

JSC AVIABOR

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MATERIAL SAFETY DATA SHEET (MSDS)

according to Regulation (EC) No. 1907/2006

Version 2.0 Revision Date 05.05.2017

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

1.1 Product identifiers Trimethoxyboroxine
EINECS 203-016-8
CAS 102-24-9
RTECS ED8720000



1.2 Relevant identified uses of the substance or mixture and uses advised against
Used to extinguish the alkali metals and for improving the stability of the additives of motor fuels.

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 896779290 - 0, Fax: + 49(0) 30 896779290 – 1

1.4 Emergency telephone number (+7)-8313-249 750/630

2.0 Hazards Identification

2.1 Classification of the substance or mixture
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 Skin corrosion 1B	H225 H314	  Danger	H225 H314	-

2.2 Label elements

Hazard statement(s)

H225 Highly flammable liquid and vapour.
H314 Causes severe skin burns and eye damage.

Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280 Wear protective gloves/protective clothing/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.
P310 Immediately call a POISON CENTER or doctor/physician.

2.3 Other hazards - none

3.0 Composition/information on ingredients

Trimethoxyboroxine	96 wt%
Trade names/Synonyms	Trimethoxyboroxine
Chemical formula	$C_3H_9B_3O_6$
Molar mass	173.53
CAS No.	102-24-9
EINECS	203-016-8
RTECS	ED8720000
IUPAC	Trimethoxyboroxine
Classification:	Flam. Liq. 2; Skin Corr. 1B; H225, H314

Impurity

Trimethylborate	4 wt%
Trade names/Synonyms	Methyl borate, Boric acid trimethyl ester
Chemical formula	$C_3H_9BO_3$
Molar mass	103.91
CAS No.	121-43-7
EINECS	204-468-9
Index No.	005-005-00-1
RTECS	ED5600000
IUPAC	Trimethylborate
Classification:	Flam. Liq. 3; Acute Tox. 4; H226, H312

4.0 First Aid Measures

4.1 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

Take off contaminated clothing and shoes immediately. 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

Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, cough, wheezing, laryngitis, shortness of breath, headache, nausea.

4.3 Indication of immediate medical attention and special treatment needed

no data available

5.0 Fire Fighting Measures

The substance is a highly flammable liquid. Flash point is 9 °C.

5.1 Extinguishing media

Suitable extinguishing media

Dry powder, carbon dioxide (CO₂) or a foam fire-extinguisher

Unsuitable extinguishing media

Water

5.2 Special hazards arising from the substance or mixture

Nature of decomposition products is not known.

5.3 Precautions for fire-fighters

Wear self-contained breathing apparatus for fire fighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

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

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let the product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Do not flush with water. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

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

Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities

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. Handle and store under inert gas. Moisture sensitive.

7.3 Specific end uses

no data available

8.0 Exposure Control and Personal Protection**8.1 Personal protective equipment****Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals. Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hand Protection

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

Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

9.0 Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Form	: liquid
Colour	: colourless
Odour	: strong
pH	: no data available (N/A)
BP/BP Range	: 130 °C
MP/MP Range	: 10 °C
Flash Point	: 9 °C
Flammability	: N/A
Autoignition Temp.	: N/A
Oxidizing Properties	: N/A
Explosive Properties	: N/A
Explosion Limits Lower	: N/A
Vapour Pressure	: 40 hPa at 25 °C
SG/Density	: 1.195 g/cm ³ at 25 °C
Partition Coefficient	: N/A
Viscosity	: 21.7 cSt at 20 °C
Vapour Density	: N/A
Saturated Vapour Conc.	: N/A
Evaporation Rate	: N/A
Decomposition Temp.	: 130 °C
Solvent Content	: does not contain
Water Content	: does not contain
Surface Tension	: N/A
Conductivity	: N/A
Miscellaneous Data	: N/A
Solubility	: N/A

10.0 Stability and Reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under normal conditions. Moisture sensitive.

10.3 Possibility of hazardous reactions

Reacts violently with water.

10.4 Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition, incompatible products, exposure to moist air or water.

10.5 Incompatible materials

Acids, bases, water, strong oxidizing agents.

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions.
- Carbon oxides, borane/boron oxides, methanol.

11.0 Toxicological Information

11.1 Information on toxicological effects

Acute toxicity : LD₅₀ (oral, rat) 5160 mg/kg

Remarks: Behavioural : Convulsions or effect on seizure threshold. Respiratory disorder.

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

Inhalation May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion May be harmful if swallowed. Causes burns.

Skin May be harmful if absorbed through skin. Causes skin burns.

Eyes Causes eye burns.

Signs and Symptoms of Exposure

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, cough, wheezing, laryngitis, shortness of breath, headache, nausea.

Additional Information

RTECS : ED8720000

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 Considerations**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**

UN 2924

14.2 UN proper shipping name

Flammable liquid, corrosive, n.o.s. (Trimethoxyboroxine)

14.3 Transport hazard class(es)

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

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

ICAO/IATA: 3 (Sub.8), PAX: 352, CAO: 365

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.

15.0 Regulatory Information**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 material safety data sheet was prepared in compliance with laws, regulations and administrative provisions relative to classification, packaging and labelling of dangerous substances and preparations.

This information is to the best of Aviator's current 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 disclaim 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. Furthermore, nothing contained herein shall be construed as a recommendation to use any product in conflict with existing patents.