

Safety data sheet

according to Regulation (EC) No. 1907/2006



Printing date 20.06.2012

Version number 1

Revision: 20.06.2012

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**

- **Trade name:** Cantharidin for biochemistry

- **Article number:** 3322

- **CAS Number:**

56-25-7

- **EC number:**

200-263-3

- **Registration number**

A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

- **Relevant identified uses of the substance or mixture and uses advised against**

- **Application of the substance / the preparation** Laboratory chemical

- **Details of the supplier of the safety data sheet**

- **Manufacturer/Supplier:**

Carl Roth GmbH + Co. KG

Schoemperlenstraße 3-5

76185 Karlsruhe

Germany

Telefon: +49/(0)721 5606-0

Telefax: +49/(0)721 5606-149

E-Mail: sicherheit@carlroth.de

- **Further information obtainable from:** Department Health, Safety and Environment

- **Emergency telephone number:** Poison Centre Munich

Telefon +49/(0)89 19240

2 Hazards identification

- **Classification of the substance or mixture**

- **Classification according to Regulation (EC) No 1272/2008**



GHS06 skull and crossbones

Acute Tox. 2 H300 Fatal if swallowed.

Acute Tox. 1 H310 Fatal in contact with skin.

Acute Tox. 1 H330 Fatal if inhaled.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



T+; Very toxic

R26/27/28: Very toxic by inhalation, in contact with skin and if swallowed.

- **Label elements**

- **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

- **Hazard pictograms**



GHS06

- **Signal word** Danger

(Contd. on page 2)

GB

Safety data sheet

according to Regulation (EC) No. 1907/2006

Printing date 20.06.2012

Version number 1

Revision: 20.06.2012

Trade name: Cantharidin for biochemistry

(Contd. of page 1)

· Hazard statements

H300+H310+H330 Fatal if swallowed, in contact with skin or if inhaled.

· Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P260 Do not breathe dust.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P302+P350 IF ON SKIN: Gently wash with plenty of soap and water.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P309+P311 IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

· Other hazards

All chemicals are potentially dangerous. They should only be handled by specially trained personnel.

· Results of PBT and vPvB assessment**· PBT:** Not applicable.**· vPvB:** Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Substances**· CAS No. Description**

56-25-7 (1R,2S,3R,6S)-1,2-dimethyl-3,6-epoxycyclohexane-1,2-dicarboxylic anhydride

· Identification number(s)**· EC number:** 200-263-3

4 First aid measures

· Description of first aid measures**· General information:**

Immediately remove any clothing soiled by the product.

First Aider: Pay attention to self-protection!

General advice: No induce of vomiting by layman.

· After inhalation:

Remove to fresh air. If breathing is difficult, give oxygen. Administer artificial respiration if breathing has stopped. Seek medical advice immediately.

· After skin contact:

Seek immediate medical advice.

Immediately rinse with water.

· After eye contact: Rinse opened eye for 10 minutes under running water. Then consult a doctor.**· After swallowing:**

Rinse out mouth and drink a glass of water. Do not induce vomiting.

Call for a doctor immediately and show the container or label.

· 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 Firefighting measures

· Extinguishing media**· Suitable extinguishing agents:**

Use fire extinguishing methods suitable to surrounding conditions.

Water, CO₂, powder, foam.**· For safety reasons unsuitable extinguishing agents:** Water with full jet**· Special hazards arising from the substance or mixture**

In the event of fire development of hazardous combustion gases or vapours possible.

(Contd. on page 3)

Safety data sheet

according to Regulation (EC) No. 1907/2006



Printing date 20.06.2012

Version number 1

Revision: 20.06.2012

Trade name: Cantharidin for biochemistry

(Contd. of page 2)

- **Advice for firefighters**
- **Protective equipment:**
 - Mouth respiratory protective device.
 - Wear self-contained respiratory protective device.
 - Wear fully protective suit.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
 - Wear protective equipment. Keep unprotected persons away.
 - Avoid contact with the eyes and skin.
 - Ensure adequate ventilation
 - Avoid formation of dust.
- **Environmental precautions:** Do not allow to enter sewers/ground water or penetrate the soil.
- **Methods and material for containment and cleaning up:**
 - Pick up mechanically.
 - Dispose of the material collected according to regulations.
 - Dispose contaminated material as waste according to item 13.
 - Ensure adequate ventilation.
- **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**
 - Handling corresponding to laboratory safety guidelines.
 - Ensure good ventilation/exhaustion at the workplace.
 - Handle and open container with care.
 - Work only in fume cupboard.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:**
 - Store under lock and key and with access restricted to technical experts or their assistants only.
 - Keep container tightly sealed.
- **Recommended storage temperature:** 15-25 °C
- **Specific end use(s):** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Do not eat, drink or smoke while working.
 - Keep away from foodstuffs, beverages and feed.

