**Safety Data Sheet**

according to Regulation (EC) No 1907/2006 (REACH)
Classifications according to Regulation (EC) No 1272/2008.
Printdate 16 Aug 2022

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product name:

Cadusafos

### 1.1. Catalog No.:

673219

### 1.2. Relevant identified uses of the substance or mixture

Identified: Laboratory chemical
uses: R&D

### 1.3. Uses advised against:

HPC Standards GmbH
Am Wieseneck 7

04451 Cunnersdorf
Deutschland

Tel. +49 34291 3372-36
Fax. +49 34291 3372-39
contact@hpc-standards.com

### 1.4. Emergency telephone number

HPC Standards Tel. +49 34291 3372-36
This number is only available during office hours.

## 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
Acute toxicity, Oral (Category 2), H300
Acute toxicity, Inhalation (Category 1), H330
Acute toxicity, Dermal (Category 1), H310
Acute aquatic toxicity (Category 1), H400 Classification according to EU Directives 67/548/EEC or 1999/45/EC
T+ Very toxic R25, R26, R27, R50/53

### 2.2. Label elements

### 2.2.1. Pictogram

### 2.2.2.

2.2 Label elements
Labelling according Regulation (EC) No 1272/2008

Pictogram Signal word Danger
Hazard statement(s)
H300 + H310 + H330 Fatal if swallowed, in contact with skin or if inhaled
H400 Very toxic to aquatic life Precautionary statement(s)
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash hands thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing.
P284 Wear respiratory protection.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
Supplemental Hazard
Statements
none
2.3 Other hazards - none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
Synonyms : S,S-di-sec-butyl O-ethyl phosphorodithioate
O-Ethyl S,S-bis(1-methylpropyl) phosphorodithioate
Formula : C10H23O2PS2
Molecular weight : 270,39 g/mol
CAS-No. : 95465-99-9
Hazardous ingredients according to Regulation (EC) No 1272/2008
Component Classification Concentration
S,S-di-sec-butyl O-ethyl phosphorodithioate
CAS-No.
95465-99-9
Acute Tox. 2; Acute Tox. 1;
Aquatic Acute 1; H300 + H310
+ H330, H400
<= 100 %
Hazardous ingredients according to Directive 1999/45/EC
Component Classification Concentration
S,S-di-sec-butyl O-ethyl phosphorodithioate
CAS-No.
95465-99-9
T+, R25 - R26 - R27 - R50/53 <= 100 %

### 3.1.1. Formula

C10H23O2PS2

### 3.1.2. Molecular Weight (g/mol)

270.39

**3.1.3. CAS-No.**

95465-99-9

## 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.
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. FIRE-FIGHTING 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, Sulphur oxides, Oxides of phosphorus
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 breathing vapours, mist or gas. Ensure adequate ventilation.
Evacuate personnel to safe areas.
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
Soak up with inert absorbent material and dispose of as hazardous waste. 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 inhalation of vapour or mist.
Normal measures for preventive fire protection.
For precautions see section 2.2.
7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. 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.
Recommended storage temperature 2 - 8 °C
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
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. 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 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).
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: liquid
Colour: colourlessyellow
b) Odour No data available
c) Odour Threshold No data available
d) pH No data available
e) Melting point/freezing point
No data available
f) Initial boiling point and boiling range
112 - 114 °C at 1,1 hPa
g) Flash point 129,4 °C
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 1,054 g/cm3 at 20 °C
n) Water solubility 0,248 g/l
o) Partition coefficient: noctanol/
water
Pow: 3,9 at 20 °C
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 acids and oxidizing agents
10.6 Hazardous decomposition products
Other decomposition products - No data available
In the event of fire: see section 5

## 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Acute toxicity
LD50 Oral - Rat - 37,1 mg/kg
LD50 Oral - Mouse - 71,4 mg/kg
LC50 Inhalation - Rat - 4 h - 0,026 mg/l
LD50 Dermal - Rabbit - male - 24,4 mg/kg
LD50 Dermal - Rabbit - female - 41,8 mg/kg
Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation
Serious eye damage/eye irritation
Eyes - Rabbit
Result: No eye irritation
Respiratory or skin sensitisation
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.
Reproductive toxicity
No data available
Specific target organ toxicity - single exposure

No data available
Specific target organ toxicity - repeated exposure
No data available Aspiration hazard
No data available
Additional Information
RTECS: Not available
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
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## 12. ECOLOGICAL INFORMATION

12.1 Toxicity
Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 0,13 mg/l - 96,0 h
LC50 - Lepomis macrochirus (Bluegill sunfish) - 0,17 mg/l - 96,0 h
Toxicity to daphnia and
other aquatic
invertebrates
LC50 - Daphnia (water flea) - 0,0013 mg/l - 48 h
Toxicity to algae EC50 - Algae - 5,3 mg/l - 96 h
12.2 Persistence and degradability
12.3 Bioaccumulative potential
No data available
12.4 Mobility in soil
No data available
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
Very toxic to aquatic life

## 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.
Contaminated packaging
Dispose of as unused product.

## 14. TRANSPORT INFORMATION

14.1 UN number
ADR/RID: 3381 IMDG: 3381 IATA: 3381
14.2 UN proper shipping name
ADR/RID: TOXIC BY INHALATION LIQUID, N.O.S. (S,S-di-sec-butyl O-ethyl phosphorodithioate)
IMDG: TOXIC BY INHALATION LIQUID, N.O.S. (S,S-di-sec-butyl O-ethyl phosphorodithioate)
IATA: Toxic by inhalation liquid, n.o.s. (S,S-di-sec-butyl O-ethyl phosphorodithioate)
Passenger Aircraft: Not permitted for transport
Cargo Aircraft: Not permitted for transport

14.3 Transport hazard class(es)
ADR/RID: 6.1 IMDG: 6.1 IATA: 6.1
14.4 Packaging group
ADR/RID: I IMDG: I IATA: - 14.5 Environmental hazards
ADR/RID: no IMDG Marine pollutant: no IATA: no
14.6 Special precautions for user
No data available

## 15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
No data available
15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out

## 16. OTHER INFORMATION

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. For lab use only!