox. 4 (Inhalation)	H332
Eye Irrit. 2	H319
STOT SE 3	H336
Aquatic Chronic 2	H411

##### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F; R11  
 Xn; R20  
 Xi; R36  
 N; R51/53  
 R66

Full text of R-phrases: see section 16

##### Adverse physicochemical, human health and environmental effects

No additional information available

#### 2.2. Label elements

##### Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) : Danger  
 Hazardous ingredients : ethyl acetate

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Hazard statements (CLP)	: H225 - Highly flammable liquid and vapor H319 - Causes serious eye irritation H332 - Harmful if inhaled H336 - May cause drowsiness or dizziness H411 - Toxic to aquatic life with long lasting effects
Precautionary statements (CLP)	: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking P233 - Keep container tightly closed P261 - Avoid breathing dust/fume/gas/mist/vapors/spray P271 - Use only outdoors or in a well-ventilated area P273 - Avoid release to the environment P280 - Wear protective gloves/protective clothing/eye protection/face protection P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing 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 P337+P313 - If eye irritation persists: Get medical advice/attention P370+P378 - In case of fire: Use media other than water to extinguish P391 - Collect spillage P403+P235 - Store in a well-ventilated place. Keep cool P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation
EUH phrases	: EUH066 - Repeated exposure may cause skin dryness or cracking
No labeling applicable	

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ethyl acetate	(CAS No) 141-78-6 (EC-No.) 205-500-4 (EC index no) 607-022-00-5	99.9	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
Hexachlorocyclopentadiene (Component)	(CAS No) 77-47-4 (EC-No.) 201-029-3 (EC index no) 602-078-00-7	0.1	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Acute Tox. 2 (Inhalation), H330 Skin Corr. 1B, H314 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 (M=100)

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. Call a POISON CENTER or doctor/physician. IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
First-aid measures after skin contact	: Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Immediately call a poison center or doctor/physician. Wash with plenty of soap and water. Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Immediately call a poison center or doctor/physician.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Toxic in contact with skin.
Symptoms/effects after ingestion	: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : Do not use a heavy water stream.

#### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : Highly flammable liquid and vapor.
- Explosion hazard : May form flammable/explosive vapor-air mixture.

#### 5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- 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

##### 6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection. Avoid breathing dust/fume/gas/mist/vapors/spray.
- Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Take up in absorbent material. Collect spillage.

#### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Additional hazards when processed : Handle empty containers with care because residual vapors are flammable.
- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. No open flames. No smoking. Use only non-sparking tools.
- Hygiene measures : Do not eat, drink or smoke when using this product. Gently wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse.

#### 7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment.
- Storage conditions : Keep in fireproof place. Keep container tightly closed. Keep container tightly closed and in a well-ventilated place. Keep away from any flames or sparking source.
- Incompatible materials : Direct sunlight. Heat sources.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

Hexachlorocyclopentadiene (77-47-4)		
Belgium	Limit value (mg/m <sup>3</sup> )	0.11 mg/m <sup>3</sup> (Hexachlorocyclopentadiène; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	0.01 ppm (Hexachlorocyclopentadiène; Belgium; Time-weighted average exposure limit 8 h)
France	VME (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup> (Hexachlorocyclopentadiène; France; Time-weighted average exposure limit 8 h; VL: Valeur non réglementaire indicative)
France	VME (ppm)	0.01 ppm (Hexachlorocyclopentadiène; France; Time-weighted average exposure limit 8 h; VL: Valeur non réglementaire indicative)
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	0.01 ppm (Hexachlorocyclopentadiene; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)

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ethyl acetate (141-78-6)		
Belgium	Limit value (mg/m³)	1461 mg/m³ (Acétate d'éthyle; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	400 ppm (Acétate d'éthyle; Belgium; Time-weighted average exposure limit 8 h)
France	VME (mg/m³)	1400 mg/m³ (Acétate d'éthyle; France; Time-weighted average exposure limit 8 h; VL: Valeur non réglementaire indicative)
France	VME (ppm)	400 ppm (Acétate d'éthyle; France; Time-weighted average exposure limit 8 h; VL: Valeur non réglementaire indicative)
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	400 ppm (Ethyl acetate; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
United Kingdom	WEL TWA (ppm)	200 ppm Ethyl acetate; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL STEL (ppm)	400 ppm Ethyl acetate; United Kingdom; Short time value; Workplace exposure limit (EH40/2005)

### 8.2. Exposure controls

Appropriate engineering controls

: Either local exhaust or general room ventilation is usually required.

Personal protective equipment

: Avoid all unnecessary exposure. Gloves. Protective clothing. Protective goggles. Safety glasses.



