

## SAFETY DATA SHEET

Creation Date 29-May-2009

Revision Date 30-May-2017

Revision Number 2

### 1. Identification

**Product Name** Triisopropyl borate

**Cat No. :** AC427140000; AC427141000; AC427148000

**Synonyms** Triisopropoxyborane

**Recommended Use** Laboratory chemicals.

**Uses advised against** Not for food, drug, pesticide or biocidal product use

#### Details of the supplier of the safety data sheet

##### Company

Fisher Scientific  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

##### **Emergency Telephone Number**

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11

Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99

**CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

### 2. Hazard(s) identification

#### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids

Category 2

#### Label Elements

##### **Signal Word**

Danger

##### **Hazard Statements**

Highly flammable liquid and vapor



##### **Precautionary Statements**

###### **Prevention**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking

Keep container tightly closed  
Ground/bond container and receiving equipment  
Use explosion-proof electrical/ventilating/lighting/equipment  
Use only non-sparking tools  
Take precautionary measures against static discharge  
Wear protective gloves/protective clothing/eye protection/face protection

**Skin**

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

**Fire**

In case of fire: Use CO2, dry chemical, or foam for extinction

**Storage**

Store in a well-ventilated place. Keep cool

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

None identified

### 3. Composition / information on ingredients

Component	CAS-No	Weight %
Triisopropyl borate	5419-55-6	>95

### 4. First-aid measures

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
<b>Inhalation</b>	Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.
<b>Ingestion</b>	Do not induce vomiting. Obtain medical attention.
<b>Most important symptoms/effects</b>	Breathing difficulties. . Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting
<b>Notes to Physician</b>	Treat symptomatically

### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.
<b>Unsuitable Extinguishing Media</b>	No information available
<b>Flash Point</b>	17 °C / 62.6 °F
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	No information available
<b>Explosion Limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

**Specific Hazards Arising from the Chemical**

Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

#### Hazardous Combustion Products

Carbon monoxide (CO) Carbon dioxide (CO<sub>2</sub>) Oxides of boron

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

#### NFPA

Health  
0

Flammability  
3

Instability  
1

Physical hazards  
N/A

### 6. Accidental release measures

#### Personal Precautions

Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges.

#### Environmental Precautions

Should not be released into the environment. See Section 12 for additional ecological information.

#### Methods for Containment and Clean Up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

### 7. Handling and storage

#### Handling

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use explosion-proof equipment. Take precautionary measures against static discharges.

#### Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Flammables area. Keep away from heat and sources of ignition.

### 8. Exposure controls / personal protection

#### Exposure Guidelines

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

#### Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment.

#### Personal Protective Equipment

##### Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

##### Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

##### Respiratory Protection

No protective equipment is needed under normal use conditions.

##### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

### 9. Physical and chemical properties

#### Physical State

Liquid

#### Appearance

Colorless

#### Odor

Acrid

#### Odor Threshold

No information available

pH	No information available
Melting Point/Range	-59 °C / -74.2 °F
Boiling Point/Range	140 °C / 284 °F @ 760 mmHg
Flash Point	17 °C / 62.6 °F
Evaporation Rate	No information available
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	76 mmHg @ 75 °C
Vapor Density	6.5
Specific Gravity	0.814
Solubility	Decomposes in contact with water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	No information available
Molecular Formula	C <sub>9</sub> H <sub>21</sub> B O <sub>3</sub>
Molecular Weight	188.07

## 10. Stability and reactivity

Reactive Hazard	None known, based on information available
Stability	Moisture sensitive.
Conditions to Avoid	Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition. Exposure to moist air or water.
Incompatible Materials	Strong oxidizing agents
Hazardous Decomposition Products	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Oxides of boron
Hazardous Polymerization	No information available.
Hazardous Reactions	None under normal processing.

## 11. Toxicological information

### Acute Toxicity

Product Information	See actual entry in RTECS for complete information.
Component Information	

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Triisopropyl borate	2500 mg/kg ( Mouse )	Not listed	Not listed

Toxicologically Synergistic Products No information available

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation	No information available
Sensitization	No information available
Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Triisopropyl borate	5419-55-6	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects No information available

Reproductive Effects No information available.

<b>Developmental Effects</b>	No information available.
<b>Teratogenicity</b>	No information available.
<b>STOT - single exposure</b>	None known
<b>STOT - repeated exposure</b>	None known
<b>Aspiration hazard</b>	No information available
<b>Symptoms / effects, both acute and delayed</b>	Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting
<b>Endocrine Disruptor Information</b>	No information available
<b>Other Adverse Effects</b>	The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.

## 12. Ecological information

### Ecotoxicity

Do not empty into drains. Reacts with water so no ecotoxicity data for the substance is available.

**Persistence and Degradability** Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Is not likely mobile in the environment.

## 13. Disposal considerations

**Waste Disposal Methods** Should not be released into the environment.

## 14. Transport information

### DOT

UN-No UN2616  
 Proper Shipping Name TRIISOPROPYL BORATE  
 Hazard Class 3  
 Packing Group III

### TDG

UN-No UN2616  
 Proper Shipping Name TRIISOPROPYL BORATE  
 Hazard Class 3  
 Packing Group III

### IATA

UN-No UN2616  
 Proper Shipping Name Triisopropyl borate  
 Hazard Class 3  
 Packing Group II

### IMDG/IMO

UN-No UN2616  
 Proper Shipping Name Triisopropyl borate  
 Hazard Class 3  
 Packing Group II

## 15. Regulatory information

### International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Triisopropyl borate	X	-	X	226-529-9	-		X	X	-	-	-

Legend:

**X - Listed**

**E -** Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

**F -** Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

**N -** Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

**P -** Indicates a commenced PMN substance

**R -** Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

**S -** Indicates a substance that is identified in a proposed or final Significant New Use Rule

**T -** Indicates a substance that is the subject of a Section 4 test rule under TSCA.

**XU -** Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

**Y1 -** Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

**Y2 -** Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

**U.S. Federal Regulations**

**TSCA 12(b)** Not applicable

**SARA 313** Not applicable

**SARA 311/312 Hazard Categories**

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

**CWA (Clean Water Act)** Not applicable

**Clean Air Act** Not applicable

**OSHA Occupational Safety and Health Administration**  
Not applicable

**CERCLA**  
Not applicable

**California Proposition 65** This product does not contain any Proposition 65 chemicals

**U.S. State Right-to-Know Regulations**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Triisopropyl borate	X	X	X	-	-

**U.S. Department of Transportation**

Reportable Quantity (RQ): N  
DOT Marine Pollutant N  
DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** Serious risk, Grade 3

**16. Other information**

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Thermo Fisher Scientific

Email: EMSDS.RA@thermofisher.com

**Creation Date** 29-May-2009**Revision Date** 30-May-2017**Print Date** 30-May-2017**Revision Summary** This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**