

## Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)  
Classifications according to Regulation (EC) No 1272/2008.  
Printdate 02 Aug 2024

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

### 1.1. Product name:

1,3-Dioxane

### 1.1. Catalog No.:

686088

### 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

Classification according to Regulation (EC) No 1272/2008  
Flammable liquids (Category 2), H225  
Acute toxicity, Oral (Category 4), H302  
Acute toxicity, Inhalation (Category 4), H332  
Acute toxicity, Dermal (Category 4), H312  
For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2. Label elements

#### 2.2.1. Pictogram



#### 2.2.2.

Labelling according Regulation (EC) No 1272/2008  
Pictogram  
Signal Word Danger

Hazard statement(s)

H225 Highly flammable liquid and vapor.

H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.

Precautionary statement(s)

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

P233 Keep container tightly closed.

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

P301 + P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

Supplemental Hazard Statements

none

Reduced Labeling (<= 125 ml)

Pictogram

Signal Word Danger

Hazard statement(s) none

Precautionary statement(s)

none

Supplemental Hazard Statements

none

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

Synonyms : Formaldehyde trimethylene acetal

Formula : C<sub>4</sub>H<sub>8</sub>O<sub>2</sub>

Molecular weight : 88,11 g/mol

CAS-No. : 505-22-6

EC-No. : 208-005-1

Component: 1,3-Dioxane CAS-No. : 505-22-6, EC-No. : 208-005-1

Classification: Flam. Liq. 2; Acute Tox. 4; H225, H302, H332, H312

Concentration: <= 100 %

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

#### 3.1.1. Formula

C<sub>4</sub>H<sub>8</sub>O<sub>2</sub>

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

88.11

### 3.1.3. CAS-No.

505-22-6

## 4. FIRST AID MEASURES

### 4.1 Description of first-aid measures

#### General advice

Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration. Oxygen if necessary. Immediately call in physician.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Remove contact lenses.

#### If swallowed

After swallowing: immediately make victim drink water (two glasses at most). 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

Water Foam Carbon dioxide (CO<sub>2</sub>) Dry powder

#### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

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

#### Carbon oxides

Combustible.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapours possible in the event of fire.

Forms explosive mixtures with air at ambient temperatures.

### 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## 6. ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures  
Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.  
For personal protection see section 8.
- 6.2 Environmental precautions  
Do not let product enter drains. Risk of explosion.
- 6.3 Methods and materials for containment and cleaning up  
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.
- 6.4 Reference to other sections  
For disposal see section 13.

## 7. HANDLING AND STORAGE

- 7.1 Precautions for safe handling  
Advice on safe handling  
Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.  
Advice on protection against fire and explosion  
Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.  
Hygiene measures  
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.  
For precautions see section 2.2.
- 7.2 Conditions for safe storage, including any incompatibilities  
Storage conditions  
Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.  
Storage class  
Storage class (TRGS 510): 3: 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  
Ingredients with workplace control parameters
- 8.2 Exposure controls  
Personal protective equipment  
Eye/face protection  
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses  
Skin protection  
required  
Body Protection  
Flame retardant antistatic protective clothing.  
Respiratory protection  
required when vapours/aerosols are generated.  
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.  
Recommended Filter type: Filter type ABEK  
The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.  
These measures have to be properly documented.  
Control of environmental exposure  
Do not let product enter drains. Risk of explosion.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

- a) Physical state clear, liquid
  - b) Color colorless
  - c) Odor No data available
  - d) Melting point/freezing point  
Melting point/range: -45 °C - lit.
  - e) Initial boiling point and boiling range  
105 - 106 °C - lit.
  - f) Flammability (solid, gas)  
No data available
  - g) Upper/lower flammability or explosive limits  
No data available
  - h) Flash point 5 °C - closed cup
  - i) Autoignition temperature  
No data available
  - j) Decomposition temperature  
No data available
  - k) pH No data available
  - l) Viscosity Viscosity, kinematic: No data available  
Viscosity, dynamic: No data available
  - m) Water solubility No data available
  - n) Partition coefficient: n-octanol/water  
No data available
  - o) Vapor pressure No data available
  - p) Density 1,032 g/cm<sup>3</sup> at 25 °C - lit.  
Relative density No data available
  - q) Relative vapor density  
No data available
  - r) Particle characteristics  
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  
Vapors may form explosive mixture with air.
- 10.2 Chemical stability  
The product is chemically stable under standard ambient conditions (room temperature) .  
Stable under recommended storage conditions.
- 10.3 Possibility of hazardous reactions  
No data available
- 10.4 Conditions to avoid  
Warming.
- 10.5 Incompatible materials  
Strong oxidizing agents
- 10.6 Hazardous decomposition products  
In the event of fire: see section 5

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

Oral: No data available

LD50 Oral - 500,1 mg/kg

LC50 Inhalation - 4 h - 11 mg/l - vapor

(Acute toxicity estimate)

LD50 Dermal - 1.100 mg/kg

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

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

### 11.2 Additional Information

Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain

components considered to have endocrine

disrupting properties according to REACH Article

57(f) or Commission Delegated regulation (EU)

2017/2100 or Commission Regulation (EU)

2018/605 at levels of 0.1% or higher.

RTECS: JG8224000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## 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

### 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 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components

considered to have endocrine disrupting properties

according to REACH Article 57(f) or Commission

Delegated regulation (EU) 2017/2100 or Commission

Regulation (EU) 2018/605 at levels of 0.1% or higher.

### 12.7 Other adverse effects

No data available

### 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods  
No data available

### 14. TRANSPORT INFORMATION

14.1 UN number  
ADR/RID: 1165 IMDG: 1165 IATA: 1165  
14.2 UN proper shipping name  
ADR/RID: DIOXANE  
IMDG: DIOXANE  
IATA: Dioxane  
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  
Tunnel restriction code : (D/E)  
Further information : No data available

### 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture  
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.  
National legislation  
Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.  
P5c  
FLAMMABLE LIQUIDS  
Other regulations  
Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.  
Take note of Dir 94/33/EC on the protection of young people at work.  
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!