Hand protection

: Wear chemically resistant protective gloves. Wear suitable gloves resistant to chemical penetration.

Eye protection

: Chemical goggles or safety glasses. Safety glasses.

Skin and body protection

: Wear chemically protective gloves, lab coat or apron to prevent prolonged or repeated skin contact.

Respiratory protection

: Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.

Other information

: Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: Colorless.
Odor	: characteristic.
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Highly flammable liquid and vapor
Relative density	: No data available
Solubility	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

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### 10.2. Chemical stability

Highly flammable liquid and vapor. May form flammable/explosive vapor-air mixture.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

May release flammable gases.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Inhalation: Harmful if inhaled.

Custom Hexachlorocyclopentadiene	
ATE CLP (gases)	4500 ppmV/4h
ATE CLP (vapors)	11 mg/l/4h
ATE CLP (dust, mist)	1.5 mg/l/4h

Hexachlorocyclopentadiene (77-47-4)	
LD50 oral rat	315 mg/kg (Rat; Experimental value; 200 mg/kg bodyweight; Rat; Experimental value; 505 mg/kg bodyweight; Rat; Experimental value; 690 mg/kg bodyweight; Rat; Experimental value; 640 mg/kg bodyweight; Rat)
LD50 dermal rat	2000-3200,Rat; Experimental value
LD50 dermal rabbit	200 - 340 mg/kg (Rabbit; Experimental value; 430 mg/kg bodyweight; Rabbit)
LC50 inhalation rat (mg/l)	0.018 mg/l/4h (Rat; Experimental value; 0,04 mg/l/4h; Rat; Experimental value)
ATE CLP (oral)	315 mg/kg body weight
ATE CLP (dermal)	200 mg/kg body weight
ATE CLP (gases)	100 ppmV/4h
ATE CLP (vapors)	0.018 mg/l/4h
ATE CLP (dust, mist)	0.018 mg/l/4h

ethyl acetate (141-78-6)	
LD50 oral rat	5620 mg/kg (Rat; Equivalent or similar to OECD 401; Experimental value; 10200 mg/kg bodyweight; Rat)
LD50 dermal rabbit	> 18000 mg/kg (Rabbit; Experimental value; 24 hour cuff method; >20000 mg/kg bodyweight; Rabbit)
LC50 inhalation rat (mg/l)	70.56 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	19600 ppm/4h (Rat)
ATE CLP (oral)	5620 mg/kg body weight
ATE CLP (gases)	19600 ppmV/4h
ATE CLP (vapors)	70.56 mg/l/4h
ATE CLP (dust, mist)	70.56 mg/l/4h

Skin corrosion/irritation	: Not classified Based on available data, the classification criteria are not met
Serious eye damage/irritation	: Causes serious eye irritation. Based on available data, the classification criteria are not met
Respiratory or skin sensitization	: Not classified Based on available data, the classification criteria are not met
Germ cell mutagenicity	: Not classified Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified Based on available data, the classification criteria are not met May cause cancer
Reproductive toxicity	: Not classified Based on available data, the classification criteria are not met
Specific target organ toxicity – single exposure	: May cause drowsiness or dizziness.
Specific target organ toxicity – repeated exposure	: Not classified Based on available data, the classification criteria are not met

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Aspiration hazard	: Not classified Based on available data, the classification criteria are not met
Potential Adverse human health effects and symptoms	: Toxic if swallowed. Toxic in contact with skin.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - water : Toxic to aquatic life with long lasting effects.

Hexachlorocyclopentadiene (77-47-4)	
LC50 fish 1	0.007 mg/l (LC50; 96 h; Pimephales promelas; Flow-through system; Fresh water)
EC50 other aquatic organisms 1	0.19 mg/l (96 h; Selenastrum capricornutum; Growth rate)
ethyl acetate (141-78-6)	
LC50 fish 2	230 mg/l (LC50; US EPA; 96 h; Pimephales promelas; Flow-through system; Fresh water; Experimental value)
EC50 Daphnia 2	154 mg/l (EC50; 48 h; Daphnia magna)

#### 12.2. Persistence and degradability

Custom Hexachlorocyclopentadiene	
Persistence and degradability	May cause long-term adverse effects in the environment.
Hexachlorocyclopentadiene (77-47-4)	
Persistence and degradability	Not readily biodegradable in water. Photolysis in water. Biodegradable in the soil. Adsorbs into the soil. Photolysis in the air.
ethyl acetate (141-78-6)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Low potential for adsorption in soil.
Biochemical oxygen demand (BOD)	0.293 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.69 g O <sub>2</sub> /g substance
ThOD	1.82 g O <sub>2</sub> /g substance

