



Safety Data Sheet
according to 1907/2006/EC, Article 31

Printing date: 03.05.2011

Revision: 03.05.2011

1 Identification of the substance/preparation and of the company/undertaking

Product name: **4-Hydroxy-TEMPO**
CAS-No.: 2226-96-2
Identified uses: Chemical speciality
Manufacturer/Supplier: VUP, a.s.
Nábrežná 4
971 04 Prievidza, Slovakia
Tel: 00421-46-5430841
Fax: 00421-46-5430261
E-mail: kbu@vupas.sk

2 Hazards identification**Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]**

Acute Tox. 4
Skin Irrit. 2
Eye Irrit. 2
STOT Single Exp. 3

Label elements**Pictogram**

Signal word: Warning

Hazard statements:

H302: Harmful if swallowed.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.

Precautionary statements:

P261: Avoid breathing dust
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Classification and labelling according to Directive 67/548/EEC**Hazard description:**

Xi Irritant

Risk Phrases:

R 22 Harmful if swallowed.
R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 36 Wear suitable protective clothing.

(Contd. on page 2)

Product name: **4-Hydroxy-TEMPO**

(Contd. of page 1)

3 Composition/information on ingredients

Synonyms: 4-Hydroxy-2,2,6,6-tetramethylpiperidine 1-oxyl; Tetramethylpiperidinol N-oxyl;

Molecular Formula: C₉H₁₈NO₂

Molecular Weight: 172,24 g/mol g/mol

Name	CAS	EINECS	Classification	Concentration
4-Hydroxy-TEMPO	2226-96-2	218-760-9	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H302; H315; H319; H335; Xi, R36/37	-

For the full text of the H-Statements mentioned in this Section, see Section 2.

4 First aid measures

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

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed

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

Indication of immediate medical attention and special treatment needed

no data available.

5 Fire-fighting measures

Suitable extinguishing agents:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO_x)

Precautions for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

no data available

(Contd. on page 3)

Product name: **4-Hydroxy-TEMPO**

(Contd. of page 2)

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions:

Do not let product enter drains.

Methods and materials for containment and cleaning up:

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Reference to other sections:

For disposal see section 13.

7 Handling and storage

Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature: 2 - 8 °C

8 Exposure controls/personal protection

Ingredients with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Personal protective equipment

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals. Avoid contact with the eyes and skin.

Respiratory protection:

Suitable respiratory protective device recommended.

Protection of hands:

Protective gloves. Material of gloves: PVC gloves, Chloroprene rubber, CR, Nitrile rubber, NBR.

Eye protection:

Tightly sealed goggles.

9 Physical and chemical properties

Appearance

Physical State:	solid
Color:	orange

Safety data

Freezing/Melting Point:	69 - 73 °C
Boiling Point:	Not available.
Decomposition Temperature:	Not available.
Solubility in water:	soluble
Specific Gravity/Density:	Not available.

(Contd. on page 4)

Product name: **4-Hydroxy-TEMPO**

(Contd. of page 3)

10 Stability and reactivity

Reactivity

no data available

Chemical stability

no data available

Possibility of hazardous reactions

no data available

Conditions to avoid

no data available

Incompatible materials

Oxidizing agents

Hazardous decomposition products

Other decomposition products - no data available.

11 Toxicological information

Acute toxicity

LD50 Oral - rat - 1.053 mg/kg

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Other.

Behavioral: Convulsions or effect on seizure threshold. Lungs, Thorax, or Respiration:Dyspnea.

Skin corrosion/irritation: no data available

Serious eye damage/eye irritation. no data available

Respiratory or skin sensitization: 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

Inhalation - May cause respiratory irritation.

Potential health effects

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.

Ingestion: Harmful if swallowed.

Skin: May be harmful if absorbed through skin. Causes skin irritation.

Eyes: Causes serious eye irritation.

Signs and Symptoms of Exposure:

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

Additional Information:

RTECS: TN8991000

12 Ecological information

No data available.

(Contd. on page 5)

Product name: **4-Hydroxy-TEMPO**

(Contd. of page 4)

13 Disposal considerations

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

14 Transport information

Land transport ADR/RID: Not regulated as a hazardous material.

Maritime transport IMDG: Not regulated as a hazardous material.

Air transport ICAO-TI and IATA-DGR: Not regulated as a hazardous material.

15 Regulatory information

This safety datasheet complies with the requirements of Regulation No 1907/2006/EC, Regulation No 1272/2008/EC and Regulation No 453/2010.

16 Other information

This Safety Data Sheet is not a Product Specification. It is based on our present knowledge and experience and it is intended to serve as a guide for safe handling of the product regarding to health and environmental aspects.

Hazard statements:

- H302: Harmful if swallowed.
- H315: Causes skin irritation.
- H319: Causes serious eye irritation.
- H335: May cause respiratory irritation.

Risk Phrases:

- R 22 Harmful if swallowed.
- R 36/37/38 Irritating to eyes, respiratory system and skin.

Abbreviations and acronyms:

- Acute Tox. Acute Toxicity
- Skin Irrit. Skin Irritation
- Eye Irrit. Eye Irritation
- STOT SE specific target organ systemic toxicity following single exposure
- RTECS: Registry of Toxic Effects of Chemical Substances
- ADR: Accord européen sur le transport des marchandises Dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- RID: Règlement internationale concernent le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
- IMDG: International Maritime Code for Dangerous Goods
- ICAO: International Civil Aviation Organization
- ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
- IATA: International Air Transport Association
- IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
- LD₅₀: Median lethal dose