

## Material Safety Data Sheet

according to Regulation (EC) No. 1907/2006

### BICYCLO[2.2.2]OCTANE-2,3,5,6-TETRACARBOXYLIC ACID

Revision date 03.11.2020  
Version 1  
Replaces version from -

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## 1. Identification of the substance/Mixture and of the company/undertaking

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### 1.1 Product identifier

Product name Bicyclo[2.2.2]octane-2,3,5,6-tetracarboxylic acid  
CAS-No. 7398-89-2  
EC-No. Not classified

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

Identified uses Intermediate for the chemical industry.

### 1.3 Details of the supplier of the safety data sheet

Name Valsynthese SA  
Factory address Valsynthese SA  
Fabrikstrasse 48  
PO Box 636  
3900 Brig / Switzerland  
Office address Valsynthese SA  
Societe Suisse des Explosifs Group  
PO Box 636  
3900 Brig / Switzerland

Information Departement This number is available only during office hours.  
Phone +41 27 922 71 11  
E-Mail (Responsible person):  
msds@sse-group.com

**1.4 Emergency Phone Number** +41 27 922 71 11 (only during office hours) or  
Toxicological Information Centre in Switzerland: Tel. 145  
or +41 (0) 44 251 51 51

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## 2. Hazards Identification

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### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation Skin Irrit. 2), H315  
Serious eye damage/eye irritation (Eye Irrit. 2), H319  
STOT-single exposure (STOT SE 3), H335

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

### 2.2 Label elements

#### Labelling according Regulation (EC) No 1272/2008

Hazard pictogram(s)



Signal word

Warning

Hazard statement(s)

H315

Causes skin irritation.

H319

Causes serious eye irritation.

H335

May cause respiratory irritation.

Precautionary statement(s)

P280

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

P302+P352

IF ON SKIN: Wash with plenty of water/Soap.

P304+P340

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338

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

P332+P313

If skin irritation occurs: Get medical advice/attention.

P337+P313

If eye irritation persists: Get medical advice/attention.

### 2.3 Other hazards

No data available

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### 3. Composition / Information on ingredients

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#### 3.1 Substance

|                   |   |
|-------------------|---|
| Product name      | Bicyclo[2.2.2]octane-2,3,5,6-tetracarboxylic acid |
| Common name       | HBTC  |
| Molecular formula | C <sub>12</sub> H <sub>14</sub> O <sub>8</sub>    |
| Molecular weight  | 286.24 g/mol                                      |
| CAS-No.           | 7398-89-2   |
| EC-No.            | Not classified                                    |

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

| Component  | Classification | Concentration                                      |
|--|----------------|--|
| <b>Bicyclo[2.2.2]octane-2,3,5,6-tetracarboxylic acid</b> |                |  |
| CAS-No.  | 7398-89-2      | Skin Irrit. 2; Eye Irrit. 2; STOT SE 3;<br>< =100% |
| EC-No.   | n.a            |  |

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

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### 4. First-aid measures

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#### 4.1 Description of first aid measures

|                         |   |
|-------------------------|---|
| General advice          | Consult a physician. Show this safety data sheet to the doctor in attendance.                                   |
| If swallowed            | Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.             |
| 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.                          |

#### 4.2 Most important symptoms and effects, both acute and delayed

Skin corrosion/irritation Serious eye damage/eye irritation Irritation to respiratory tract.

#### 4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

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## 5. Fire fighting measures

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### 5.1 Extinguishing media

Suitable extinguishing media      Co-ordinate fire-fighting measures to the fire surroundings.  
Water spray jet, alcohol resistant foam, Carbon dioxide (CO<sub>2</sub>). Dry extinguishing powder.

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

In case of fire: Gases/vapours, toxic, Carbon dioxide (CO<sub>2</sub>), Carbon monoxide.

### 5.3 Advice for fire fighters

Wear a self-contained breathing apparatus and chemical protective clothing.

### 5.4 Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

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## 6. Accidental release measures

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

Remove persons to safety.

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

### 6.2 Environmental precautions

Do not allow to enter into surface water or drains.

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

Take up mechanically, placing in appropriate containers for disposal. Dispose of the residus of the product as hazardous waste.

### 6.4 Reference to other sections

For further and detailed information see section 8 and 13.

### 6.5 Additional Information

Use appropriate container to avoid environmental contamination.

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## 7. Handling and storage

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### 7.1 Precautions for safe handling

Wear personal protection equipment.

Dust should be exhausted directly at the point of origin.

When using do not eat, drink or smoke. Avoid contact with eyes and skin.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a cool, well-ventilated place.

Do not store together with acide or basique substances. Keep away from oxidising agents.

### 7.3 Specific end use(s)

No data available

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## 8. Exposure controls / Personal protection

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### 8.1 Control parameters

No data available

### 8.2 Exposure controls

#### Appropriate engineering controls

Provide adequate ventilation as well as local exhaustion at critical locations.

