

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier:

TRIBORON FUEL FORMULA CONSUMER

Reach registration nr:

01-2119457610-43 (Ethanol)

01-2119486683-25 (Boric acid)

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Identified uses:

Fuel additive.

Uses advised against:

No information available.

1.3 Details of the supplier of the safety data sheet:

Triboron International AB, Stenhuggarvägen 4V, 132 38 SALTSJÖ-BOO, SWEDEN

Tel: +46 8 643 10 00

e-mail: info@triboron.com

1.4 Emergency telephone number:

In case of personal injury call +46 11 24 84 84 Swed Handling AB for further information about the product.

2. HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture:

Classification according to CLP 1272/2008/EC:

Flam. Liq. 2; H225

Eye Irrit. 2; H319

HIGHLY FLAMMABLE LIQUID AND VAPOUR.
CAUSES SERIOUS EYE IRRITATION.

H-statements in full text are found in chapter 16.

2. HAZARD IDENTIFICATION

2.2 Label elements:

Hazard symbol:



Signal Word:
DANGER

Hazard Statement:

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.

Precautionary statements:

P102 Keep out of reach of children.
P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking
P243 Take precautionary measures against static discharge.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501 Dispose of contents/container to according to local regulations.

2.3 Other hazards

Vapor can be spread along the floor and ignited by sparks from, for example, static electricity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures:

Chemical name	CAS-nr	EG-nr	Wt-%	Classification 1272/2008:
Ethanol	64-17-5	200-578-6	90-100	Flam. Liq. 2; H225 Eye Irrit. 2; H319
Denatonium benzoate	3734-33-6	223-095-2	< 1	Acute Tox. 4; H302 Aquatic Chronic 3; H412
2-methylpropan-2-ol	75-65-0	200-889-7	< 1	Flam. Liq. 2; H225 Eye Irrit. 2; H319 Acute Tox. 4; H332 STOT SE 3; H335
Boric acid	11113-50-1	234-343-4	< 5.5	Repr. 1B; H360FD

H-statements in full text are found in chapter 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures:

General advise:

Instantly remove contaminated clothing.

If inhaled:

Move the affected person to fresh air and let rest.

In case of skin contact:

Wash with plenty of water and soap.

In case of eye contact:

Immediately flush with plenty of water for at least 5 minutes. If easy to do, remove contact lenses. In case of persistent pain (intense pain, sensitivity to light, visual symptoms) continue to flush and get medical attention.

If swallowed:

Rinse mouth and drink water. Never give liquid to an unconscious person. Do not induce vomiting without advice from poison control center. If large amounts are consumed seek medical advice.

4.2 Most important symptoms and effects, both acute and delayed:

Symptoms & Effects:

No information available.

4.3 Indication of any immediate medical attention and special treatment needed:

Treat symptomatically. Make sure that medical personnel know what substances are involved.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media:

Suitable extinguishing media:

Foam, CO₂, fire extinguishing powder or fog like water spraying.

Unsuitable extinguishing media:

Water jet and foam with harmful environmental substances.

5.2 Special hazards arising from the substance or mixture:

Special fire fighting risks:

Avoid inhalation of gases. The vapors are heavier than the air and can be spread along the ground. Vapors may form explosive air mixtures and ignite by, for example, static electricity.

5.3 Advice for firefighters:

Special safety equipment for firefighters:

Wear self contained breathing apparatus and full protective clothing.

5. FIREFIGHTING MEASURES

Further information:

Evacuate the area surrounding the fire. Cool surfaces exposed to fire with water. Remove material that can burn. Prevent entry to water and sewage system. Take care of extinguishing water.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Use appropriate protective clothing according to chapter 8. Ventilate any vapors.

6.2 Environmental precautions:

Prevent product to enter water and drains. Inform authorities if there is any risk for environmental damage.

6.3 Methods and materials for containment and cleaning up:

Absorb with sand, sawdust or other inert material suitable for chemical spill. Dispose the collected material according to regulations.

6.4 Reference to other sections:

Contact information in case of emergency (see section 1), Personal protection (see section 8), Waste treatment (see section 13).

7. HANDLING AND STORAGE

7.1 Precautions for safe handling:

Take precautions against static electricity. Remove sources of ignition. Do not handle close to hot surfaces or equipment that may generate flames or sparks. Never pour or pump from a high height, this to prevent formation of static electricity. Use mechanical ventilation in confined spaces. Ventilation equipment should be explosionproof. Risk for suffocation if vapors accumulate in low spaces. Emergency shower and emergency eye-wash must be available at the work place.

