MATERIAL SAFETY DATA SHEET
exo-2,3-EPOXYNORBORNANE 98%

Section 1 - Chemical Product and Company Identification

MSDS Name:	*exo*-2,3-EPOXYNORBORNANE 98%
Catalog Numbers:	1.24
Synonyms:	
Company Identification:	Tau-Chem, Ltd. Nobelova 34, P.O. Box 29 836 05 Bratislava, Slovak Republic Phone: +421-2-44452252 Fax: +421-2-44457645
POISON CENTER:	National Toxicological Information Centre Limbová 5, 833 05 Bratislava,
Emergency Numbers Slovakia:	Phone: +421 2 54 774 166 Fax: +421 2 54 774 605

Section 2 – Hazards Identification

Classification of the substance or mixture

According to Regulation (EC) No 1272/2008

Flammable solids, (Category 2)

According to European Directive 67/548/EEC as amended.

Highly flammable.

Label elements

Pictogram	
Signal word	Danger
Hazard statement(s)	
H228	Flammable solid.
Precautionary statement(s)	
P210	Keep away from heat/sparks/open flames/ hot surfaces. – No smoking.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to in accordance with local/regional/national/international regulation.
Hazard symbol(s)	
F	Highly flammable.
R-phrase(s)	
R11	Highly flammable.
S-phrase(s)	
S16	Keep away from sources of ignition – No smoking.
S27	Take off immediately all contaminated clothing.

S33	Take precautionary measures against static discharges.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
Other hazards	None.

Section 3 – Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#
3146-39-2	*exo*-2,3-EPOXYNORBORNANE	98	221-558-3

Classification	Flam. Sol. 1
	H228
	F, R11

For he 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 f 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.
Further information	Use water spray to cool unopened containers.

Section 6 – Accidental Release Measures

Personal precautions:	Avoid dust formation. Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.
Environmental precautions::	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Methods and materials for containment and cleaning up	Contain spillage, and the collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

Section 7 – Handling and Storage

Precautions for safe handling:	Avoid formation of dust and aerosols. Keep away from sources of ignition – No smoking. Take measures to prevent build up of electrostatic charge.
Conditions for safe storage:	Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

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:	Face shield and safety glasses.
Skin and body protection:	Choose 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:	Crystalline
Color:	Off-white
Safety data:	
pH	Not available
Melting Point:	122-124°C – lit.
Boiling Point:	Not available
Flash Point:	10 °C closed cup
Flammability (solid, gas)	The substance or mixture is flammable solid with the subcategory 1
Ignition temperature:	Not available
Explosion Limits: Lower:	Not available
Explosion Limits: Upper:	Not available
Solubility in water:	Not available
Molecular Formula:	$C_7H_{10}O$
Molecular Weight:	110.15 g/mol

Section 10 – Stability and Reactivity

Chemical Stability:	Stabile under recommended storage conditions.
Conditions to Avoid:	Heat, flames and sparks.
Materials to avoid:	Oxidizing agents, acids, bases.
Hazardous Decomposition Products	Hazardous decomposition products under fire conditions. – Carbon oxides.

Section 11 – Toxicological Information

Acute toxicity	No data available
	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	No data available
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: RB7176000

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	Material may be burned in a chemical incinerator equipped with an afterburner and scrubber. 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**
Proper shipping name:	FLAMMABLE SOLID, ORGANIC, N.O.S.	FLAMMABLE SOLID, ORGANIC, N.O.S.	FLAMMABLE SOLID, ORGANIC, N.O.S.
Hazard Class:	4.1	4.1	4.1
UN Number:	1325	1325	1325
Packing Group:	II	II	II
		EMS-No: F-A, S-G	
		Marine pollutant: NO	

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

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MSDS Creation Date: 15/4/2008 **Revision #1 Date** 10/06/2010

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.