

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name : Cryptotanshinone

Product Number : C5624

Brand : Sigma

CAS-No. : 35825-57-1

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

Identified uses : Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.
3050 Spruce Street
ST. LOUIS MO 63103
UNITED STATES

Telephone : +1 314 771-5765

Fax : +1 800 325-5052

1.4 Emergency telephone number

Emergency Phone # : (314) 776-6555

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 3), H301
Acute aquatic toxicity (Category 1), H400
Chronic aquatic toxicity (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H301
H410

Toxic if swallowed.
Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P264
P270
P273
P301 + P310

Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Avoid release to the environment.
IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P321	Specific treatment (see supplemental first aid instructions on this label).
P330	Rinse mouth.
P391	Collect spillage.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms : Cryptotanshinon
Tanshinone C
1,2,6,7,8,9-hexahydro-1,6,6-trimethyl-(R)-phenanthro(1,2-b)furan-10,11-dione

Formula : C₁₉H₂₀O₃
Molecular weight : 296.36 g/mol
CAS-No. : 35825-57-1

Hazardous components

Component	Classification	Concentration
(R)-(-)1,6,6-Trimethyl-1,2,6,7,8,9-hexahydrophenanthro(1,2-b)furan-10,11-dione		
	Acute Tox. 3; Aquatic Acute 1; Aquatic Chronic 1; H301, H410	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of 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.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

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

For personal protection see section 8.

6.2 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.

6.3 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.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 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.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

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

Recommended storage temperature 2 - 8 °C

Hygroscopic. Light sensitive.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

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

Personal protective equipment

Eye/face 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 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.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industria situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

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.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use (EN 143) respirator cartridges as a backup to engineering controls. If th full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- | | |
|---|-----------------------|
| a) Appearance | Form: solid |
| b) Odour | No data available |
| c) Odour Threshold | No data available |
| d) pH | No data available |
| e) Melting point/freezing point | 176.33 °C (349.39 °F) |
| f) Initial boiling point and boiling range | No data available |
| g) Flash point | ()No data available |
| h) Evaporation rate | No data available |
| i) Flammability (solid, gas) | No data available |
| j) Upper/lower flammability or explosive limits | No data available |
| k) Vapour pressure | No data available |
| l) Vapour density | No data available |
| m) Relative density | No data available |
| n) Water solubility | No data available |
| o) Partition coefficient: n-octanol/water | log Pow: 5.09 |
| p) Auto-ignition temperature | No data available |
| q) Decomposition temperature | No data available |
| r) Viscosity | No data available |

- s) Explosive properties No data available
t) Oxidizing properties No data available

9.2 Other safety information

No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides
In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

No data available((R)-(-)1,6,6-Trimethyl-1,2,6,7,8,9-hexahydrophenanthro(1,2-b)furan-10,11-dione)
Inhalation: No data available((R)-(-)1,6,6-Trimethyl-1,2,6,7,8,9-hexahydrophenanthro(1,2-b)furan-10,11-dione)
Dermal: No data available((R)-(-)1,6,6-Trimethyl-1,2,6,7,8,9-hexahydrophenanthro(1,2-b)furan-10,11-dione)
TDLo Oral - Rat - 600 mg/kg((R)-(-)1,6,6-Trimethyl-1,2,6,7,8,9-hexahydrophenanthro(1,2-b)furan-10,11-dione)
Remarks: Biochemical:Metabolism (intermediary): Effect on inflammation or mediation of inflammation.

Skin corrosion/irritation

No data available((R)-(-)1,6,6-Trimethyl-1,2,6,7,8,9-hexahydrophenanthro(1,2-b)furan-10,11-dione)

Serious eye damage/eye irritation

No data available((R)-(-)1,6,6-Trimethyl-1,2,6,7,8,9-hexahydrophenanthro(1,2-b)furan-10,11-dione)

Respiratory or skin sensitisation

No data available((R)-(-)1,6,6-Trimethyl-1,2,6,7,8,9-hexahydrophenanthro(1,2-b)furan-10,11-dione)

Germ cell mutagenicity

No data available((R)-(-)1,6,6-Trimethyl-1,2,6,7,8,9-hexahydrophenanthro(1,2-b)furan-10,11-dione)

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((R)-(-)1,6,6-Trimethyl-1,2,6,7,8,9-hexahydrophenanthro(1,2-b)furan-10,11-dione)

No data available((R)-(-)1,6,6-Trimethyl-1,2,6,7,8,9-hexahydrophenanthro(1,2-b)furan-10,11-dione)

Specific target organ toxicity - single exposure

No data available((R)-(-)1,6,6-Trimethyl-1,2,6,7,8,9-hexahydrophenanthro(1,2-b)furan-10,11-dione)

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available((R)-(-)1,6,6-Trimethyl-1,2,6,7,8,9-hexahydrophenanthro(1,2-b)furan-10,11-dione)

Additional Information

RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.((R)-(-)1,6,6-Trimethyl-1,2,6,7,8,9-hexahydrophenanthro(1,2-b)furan-10,11-dione)

12. ECOLOGICAL INFORMATION**12.1 Toxicity**

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available((R)-(-)1,6,6-Trimethyl-1,2,6,7,8,9-hexahydrophenanthro(1,2-b)furan-10,11-dione)

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 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**13.1 Waste treatment methods****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 chem scrubber.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**DOT (US)**

UN number: 2811

Class: 6.1

Packing group: III

Proper shipping name: Toxic solids, organic, n.o.s. ((R)-(-)1,6,6-Trimethyl-1,2,6,7,8,9-hexahydrophenanthro(1,2-b)furan-10,11-dione)

Poison Inhalation Hazard: No

IMDG

UN number: 2811

Class: 6.1

Packing group: III

EMS-No: F-A, S-A

Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. ((R)-(-)1,6,6-Trimethyl-1,2,6,7,8,9-hexahydrophenanthro(1,2-b)furan-10,11-dione)
Marine pollutant : yes

IATA

UN number: 2811 Class: 6.1 Packing group: III
Proper shipping name: Toxic solid, organic, n.o.s. ((R)-(-)1,6,6-Trimethyl-1,2,6,7,8,9-hexahydrophenanthro(1,2-b)furan-10,11-dione)

15. REGULATORY INFORMATION

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
(R)-(-)1,6,6-Trimethyl-1,2,6,7,8,9-hexahydrophenanthro(1,2-b)furan-10,11-dione	35825-57-1	

New Jersey Right To Know Components

	CAS-No.	Revision Date
(R)-(-)1,6,6-Trimethyl-1,2,6,7,8,9-hexahydrophenanthro(1,2-b)furan-10,11-dione	35825-57-1	

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

Full text of H-Statements referred to under sections 2 and 3.

H301	Toxic if swallowed.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

HMIS Rating

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

NFPA Rating

Health hazard:	2
Fire Hazard:	0
Reactivity Hazard:	0

Further information

Copyright 2016 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling

or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

Preparation Information

Sigma-Aldrich Corporation
Product Safety – Americas Region

1-800-521-8956

Version: 6.0

Revision Date: 05/28/2017

Print Date: 11/21/2018