

## Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)  
Classifications according to Regulation (EC) No 1272/2008.  
Printdate 30 May 2024

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

#### 1.1. Product name:

Triforine

#### 1.1. Catalog No.:

691878

#### 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  
Flammable liquids (Category 2), H225  
Eye irritation (Category 2), H319  
Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336

#### 2.2. Label elements

##### 2.2.1. Pictogram



##### 2.2.2.

Signal word Danger  
Hazard statement(s)  
H225 Highly flammable liquid and vapour.  
H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

Precautionary statement(s)

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P370 + P378 In case of fire: Use dry powder or dry sand to extinguish.

P403 + P235 Store in a well-ventilated place. Keep cool.

Supplemental Hazard information (EU)

EUH066 Repeated exposure may cause skin dryness or cracking.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Formula : C<sub>3</sub>H<sub>6</sub>O

Molecular Weight : 58,08 g/mol

CAS-No. : 67-64-1

EC-No. : 200-662-2

Index-No. : 606-001-00-8

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component Classification Concentration

Acetone

CAS-No.

EC-No.

Index-No.

67-64-1

200-662-2

606-001-00-8

Flam. Liq. 2; Eye Irrit. 2; STOT

SE 3; H225, H319, H336

<= 100 %

Hazardous ingredients according to Directive 1999/45/EC

Component Classification Concentration

Acetone

CAS-No.

EC-No.

Index-No.

67-64-1

200-662-2

606-001-00-8

F, Xi, R11 - R36 - R66 - R67 <= 100 %

#### 3.1.1. Formula

C<sub>10</sub>H<sub>14</sub>Cl<sub>6</sub>N<sub>4</sub>O<sub>2</sub>

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

434.96

### 3.1.3. CAS-No.

26644-46-2

## 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. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Do NOT induce vomiting. 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

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

Use water spray to cool unopened containers.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low 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.

#### 6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

#### 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.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

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.

Storage class (TRGS 510): Flammable liquids

### 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

### 8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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 gloves 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.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection

Impervious clothing, Flame retardant antistatic protective clothing., 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 (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engine 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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

- a) Appearance Form: liquid, clear  
Colour: colourless
  - b) Odour no data available
  - c) Odour Threshold no data available
  - d) pH no data available
  - e) Melting point/freezingpoint  
Melting point/range: -94 °C
  - f) Initial boiling point and boiling range 56 °C  
at 1,013 hPa
  - g) Flash point -17,0 °C - closed cup
  - h) Evaporation rate no data available
  - i) Flammability (solid, gas) no data available
  - j) Upper/lower flammability or explosive limits  
Upper explosion limit: 13 %(V)  
Lower explosion limit: 2 %(V)
  - k) Vapour pressure 533,3 hPa at 39,5 °C 245,3 hPa  
at 20,0 °C
  - l) Vapour density no data available
  - m) Relative density 0,791 g/mL at 25 °C
  - n) Water solubility completely miscible
  - o) Partition coefficient: noctanol/water  
log Pow: -0,24
  - p) Auto-ignition temperature 465,0 °C
  - 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
- Surface tension 23,2 mN/m at 20,0 °C

## 10. STABILITY AND REACTIVITY

- 10.1 Reactivity  
no data available
- 10.2 Chemical stability  
no data available
- 10.3 Possibility of hazardous reactions  
no data available
- 10.4 Conditions to avoid  
Heat, flames and sparks. Extremes of temperature and direct sunlight.
- 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  
LD50 Oral - Rat - 5,800 mg/kg(Acetone)  
Remarks: Behavioral:Altered sleep time (including change in righting reflex). Behavioral:Tremor.  
Behavioral:Headache. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.  
LC50 Inhalation - Rat - 8 h - 50,100 mg/m3(Acetone)  
Remarks: Drowsiness Dizziness Unconsciousness  
LD50 Dermal - Guinea pig - 7,426 mg/kg(Acetone)  
Skin corrosion/irritation  
Skin - Rabbit(Acetone)

Result: Mild skin irritation - 24 h  
Serious eye damage/eye irritation  
Eyes - Rabbit(Acetone)  
Result: Eye irritation - 24 h  
Respiratory or skin sensitisation  
- Guinea pig(Acetone)  
Result: Does not cause skin sensitisation.  
Germ cell mutagenicity  
No data available(Acetone)  
Carcinogenicity  
This product is or contains a component that is not classifiable as to its classification.(Acetone)  
(Acetone)  
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(Acetone)  
Specific target organ toxicity - single exposure  
May cause drowsiness or dizziness.(Acetone)  
Specific target organ toxicity - repeated exposure  
No data available  
Aspiration hazard  
No data available(Acetone)  
Additional Information  
RTECS: Not available  
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.(Acetone)  
Kidney - Irregularities - Based on Human Evidence(Acetone)  
Skin - Dermatitis - Based on Human Evidence(Acetone)

## 12. ECOLOGICAL INFORMATION

12.1 Toxicity  
Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 5,540 mg/l - 96 h(Acetone)  
Toxicity to daphnia and other aquatic invertebrates  
LC50 - Daphnia magna (Water flea) - 8,800 mg/l - 48 h(Acetone)  
Toxicity to algae Remarks: No data available  
12.2 Persistence and degradability  
Biodegradability Result: 91 % - Readily biodegradable.  
(OECD Test Guideline 301B)  
12.3 Bioaccumulative potential  
Does not bioaccumulate.  
12.4 Mobility in soil  
No data available(Acetone)  
12.5 Results of PBT and vPvB assessment  
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.  
12.6 Other adverse effects  
No data available

## 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods  
Product  
Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.  
Contaminated packaging  
Dispose of as unused product.

#### 14. TRANSPORT INFORMATION

14.1 UN number  
ADR/RID: 1090 IMDG: 1090 IATA: 1090  
14.2 UN proper shipping name  
ADR/RID: ACETONE  
IMDG: ACETONE  
IATA: Acetone  
14.3 Transport hazard class(es)  
ADR/RID: 3 IMDG: 3 IATA: 3  
14.4 Packaging group  
ADR/RID: II IMDG: II IATA: II  
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

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture  
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.  
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!