(Contd. on page 4)

Safety data sheet

according to Regulation (EC) No. 1907/2006



Printing date 20.06.2012

Version number 1

Revision: 20.06.2012

Trade name: Cantharidin for biochemistry

(Contd. of page 3)

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

· **Individual protection measures**

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Required when dusts are generated.

· **Protection of hands:**

Due to missing tests no recommendation to the glove material can be given for the product.



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Crystalline powder

Colour: White

· **Odour:** Odourless

· **Odour threshold:** Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

Melting point/Melting range: 218°C

Boiling point/Boiling range: Undetermined.

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Product is not flammable.

(Contd. on page 5)

Safety data sheet

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Version number 1

Revision: 20.06.2012

Trade name: Cantharidin for biochemistry

(Contd. of page 4)

· Ignition temperature:	
· Decomposition temperature:	Not determined.
· Self-igniting:	Not determined.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure:	Not applicable.
· Density:	Not determined.
· Relative density	Not determined.
· Vapour density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with water at 20°C:	0.03 g/l Not easily soluble.
· 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**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions** No information available.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** Strong oxidizing agents.
- **Hazardous decomposition products:** No information available.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values relevant for classification:**
LDL0 oral human: 0,03-0,5 mg/kg
LD50 i.p. mouse: 1 mg/kg
- **Primary irritant effect:**
- **on the skin:** Vesicant. Necrosis.
- **on the eye:** No irritating effect.
- **after inhalation:** Irritation symptoms in the respiratory tract.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
Very toxic if swallowed.
Very toxic by inhalation.
Very toxic in contact with skin.
Danger through skin adsorption.

(Contd. on page 6)

GB

Safety data sheet

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Version number 1

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Trade name: Cantharidin for biochemistry

(Contd. of page 5)

- **Further information:** The product should be handled with the care usual when dealing with chemicals.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** Quantitative data on the ecological effect of this product are not available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Do not allow to enter waters, waste water, or soil!
- **Additional ecological information:**
- **General notes:** Do not allow product to reach ground water, water course or sewage system.
- **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**
This material and its container must be disposed of as hazardous waste.
The disposal is regionally differently regulated, therefore the kind of disposal is to be inquired at the responsible authorities.
- **Uncleaned packaging:**
- **Recommendation:** Disposal according to official regulations.

14 Transport information

· UN-Number	UN2811
· ADR, IMDG, IATA	
· UN proper shipping name	2811 TOXIC SOLID, ORGANIC, N.O.S. ((1R,2S,3R,6S)-1,2-dimethyl-3,6-epoxycyclohexane-1,2-dicarboxylic anhydride)
· ADR	
· IMDG, IATA	TOXIC SOLID, ORGANIC, N.O.S. ((1R,2S,3R,6S)-1,2-dimethyl-3,6-epoxycyclohexane-1,2-dicarboxylic anhydride)
· Transport hazard class(es)	
· ADR, IMDG, IATA	
	
· Class	6.1 Toxic substances.
· Label	6.1
· Packing group	
· ADR, IMDG, IATA	I

(Contd. on page 7)

Safety data sheet

according to Regulation (EC) No. 1907/2006

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Revision: 20.06.2012

Trade name: Cantharidin for biochemistry

(Contd. of page 6)

· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Toxic substances.
· Danger code (Kemler):	66
· EMS Number:	F-A,S-A
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	0
· Tunnel restriction code	C/E
· UN "Model Regulation":	UN2811, TOXIC SOLID, ORGANIC, N.O.S. ((1R,2S,3R,6S)-1,2-dimethyl-3,6-epoxycyclohexane-1,2-dicarboxylic anhydride), 6.1, I

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations:**
- **Information about limitation of use:**
Employment restrictions concerning juveniles must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.
In dealing with chemicals the national laws must be observed.
- **Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
Very toxic by inhalation and if swallowed.
Very toxic in contact with skin.
Very toxic in contact with skin and if swallowed.
- **Department issuing MSDS:** Department: Health, Safety and Environment
- **Contact:** Herr Heine
- **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)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
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
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
- *** Data compared to the previous version altered.**