

TAU-CHEM Ltd.

Slovakia

MATERIAL SAFETY DATA SHEET
ETHYL 4-BROMOCROTONATE, TECH., 75%

Section 1 - Chemical Product and Company Identification

MSDS Name: ETHYL 4-BROMOCROTONATE, TECH., 75%
Catalog Numbers: 9.160
Synonyms: Ethyl (E)-4-bromo-2-butenoate, Ethyl trans-4-bromo-2-butenoate
Company Identification: Tau-Chem, Ltd.
 Nobelova 34, P.O. Box 29
 836 05 Bratislava, Slovak Republic
 Phone: +421 2 44 452 252 Fax: +421 2 44 457 645

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

Skin corrosion,(Category 1B)

Eye damage (Category 1)

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

Causes burns.

Label elements

Pictogram



Signal word

Danger

Hazard statement(s)

H314

Causes severe skin burns and eye damage.

Precautionary statement(s)

P260

Do not breathe dust /fume/gas/mist/vapours/spray.

P301+P330+331

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338

IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do.

Continue rinsing.

P405

Store locked up.

P501

Dispose of contents/container in accordance with local/regional/national/international regulation.

Hazard symbol(s)

C	Corrosive.
R-phrases(s)	
R34	Causes burns.
S-phrases(s)	
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
S45	In case of accident or if you feel unwell, seek medical advice immediately. (Show the label where possible)
Other hazards	Lachrymator.

Section 3 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#
37746-78-4	ETHYL 4-BROMOCROTONATE, TECH.,	75	Unlisted

Classification	Skin Corr. 1B; Eye Dam. 1 H314, C, R34
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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:	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Section 5 - Fire Fighting Measures

Suitable extinguishing media:	CO ₂ , sand, extinguishing powder, DO NOT use water.
Special protective equipment for fire-fighters:	Wear self contained apparatus breathing apparatus for fire fighting if necessary.

Section 6 - Accidental Release Measures

Personal precautions:	Wear protective equipment. Ensure appropriate ventilation at the workplace. Keep ignition source away – DO NOT SMOKE.
Environmental precautions:	Prevent further spillage if safe to do so. Do not let product enter

drains.

Methods and materials for containment and cleaning up

Vacuum or sweep up material and place into suitable container.
Keep in suitable, closed containers for disposal.

Section 7 - Handling and Storage

Precautions for safe handling:

Avoid contact with skin and eyes. Avoid formation and breathing of dust. Handle under dry protective gas. Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Ensure appropriate ventilation at the workplace. Keep ignition source away – DO NOT SMOKE.

Conditions for safe storage:

Store in a tightly closed container. Keep refrigerated.
(Recommended storage temperature: 2 - 8 °C).

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. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose off contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection:

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU)

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: Clear Liquid
Colour: yellow

Safety data:

pH Not available

Melting Point: 0°C

Boiling Point: 94-96 °C at 16 hPa (lit.)

Flash Point: 97°C closed cup

Ignition temperature:	Not available
Explosion Limits: Lower:	Not available
Explosion Limits: Upper:	Not available
Solubility in water:	Reacts.
Refractive index:	1.4900 - 1.4940
Density:	1.4020 g/cm ³ at 25 °C(lit.)
Molecular Formula:	C ₆ H ₉ BrO ₂
Molecular Weight:	193.04

Section 10 - Stability and Reactivity

Chemical Stability:	Stabile under normal temperatures and pressures.
Conditions to Avoid:	Incompatible materials.
Materials to avoid:	Strong oxidizing agents, strong reducing agents.
Hazardous Decomposition Products	Hazardous decomposition products under fire conditions. – Carbon oxides, Nitrogen Oxides, Hydrogen bromide.

Section 11 - Toxicological Information

Acute toxicity	Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach. No data available
Skin corrosion/irritation	Corrosive effects on skin and mucous membranes.
Serious eye damage/eye irritation	Strong corrosive effects.
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.
Ingestion	Harmful if swallowed. Causes burns.
Skin	Causes skin burns.
Eyes	Causes eye burns.

Signs and Symptoms of Exposure

Corrosive effects on skin and mucous membranes. 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	IMGD	RID/ADR
Proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Hazard Class:	8	8	8
UN Number:	3265	3265	3265
Packing Group:	II	II	II
		EMS-No: F-A, S-B	
		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**

Skin Corr.	Skin corrosion.
Eye Dam.	Eye damage.
H314	Causes severe skin burns and eye damage.
C	Corrosive.
R34	Causes burns.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39

Wear suitable protective clothing, gloves and eye/face protection.

S45

In case of accident or if you feel unwell, seek medical advice immediately. (Show the label where possible)

MSDS Creation Date: 25/1/2010**Revision #1 Date:** 14/02/2011

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.