#### 12.3. Bioaccumulative potential

Custom Hexachlorocyclopentadiene	
Bioaccumulative potential	Not established.
Hexachlorocyclopentadiene (77-47-4)	
BCF fish 1	1230 (BCF; 72 h; Leuciscus idus)
BCF other aquatic organisms 1	1090 (BCF; 24 h; Chlorella sp.)
Log Pow	3.99-5.51
Bioaccumulative potential	Potential for bioaccumulation (500 ≤ BCF ≤ 5000).
ethyl acetate (141-78-6)	
BCF fish 1	30 (BCF; 3 days; Leuciscus idus; Static system)
Log Pow	0.68 (Experimental value; EPA OPPTS 830.7560; 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

#### 12.4. Mobility in soil

Hexachlorocyclopentadiene (77-47-4)	
Surface tension	0.0375 N/m (20 °C)
Log Koc	Koc,4265; Experimental value
ethyl acetate (141-78-6)	
Surface tension	0.024 N/m (20 °C)

#### 12.5. Results of PBT and vPvB assessment

No additional information available

#### 12.6. Other adverse effects

Additional information : Avoid release to the environment

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Additional information	: Handle empty containers with care because residual vapors are flammable.
Ecology - waste materials	: Avoid release to the environment. Hazardous waste due to toxicity.

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### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

UN-No. (ADR)	: 1993
UN-No. (IATA)	: 1993
UN-No. (IMDG)	: 1993
UN-No. (ADN)	: 1993

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: FLAMMABLE LIQUID, N.O.S.
Proper Shipping Name (IATA)	: Flammable liquid, n.o.s.
Proper Shipping Name (IMDG)	: FLAMMABLE LIQUID, N.O.S.
Proper Shipping Name (ADN)	: FLAMMABLE LIQUID, N.O.S.
Transport document description (ADR)	: UN 1993 FLAMMABLE LIQUID, N.O.S., 3, II, (D/E), ENVIRONMENTALLY HAZARDOUS

#### 14.3. Packing group

Class (ADR)	: 3
Classification code (ADR)	: F1
Class (IATA)	: 3
Class (IMDG)	: 3
Class (ADN)	: 3
Classification code (ADN)	: F1
Hazard labels (ADR)	: 3



Hazard labels (IATA)	: 3
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Hazard labels (IMDG)	: 3
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Hazard labels (ADN)	: 3
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#### 14.4. Packing group

Packing group (ADR)	: II
Packing group (IATA)	: II
Packing group (IMDG)	: II
Packing group (ADN)	: II

#### 14.5. Environmental hazards

Dangerous for the environment	:
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Other information	: No supplementary information available.
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#### 14.6. Special precautions for user

##### 14.6.1. Overland transport

Hazard identification number (Kemler No.)	: 33
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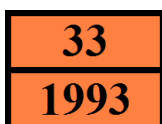
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Classification code (ADR) : F1

Orange plates :



Special provision (ADR) : 274, 601, 640D

Transport category (ADR) : 2

Tunnel restriction code (ADR) : D/E

Limited quantities (ADR) : 1I

Excepted quantities (ADR) : E2

### 14.6.2. Transport by sea

Special provision (IMDG) : 274

Limited quantities (IMDG) : 1 L

Excepted quantities (IMDG) : E2

Packing instructions (IMDG) : P001

IBC packing instructions (IMDG) : IBC02

Tank instructions (IMDG) : T7

Tank special provisions (IMDG) : TP1, TP8, TP28

EmS-No. (Fire) : F-E

EmS-No. (Spillage) : S-E

Stowage category (IMDG) : B

### 14.6.3. Air transport

CAO packing instructions (IATA) : 364

CAO max net quantity (IATA) : 60L

PCA packing instructions (IATA) : 353

PCA Limited quantities (IATA) : Y341

PCA limited quantity max net quantity (IATA) : 1L

PCA max net quantity (IATA) : 5L

PCA Excepted quantities (IATA) : E2

Special provision (IATA) : A3

ERG code (IATA) : 3H

### 14.6.4. Inland waterway transport

Special provision (ADN) : 274, 601, 640D

Limited quantities (ADN) : 1 L

Excepted quantities (ADN) : E2

Carriage permitted (ADN) : T

Equipment required (ADN) : PP, EX, A

Ventilation (ADN) : VE01

Number of blue cones/lights (ADN) : 1

Carriage prohibited (ADN) : No

### 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. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no REACH candidate substance

Contains no REACH Annex XIV substances.

#### 15.1.2. National regulations

##### Germany

Water hazard class (WGK) : 1 - slightly hazardous to water



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### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

### SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

PHV SDS EU

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