

JSC AVIABOR

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MATERIAL SAFETY DATA SHEET (MSDS)
according to Regulation (EC) No. 1907/2006
Version 1.2 Revision Date 16.04.2015


1.0 Identification of the substance/preparation and of the company/enterprise

- 1.1 Product identifiers** : Triethylamine borane
EINECS : 217-022-3
CAS : 1722-26-5
RTECS : No data available
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
 Used in reduction of organic compounds with a double C=O bond, in hydroboration reactions.
 Used in modification of biologically active organic compounds.
 Used as fungicides, insecticides, herbicides.
- 1.3 Details of the supplier of the safety data sheet:**
 JSC AVIABOR, Nizhny Novgorod Region
 606000 Dzerzhinsk, Russia
 Tel: (+7) 8313 249 727, Fax: (+7) 8313 249 767
 Only Representative – Espace Chemicals GmbH
 Tel: +49 (0) 30 896 779 290-0, Fax: + 49 (0) 30 896 779 290-1
- 1.4 Emergency telephone number:** (+7) 8313 249 750 / 630

2.0 Hazards Identification

- 2.1 Classification of the substance or mixture**
 Triethylamine borane is a transparent colourless liquid, corrosive, sensible to moisture.
 Toxic by ingestion, inhalation, contact with skin, causes burns. Explosive- and fire-hazardous.
 No manipulations with the product are allowed till safety measures recommended by the producer are studied and mastered.

REGULATION (EC) NO 1272/2008 ANNEX VI TABLE

Classification		Labelling		
Hazard Class and Category Code(s)	Hazard Statement Code(s)	Pictogram Signal Word Code(s)	Hazard Statement Code(s)	Suppl. Hazard statement code(s)
Flammable liquids 2 Acute toxicity, Oral, 4 Acute toxicity, Inhalation, 4 Acute toxicity, Dermal, 4 Skin corrosion, 1B	H225 H302 H312 H314 H332	 Danger	H225 H302 H312 H314 H332	-

- 2.2 Label elements**
- Hazard Statement:**
 H225 Highly flammable liquid and vapour.
 H302 Harmful if swallowed.
 H312 Harmful in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H332 Harmful if inhaled.
- Precautionary statement(s):**
 P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P280 Wear eye protection/ face protection.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.
 Remove contact lenses, if present and easy to do. Continue rinsing.

REGULATION (EC) NO 67/548 TABLE

Classification	Risk phrases	Safety phrases	Indication(s) of danger
F	11	26	F
Xn	20/21/22	36/37/39	Xn
C	34	45	C

R-Phrase:

R11 Highly flammable.
 R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
 R34 Causes burns.

S-Phrase:

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).

Hazard symbols:

Flammable Liquids



Corrosive



Harmful

2.3 Other hazards – none**3.0 Composition / information on ingredients**

Triethylamine borane : not less than 97% (w/w)
 Trade names/Synonyms : Borane triethylamine complex
 CAS : 1722-26-5
 EINECS : 217-022-3
 Formula : C₆H₁₈BN
 Molecular mass : 115.03 g/mole
 Classification : R 11, 20/21/22, 34
 : S 26, 36/37/39, 45

Additive:
Triethylamine : 3% (w/w)
 Trade names/Synonyms: N,N-Diethylethanamine
 CAS : 121-44-8
 EINECS : 204-469-4
 Formula : C₆H₁₅N
 Molecular mass : 101.19 g/mole
 Classification : R 11, 20/21/22, 34
 : S 1/2, 3, 16, 26, 29, 36/37/39, 45

4.0 First Aid Measures**4.1 Description of first aid measures****After skin contact**

Immediately wash the contaminated skin with plenty of water and soap.
 Remove contaminated clothes.

After eyes contact

Immediately wash with plenty of water and call for an eye-specialist.

After inhalation

Take the victim to the fresh air. If not breathing, give artificial respiration, preferably mouth to mouth. If breathing is stopped give oxygen. Urgently send to hospital.

After ingestion

Make a victim drink plenty of water, induce vomiting. Contact a doctor immediately.

4.2 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.

4.3 Indication of immediate medical attention and special treatment needed

no data available

5.0 Fire Fighting Measures**5.1 Extinguishing media****Suitable extinguishing media**

Powder fire extinguisher, inert gas.

Unsuitable extinguishing media

Water, foam, carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Sensible to moist air. Explodes if mixed with oxidizers. By contact with acids produces toxic gases and fumes. When transporting and handling provide for discharge of static electricity.

5.3 Precautions for firefighters

Wear full protective clothing, including protective gloves and boots. For respiratory protection use a self-contained breathing apparatus operating in a positive pressure mode.

5.4 Further information

no data available.

6.0 Accidental Release Measures**6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective clothing.

6.2 Environmental precautions

Do not allow to enter sewerage system.

6.3 Methods and materials for containment and cleaning up

Cover up the place of release with sand and place into air-proof container, make decomposition with mixture of isopropyl alcohol and water (1:1) and send for fire treatment. Carry out all the operations in compliance with local, regional and federal legislation and regulations.

6.4 Reference to other sections

For disposal see section 13.

7.0 Handling and Storage**7.1 Precautions for safe handling**

Eating, drinking, smoking as well as keeping of food in a workroom is forbidden.