#### Personal protective equipment

|                                 |   |
|---------------------------------|---|
| Eye/face protection             | Safety glasses with side-shields conforming to EN166 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.<br><br>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                 | 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          | In case of inadequate ventilation wear respiratory protection. Full-/half-/quarter-face masks (DIN EN 136/140) Filter type: Filter P2 or P3 (DIN EN 143).   |
| Environmental exposure controls | No data available   |

### 8.3 Additional information

No data available

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## 9. Physical and chemical properties

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### 9.1 Information on basic physical and chemical properties

|  |                        |
|--|------------------------|
| Appearance                                   | White powder           |
| Odour  | No data available      |
| Odour threshold                              | No data available      |
| pH value                                     | No data available      |
| Melting point                                | 102 °C                 |
| Initial boiling point and boiling range      | No data available      |
| Flash point                                  | No data available      |
| Evaporation rate                             | No data available      |
| Flammability (solid, gas)                    | No data available      |
| Upper/lower flammability or explosive limits | No data available      |
| Vapour pressure                              | No data available      |
| Relative density                             | No data available      |
| Water solubility                             | 0.4 g/l                |
| Solubility(ies)                              | 30 g/l in acetonitrile |
| Partition coefficient: n-octanol/water       | No data available      |
| Auto-ignition temperature                    | No data available      |
| Decomposition temperature                    | No data available      |
| Viscosity                                    | No data available      |
| Explosive properties                         | No data available      |
| Oxidizing properties                         | No data available      |

### 9.2 Other information

No data available

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## 10. Stability and reactivity

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### 10.1 Reactivity

No data available

### 10.2 Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

### 10.3 Possibility of hazardous reactions

No data available

#### 10.4 Conditions to avoid

No data available

#### 10.5 Incompatible materials

No data available

#### 10.6 Hazardous decomposition products

No data available

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## 11. Toxicological information

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### 11.1 Information on toxicological effects

|                                   |                                   |
|-----------------------------------|-----------------------------------|
| Acute toxicity                    | No data available                 |
| Skin corrosion/irritation         | Causes skin irritation.           |
| Serious eye damage/eye irritation | Causes serious eye irritation.    |
| Respiratory or skin sensitisation | No data available                 |
| Germ cell mutagenicity            | No data available                 |
| Carcinogenicity                   | No data available                 |
| Reproductive toxicity             | No data available                 |
| STOT-single exposure              | May cause respiratory irritation. |
| STOT-repeated exposure            | No data available                 |
| Aspiration hazard                 | No data available                 |

### Additional information

No data available

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## 12. Ecological information

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### 12.1 Toxicity

No data available

### 12.2 Persistence and degradability

No data available

### 12.3 Bioaccumulation potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

No data available

### 12.6 Other adverse effects

No data available

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## 13. Disposal considerations

### 13.1 Waste treatment methods

The product may not be eliminated as municipal solid waste nor allowed to end up in the drainage system. These packs can be delivered packaging-specific to the existing collection points for hazardous waste

### Contaminated packaging

Dispose of as unused product.

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## 14. Transport information

### 14.1 UN Number

ADR/RID: -                                      IMDG: -                                      IATA: -

### 14.2 UN proper shipping name

ADR/RID: Not dangerous              IMDG: Not dangerous goods      IATA: Not dangerous goods  
goods

### 14.3 Transport hazard class(es)

ADR/RID: -                                      IMDG: -                                      IATA: -

### 14.4 Packing group

ADR/RID: -                                      IMDG: -                                      IATA: -

### 14.5 Environmental hazards

ADR/RID: -                                      IMDG Marine pollutant: -              IATA: -

### 14.6 Special precautions for user

No data available

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available



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## 15. Regulatory information

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### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### EU legislation authorisations

REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

COMMISSION REGULATION (EC) No 790/2009 of 10 August 2009 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures.

DIRECTIVE 1999/45/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations.

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

### 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

### 15.3 Additional information

No data available

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## 16. Other information

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### 16.1 Information regarding the revision of the safety data sheet

\* Data compared to the previous version altered.

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

|             |                                   |
|-------------|-----------------------------------|
| Skin Irrit. | Skin corrosion/irritation         |
| Eye Irrit.  | Serious eye damage/eye irritation |
| STOT SE     | STOT-single exposure              |
| H315        | Causes skin irritation.           |
| H319        | Causes serious eye irritation.    |
| H335        | May cause respiratory irritation. |

### **16.3 Additional information**

The information contained herein is in conformity with EU Directive EC 1907/2006 and EC 1272/2008, and is believed to be accurate and represents the best information currently available to us on the date of publication. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Valsynthese SA be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Valsynthese SA has been advised of the possibility of such damages.

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