

MATERIAL SAFETY DATA SHEET
2-HYDROXY-GAMMA-BUTYROLACTONE 99%

Section 1 - Chemical Product and Company Identification

MSDS Name:	2-HYDROXY-GAMMA-BUTYROLACTONE 99%
Catalog Numbers:	4.71
Synonyms:	4,5-Dihydro-3-hydroxy-2(3H)-furanone, α-Hydroxy-γ-butyrolactone
Relevant identified uses of substance or mixture and uses advised against	
Identified uses	Laboratory chemicals, Manufacture of substances
Company Identification:	Tau-Chem, Ltd. Nobelova 34, P.O. Box 29 836 05 Bratislava, Slovak Republic Phone: +421 2 44 452 252 Fax: +421 244 457 645
POISON CENTER:	National Toxicological Information Centre Limbová 5, 833 05 Bratislava,
Emergency Numbers Slovakia:	Phone: +42 2 54 774 166 Fax: +42 2 54 774 605

Section 2 – Hazards Identification

Classification of the substance or mixture

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


Acute toxicity (Category 4)
Skin Irritation (Category 2)
Eye Irritation (Category 2)
Specific target organ irritation – single exposure (Category 3)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Irritating to eyes, respiratory system and skin.

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

Label elements

Pictogram	
Signal word	Warning
Hazard statement(s)	
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
Precautionary statement(s)	
P261	Avoid breathing dust/ fume/gas/mist/vapor/spray.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

P302+P352	Continue rinsing.
P304+P340	IF ON <u>SKIN</u> : Wash with plenty of soap and water.
	IF <u>INHALED</u> : Remove victim to fresh <u>air</u> and keep at rest in a position comfortable for <u>breathing</u> .
Hazard symbol(s)	
Xi	Irritating.
R-phrase(s)	
R36/37/38	Irritating to eyes, respiratory system and skin.
S-phrase(s)	
S23	Do not breathe gas/fumes/vapor/spray.
S24/25	Avoid contact with skin and eyes.
S36	Wear suitable protective clothing.
Other hazards	None.

Section 3 – Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#
19444-84-9	2-HYDROXY-GAMA-BUTYROLACTONE	99	unlisted

Classification Acc. Tox. 4; Skin Irrit. 2; Eye Irrit. 2; STOT SE 3
H315, H319, H335,
Xi, R36/37/38

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

Section 4 – 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 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.

Section 5 – Fire Fighting Measures

Suitable extinguishing media:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Special protective equipment for fire-fighters:	Wear self contained apparatus breathing apparatus for fire fighting if necessary.

Section 6 – Accidental Release Measures

Personal precautions:	Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.
Environmental precautions:	Do not let product enter drains.
Methods and materials for containment and cleaning up	Soak up and then collect with absorbent material, arrange disposal. Keep in suitable, closed containers for disposal.

Section 7 – Handling and Storage

Precautions for safe handling:	Avoid contact with skin and eyes. Avoid breathing vapors, mist or gas. Normal measures of preventive fire protection.
Conditions for safe storage:	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.

Section 8 – Exposure Controls, Personal Protection

Personal protective equipment:

Respiratory protection:	Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of 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).
Hand protection:	The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Handle with gloves.
Eye protection:	Safety glasses with side-shields conforming to EN 166. Use equipment for eye protection tested and approved under appropriate government standards as NIOSH (US) or EN 166 (EU)
Skin and body protection:	Impervious body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Section 9 – Physical and Chemical Properties

Appearance

Form:	Clear, viscous liquid
Colour:	colourless

Safety data:

pH	Not available
Melting Point:	Not available
Boiling Point:	133 °C at 13 hPa – lit.
Flash Point:	113°C – closed cup
Ignition temperature:	Not available

Solubility in water:	Not available
Refractive Index:	<i>n</i> _{20/D} 1.468(lit.)
Density:	1.309 g/cm ³ at 25°C
Molecular Formula:	C ₄ H ₆ O ₃
Molecular Weight:	102.09 g/mol

Section 10 – Stability and Reactivity

Chemical Stability:	Stabile under recommended storage conditions.
Materials to avoid:	Strong oxidizing agents.
Hazardous Decomposition Products	Hazardous decomposition products under fire conditions. – Carbon oxides.

Section 11 – Toxicological Information

Acute toxicity	No data available
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 presents 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.
Specific target organ toxicity – repeated exposure	No data available
Aspiration hazard	No data available
Potential health effect:	
Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion	May be harmful if swallowed.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause 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: No data available

Section 12 – Ecological Information

Toxicity:	No data available
Persistence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
PBT and vPvB assessment	No data available
Other adverse effects	No data available

Section 13 - Disposal Considerations

Product	Observe all federal, state and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.
Contaminated packaging	Dispose of as unused product.

Section 14 - Transport Information

	IATA	IMDG	RID/ADR
Shipping Name:	Not dangerous goods	Not dangerous goods	Not dangerous goods
Hazard Class:			
UN Number:			
Packing Group:			

Section 15 - Regulatory Information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006

Section 16 - Other Information

Text of H-code(s) and R-phrase(s) mentioned in Section 3

Acute Tox.	Acute toxicity
Skin Irrit.	Skin irritation.
Eye Irrit.	Eye irritation.
STOT SE	Specific target organ toxicity – single exposure.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
Xi	Irritant.
R36/37/38	Irritating to eyes, respiratory system and skin.

MSDS Creation Date: 17/3/2008

Revision #1: 06/07/2010

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Disclaimer:

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.