See section 8 for personal protective equipment. Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities:

Keep in dry, ventilated storage in closed original containers. Do not store above room temperature. Stored as flammable liquid. Keep container tightly closed when not in use.

The product is flammable. Remove any sources of ignition. Protect from heat, sparks and open fire. Keep away from food, drinks and animal feed.

7.3 Specific end uses:

No information available.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Control parameters:

Exposure limit:

Ethanol	500 ppm, 1000 mg/m ³ (NGV) / 1000 ppm, 1900 mg/m ³ (KGV)
2-methylpropan-2-ol	50 ppm/ 150 mg/m ³ (NGV), 75 ppm/ 250 mg/m ³ (KGV)
Borax, total dust	2 mg/m ³ (NGV), 5 mg/m ³ (KGV)

(”Nationella hygieniska gränsvärden”, AFS 2015:7)

8. EXPOSURE CONTROL/PERSONAL PROTECTION

DNEL:

Ethanol:

Worker: Long term exposure- systemic effects, inhalation:	950 mg/m ³
Worker: Short term exposure- local effects, inhalation:	1 900 mg/m ³
Worker: Long term exposure - systemic effects, dermal:	343 mg/kg/dag
Consumer: Long term exposure - systemic effects, inhalation:	114 mg/m ³
Consumer: Short term exposure- - local effects, inhalation:	950 mg/m ³
Consumer: Long term exposure - systemic effects, dermal:	206 mg/kg/dag
Consumer: Long term exposure - systemic effects, oral:	87 mg/kg/ dag

Boric acid:

Worker: Long term exposure- systemic effects, inhalation:	8.3 mg/m ³
Consumer: Long term exposure - systemic effects, dermal (external):	196 mg/kg/dag
Consumer: Long term exposure - systemic effects, dermal (systemic):	0.98 mg/kg/dag
Consumer: Long term exposure - systemic effects, oral:	0.98 mg/kg/ dag

PNEC:

Ethanol:

Fresh water: 0.96 mg/l
Salt water: 0.79 mg/l
Sporadic release: 2.75 mg/l
Sediment (fresh water): 3.6 mg/kg
Sediment (salt water): 2.9 mg/kg
Soil: 0.63 mg/kg
Sewage plant: 580 mg/l

Boric acid:

Fresh water/ salt water: 1.35 mg B/l
Sediment (Fresh water/ salt water): 1.8 mg B/kg
Sewage plant: 1.75 mg B/l

8.2 Exposure controls:

Appropriate engineering controls:

See safety precautions in section 7 and 8.

Personal protective equipment:

Respiratory protection: Respiratory protection with gas filter A-P2 or breathing apparatus with filter type A.

Hand protection: Use protective gloves of butyl rubber.

Eye protection: In case of direct contact or splash, use eye protection.

Skin protection: Suitable protective clothing.

Exposure controls for the environment:

Do not let product enter water or drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

<i>Form:</i>	Liquid
<i>Colour:</i>	Colorless
<i>Odour:</i>	Alcohol
<i>Odour treshold:</i>	No information available
<i>pH:</i>	No information available
<i>Melting point/ freezing point:</i>	-114 °C
<i>Initial boiling point and boiling range:</i>	78-80 °C
<i>Flash point:</i>	12 °C
<i>Evaporation rate:</i>	No information available
<i>Flammability (solid, gas):</i>	No information available
<i>Upper/ lower flammability or explosive limits:</i>	3.3-19 % (v/v)
<i>Vapour pressure:</i>	58.1 hPa (20 °C)
<i>Vapour density:</i>	No information available
<i>Relative density:</i>	ca 0.789 g/cm ³ (20 °C)
<i>Bulk density</i>	No information available
<i>Solubilty:</i>	Soluble with water, soluble and miscible with many organic solvents.
<i>Partition coefficient: n-octanol/ water:</i>	No information available
<i>Autoignition temperature:</i>	No information available
<i>Decomposition temperature:</i>	No information available
<i>Viscosity:</i>	No information available
<i>Explosive properties:</i>	Formation of explosive air mixture is possible.
<i>Oxidizing properties:</i>	No information available

Information above applies for ethanol.