Incompatibility with other products: Keep away from heavy metal compounds, oxidizers and acids.

7.2 Conditions for safe storage, including any incompatibilities

Store in a tightly closed container in an inert gas atmosphere, without contact with air and moisture in a well ventilated place, far from fire sources.

7.3 Specific end uses

no data available.

8.0 Exposure Control and Personnel Protection**8.1 Control parameters****Components with workplace control parameters****8.2 Exposure controls****Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protection equipment**Normal use & handling**

Respiratory system - respiratory protection

Hands protection - rubber gloves
 Eyes protection - closely fitting safety goggles
 Skin protection - protective clothes

Accidental work

Full protective clothing, including gloves and boots, respiratory protection.

Exposure limits

not available

Industrial hygiene

When handling the product provide an effective exhaust ventilation in a working place. Keep working clothes in a separate place. Wash hands before breaks and after working with the product. Change the contaminated clothes, take it to laundry regularly. Shower after work is obligatory.

9.0 Physical and Chemical Properties**9.1 Information on basic physical and chemical properties**

Form of the compound	: liquid
Colour	: colourless
Odour	: specific
Refraction index	: 1.4440 at 20 °C
pH value at 10g/l H ₂ O	: No data available
Boiling point	: 97 °C/ 12 mmHg
Flash point	: - 6 °C
Flammability	: No data available
Oxidizing properties	: No data available
Explosive properties	: No data available
Lower limit of the melting range	: No data available
Vapour pressure	: No data available
Partition coefficient	: No data available
Viscosity	: No data available
Vapor density	: No data available
Density	: 0.783 g/cm ³ at 20 °C
Bulk density	: No data available
Decomposition temp	: No data available
Surface tension	: No data available
Conductivity	: No data available
Enthalpy of Vaporization	: No data available
Solubility in water	: No data available

9.2 Other Information:

Ignition temperature	: Not identified
Melting point	: - 4 °C

10.0 Stability and Reactivity**10.1 Reactivity**

no data available.

10.2 Chemical stability

The product is stable when stored in a tightly closed container in an inert gas atmosphere at room temperature.

10.3 Possibility of hazardous reactions

no data available.

10.4 Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight.

10.5 Incompatible materials

Moisture, strong acids, oxidizers.

10.6 Hazardous decomposition products

Boric acid, triethylamine, hydrogen.

11.0 Toxicological Information**11.1 Information on toxicological effects****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

No data available

Specific target organ toxicity – repeated exposure

No data available

Aspiration hazard

No data available

Potential health effects

Contact with skin : Harmful if absorbed through skin. Causes skin burns.

Contact with eyes : Causes eye burns.

By inhalation : Harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

By ingestion : Harmful if swallowed. Causes burns.

Additional information

RTECS: No data available

12.0 Ecological Information**12.1 Toxicity**

no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

no data available

13.0 Disposal Consideration**13.1 Waste treatment methods****Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14.0 Transport Information

14.1 UN-Number

2924

14.2 UN proper shipping name

Flammable liquid, corrosive, n.o.s. (Triethylamine borane)

14.3 Transport hazard class(es)

GGVS/GGVE/ADR/RID: 3(8), Hazard Identification: 338, Classification: FC, Tunnel code: (D/E)

IMO/GGVSee: 3(8), MFAG: 760, EmS: F-E, S-C, Stowage: B

ICAO/IATA: 3(8), PAX: 352, CAO: 363

14.4 Packaging group

GGVS/GGVE/ADR/RID: II IMO/GGVSee: II ICAO/IATA: II

14.5 Environmental hazards

GGVS/GGVE/ADR/RID: No IMO/GGVSee: No ICAO/IATA: No

14.6 Special precautions for user

See section 7.0

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

The substance is not intended to be transported in bulk.

Upon transportation both indoors and outdoors check an integrity of the packing material, do not allow any contact with moisture, oxidizers and strong acids.

15.0 Regulatory Information

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

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

no data available

15.2 Chemical Safety Assessment

no data available

16.0 Other Information

THIS INFORMATION IS TO THE BEST OF OUR KNOWLEDGE AND IS INTENDED TO DESCRIBE THE PRODUCT ONLY IN TERMS OF HEALTH AND SAFETY, AND ENVIRONMENTAL REQUIREMENTS. SINCE THE CONDITIONS OF USE ARE OUTSIDE OUR CONTROL ANY RECOMMENDATIONS OR SUGGESTIONS ARE MADE WITHOUT GUARANTEE AND WE DO NOT BEAR ANY LIABILITY FOR LOSS OR DAMAGE SUFFERED FROM USE OF THIS INFORMATION. CUSTOMERS MUST SATISFY THEMSELVES THAT THE PRODUCT IS SUITABLE FOR A PARTICULAR PURPOSE. MOREOVER, NEITHER OF THE CLAUSES HEREIN CONTAINED SHALL BE CONSTRUED AS A RECOMMENDATION TO USE ANY PRODUCT IN CONFLICT WITH EXISTING PATENTS. THIS INFORMATION IS GIVEN WITHOUT ANY WARRANTIES WITH RESPECT TO THE PROPERTIES OF THIS PRODUCT.