VALSYNTHESE

Material Safety Data Sheet

according to Regulation (EC) No. 1907/2006

HEXAHYDRO-4,8-ETHANO-1H,3H-BENZO(1,2-C:4,5-C')DIFURAN-1,3,5,7-TETRONE

Revision date	15.02.2021
Version	2
Replaces version from	19.06.2020

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

1.1 Product identifier

Product name	Hexahydro-4,8-ethano-1H,3H-benzo(1,2-C:4,5-C')difuran-1,3,5,7-tetrone
CAS-No.	2754-40-7
EC-No.	220-406-3

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

Identified uses	Additive or 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 Department	This number is available only during office hours. Phone +41 27 922 71 11 E-Mail (Responsible person): msds@explosif.ch
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

2. Hazards Identification

2.1 Classification of the substance or mixture

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

Skin corrosion/irritation (Category 2), H315
Serious eye damage/eye irritation (Category 2), H319
Specific target organ toxicity– single exposure (Category 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.
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

None known

3. Composition / Information on ingredients

3.1 Substance

Product name	Hexahydro-4,8-ethano-1H,3H-benzo(1,2-C:4,5-C')difuran-1,3,5,7-tetrone
Molecular formula	$C_{12}H_{10}O_6$
Molecular weight	250.20 g/mol
Cas-No.	2754-40-7
EC-No.	220-406-3

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

Component	Classification	Concentration
Hexahydro-4,8-ethano-1H,3H-benzo(1,2-C:4,5-C')difuran-1,3,5,7-tetrone		
CAS-No. 2754-40-7 EC-No. 220-406-3	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315; H319; H335	<=100%

For the full text of the H-Statements and R-Phrases 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.
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. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	Co-ordinate fire-fighting measures to the fire surroundings. Water spray jet, alcohol resistant foam, Carbon dioxide (CO2). Dry extinguishing powder.

5.2 Special hazards arising from the substance or mixture

In case of fire: Gases/vapours, toxic, Carbon dioxide (CO2), 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.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: Remove persons to safety

Protective equipment: 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.

7. Handling and storage

7.1 Precautions for safe handling

Protective measures

Advices on safe handling: Wear personal protection equipment (refer to section 8).

Measures to prevent aerosol and dust generation: Dust should be exhausted directly at the point of origin.

Advices on general occupational hygiene: When using do not eat, drink or smoke. Avoid contact with eyes and skin.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions: Keep container tightly closed in a cool, well-ventilated place.

Hints on storage assembly: Do not store together with acide or basique substances. Keep away from oxidising agents.

Storage class: 11 – Combustible solids that cannot be assigned to any of the above storage classes.

7.3 Specific end use(s)

No data available

8. Exposure controls / Personal protection

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	Eye glasses with side protection DIN EN 166.
Skin protection	Use protective gloves in accordance to EN 374. The following material is suitable: NBR.
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

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	solid, white powder
Odour	Acetic acid
Odour threshold	No data available
pH value	No data available
Melting point/freezing point	373° C
Initial boiling point and	No data available

boiling range	
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
Solubility(ies)	0.4 g/l at 20° C
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

10. Stability and reactivity

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

Curing of epoxides.

10.4 Conditions to avoid

Humidity (hydrolysis).

10.5 Incompatible materials

Acids, alkalines, Oxidizing agent.

10.6 Hazardous decomposition products

No data available

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity	Based on available data, the classification criteria are not met.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitisation	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.
Reproductive toxicity	Based on available data, the classification criteria are not met.
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.

Additional information

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

12. Ecological information

12.1 Toxicity

Based on available data, the classification criteria are not met.

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

The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6 Other adverse effects

No data available

13. Disposal considerations

13.1 Waste treatment methods

Product

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 used product in its original packaging as special waste.

14. Transport information

14.1 UN Number

ADR/RID: - IMDG: - IATA: -

14.2 UN proper shipping name

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

15. Regulatory information

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 substance a chemical safety assessment has not been carried out.

15.3 Additional information

No data available

16. Other information

* 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 irritation
Eye Irrit.	Eye irritation
STOT SE	Specific target organ toxicity - single exposure

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

16.4 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.