9.2 Other information

No information available.

10. STABILITY AND REACTIVITY

10.1 Reactivity:

Stable at normal conditions.

10.2 Chemical stability:

Stable at normal conditions.

10.3 Possibility of hazardous reactions:

None known.

10. STABILITY AND REACTIVITY

10.4 Conditions to avoid:

Static electricity, heat, formation of sparks, strong oxidizing agents and strong bases.

10.5 Incompatible materials:

May damage gaskets, coated and painted surfaces, protective and sealing grease coatings, natural rubber materials and synthetic materials.

10.6 Hazardous decomposition products:

In case of fire or strong heating, carbon monoxide (CO) and carbon dioxide (CO₂) are formed.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

Acute toxicity:

Ethanol:

LD ₅₀ , oral, rat:	10 470 mg/kg
LD ₅₀ , dermal, rabbit:	17 100 mg/kg
LC ₅₀ , inhal., rat, 4 h:	124.7 mg/l

Boric acid:

LD50 oral, rat:	3 500-4 100 mg/ kg
LC50 inhalation, rat:	> 2.0 mg/l
LD50 dermal, rabbit:	>2000 mg/ kg

Inhalation: May cause headache, dizziness, fatigue and nausea. At high levels, reaction time and memory may deteriorate and unconsciousness and respiratory distress may occur.

Ingestion: May cause vomiting, stomach pains and the same symptoms as inhalation

Irritation and corrosion:

Eyes: May cause pain, redness and irritation.

Skin: Repeated exposure may cause skin dryness or cracking. Prolonged skin contact may decrease the skin and cause skin inflammation.

Respiratory or skin sensitization:

No known risks, but the dehydrating effect of the product may possibly contribute to atopic eczema.

Carcinogenicity:

No known risks.

Mutagenicity:

No known risks.

Reproductive toxicity:

No known risks.

Teratogenicity:

No information available.

11. TOXICOLOGICAL INFORMATION

Specific target organ toxicity, single exposure (STOT SE):

No information available.

Specific organ toxicity, repeated exposure (STOT RE):

No information available.

Aspiration hazard:

No known risks.

12. ECOLOGICAL INFORMATION

12.1 Toxicity:

Ethanol:

LC50, fish, 96 h: 15 300 mg/l (Pimephales promelas)

EC50, daphnia, 48 h: 12 340 mg/l (Daphnia magna)

EC50, algae, 96 h: 275 mg/l (Chlorella vulgaris)

Boric acid:

LC50, fish, 96 h: 456 mg/l (Pimephales promelas)

EC50, daphnia, 48 h: 760 mg/l (Daphnia magna)

EC50, algae, 72 h: 229 mg/l (Pseudokirchneriella subcapitata)

12.2 Persistence and degradability:

The product is easy biodegradable.

12.3 Bioaccumulative potential:

Not bioaccumulative in aquatic environment.

12.4 Mobility in soil:

The product is soluble in water and can be spread in the aquatic environment.

12.5 Results of PBT and vPvB assessment:

The product does not contain any substances fulfilling the PBT/vPvB criteria.

12.6 Other adverse effects:

No information available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

Eliminate waste in conditions authorized by the regulations. Store waste in containers provided for this purpose. Do not dump in drains, water sheets or the ground.

14. TRANSPORT INFORMATION

14.1. UN-number: 1170

14.2. UN proper shipping name: Ethanol solution

14.3. Transport hazard class: 3

14.4. Packing group: II

14.5. Environmental hazards: No

14.6. Special precautions for user:

ADR: Hazard identification number: 33; Tunnel restriction code: (D/E)

IMDG: F-E, S-D

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not relevant.

15. REGULATORY INFORMATION

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

Regulation (EU) No 1272/2008, CLP: Triboron Fuel Formula sold to the public must have a tactile warning label.

Seveso: Category P5c: Flammable liquids.

15.2 Chemical Safety Assessment: Accomplished.

16. OTHER INFORMATION

Whilst every care has been taken in the preparation of this SDS, the same has been produced from information and data currently available to Swed Handling at the date hereof; however, Swed Handling cannot be responsible for any errors or omissions. If in any doubt, please consult Swed Handling.

Text of H-statements mentioned in section 2 and 3:

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H360FD	May damage fertility. May damage the unborn child.
H412	Harmful to aquatic life with long lasting effects.