

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**
**Product Identifier**

Perihal Produk:

Product Description:

Cat No. :

CAS No

Molecular Formula

**NATRIUM TRIASETOKSIBOROHIDRIDA**
**Sodium triacetoxymethylborohydride**

291820000; 291820250; 291821000; 291825000

56553-60-7

 C<sub>6</sub> H<sub>10</sub> B Na O<sub>6</sub>
**Relevant identified uses of the substance or mixture and uses advised against**

Recommended Use

Laboratory chemicals.

Uses advised against

No Information available

**Company**

 Thermo Fisher Scientific Fisher Scientific (M) Sdn Bhd  
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 CHEMTREC Malaysia (Kuala Lumpur) **+(60)-327884561** (Malay)

**SECTION 2: HAZARDS IDENTIFICATION**
**Classification of the substance or mixture**

Flammable solids	Category 2 (H228)
Substances/mixtures which, in contact with water, emit flammable gases	Category 2 (H261)
Skin Corrosion/Irritation	Category 2 (H315)
Serious Eye Damage/Eye Irritation	Category 1 (H318)
Specific target organ toxicity - (single exposure)	Category 3 (H335)

**Label Elements**


Signal Word

Danger

Hazard Statements

# SAFETY DATA SHEET

Sodium triacetoxymethylborohydride

Revision Date 22-Mar-2025

H228 - Flammable solid  
H261 - In contact with water releases flammable gases  
H315 - Causes skin irritation  
H318 - Causes serious eye damage  
H335 - May cause respiratory irritation

## Precautionary Statements

### Prevention

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P231 + P232 - Handle and store contents under inert gas. Protect from moisture  
P240 - Ground and bond container and receiving equipment  
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P271 - Use only outdoors or in a well-ventilated area  
P280 - Wear protective gloves/protective clothing/eye protection/face protection

### Response

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
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  
P302 + P335 + P334 - IF ON SKIN: Brush off loose particles from skin. Immerse in cool water  
P362 + P364 - Take off contaminated clothing and wash it before reuse  
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

### Storage

P402 + P404 - Store in a dry place. Store in a closed container

### Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

## Other Hazards

This product does not contain any known or suspected endocrine disruptors  
Toxic to terrestrial vertebrates

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
Borate(1-), tris(acetato-.kappa.O)hydro-, sodium, (T-4)-	56553-60-7	<=100

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

#### General Advice

If symptoms persist, call a physician.

#### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

#### Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

#### Ingestion

Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

#### Inhalation

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

#### Self-Protection of the First Aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to

# SAFETY DATA SHEET

Sodium triacetoxyborohydride

Revision Date 22-Mar-2025

protect themselves and prevent spread of contamination.

## Most important symptoms and effects, both acute and delayed

Causes severe eye damage.

## Indication of any immediate medical attention and special treatment needed

**Notes to Physician** Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

### Extinguishing media

#### **Suitable Extinguishing Media**

CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam.

#### **Extinguishing media which must not be used for safety reasons**

Water. Do not use halon type extinguisher.

### Special hazards arising from the substance or mixture

Water reactive. Contact with water liberates extremely flammable gases. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

#### **Hazardous Combustion Products**

Oxides of boron, Hydrogen.

### Advice for fire-fighters

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

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment and Emergency Procedures

Use personal protective equipment as required. Avoid dust formation. Ensure adequate ventilation.

### Environmental precautions

Should not be released into the environment.

### Methods and Material for Containment and Cleaning Up

Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

### Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### Precautions for Safe Handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid dust formation. Avoid ingestion and inhalation. Do not get in eyes, on skin, or on clothing.

### Conditions for Safe Storage, Including any Incompatibilities

# SAFETY DATA SHEET

Sodium triacetoxyborohydride

Revision Date 22-Mar-2025

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from water or moist air. Store under an inert atmosphere. Flammables area.

## Specific End Uses

Use in laboratories.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

#### Exposure Controls

##### Engineering Measures

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

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

#### Personal protective equipment

##### **Eye Protection**

Goggles

##### **Hand Protection**

Protective gloves

##### **Skin and body protection**

Wear appropriate protective gloves and clothing to prevent skin exposure

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

##### **Respiratory Protection**

No protective equipment is needed under normal use conditions

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

#### Environmental exposure controls

No information available

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

#### **Appearance**

White

#### **Physical State**

Powder Solid

#### **Odor**

No information available

#### **Odor Threshold**

No data available

#### **pH**

No information available

#### **Melting Point/Range**

114 - 118 °C / 237.2 - 244.4 °F

#### **Softening Point**

No data available

# SAFETY DATA SHEET

Sodium triacetoxyborohydride

Revision Date 22-Mar-2025

<b>Boiling Point/Range</b>	No information available	
<b>Flash Point</b>	No information available	<b>Method -</b> No information available
<b>Evaporation Rate</b>	Not applicable	Solid
<b>Flammability (solid,gas)</b>	No information available	
<b>Explosion Limits</b>	No data available	
<b>Vapor Pressure</b>	No information available	
<b>Vapor Density</b>	Not applicable	Solid
<b>Specific Gravity / Density</b>	No data available	
<b>Bulk Density</b>	No data available	
<b>Water Solubility</b>	reacts	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Component</b>	<b>log Pow</b>	
Borate(1-),	-2.88	
tris(acetato-.kappa.O)hydro-, sodium,		
(T-4)-		
<b>Autoignition Temperature</b>	Not applicable	
<b>Decomposition Temperature</b>	No data available	
<b>Viscosity</b>	Not applicable	Solid
<b>Explosive Properties</b>	No information available	
<b>Oxidizing Properties</b>	No information available	
<b>Molecular Formula</b>	C6 H10 B Na O6	
<b>Molecular Weight</b>	211.94	

## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

Yes.

### Chemical Stability

Water reactive. Moisture sensitive.

### Possibility of Hazardous Reactions

#### **Hazardous Polymerization** **Hazardous Reactions**

Hazardous polymerization does not occur.  
None under normal processing.

### Conditions to Avoid

Avoid dust formation. Excess heat. Incompatible products. Exposure to moist air or water.  
Keep away from open flames, hot surfaces and sources of ignition.

### Incompatible Materials

Acids. Strong oxidizing agents. Alcohols. Water.

# SAFETY DATA SHEET

Sodium triacetoxyborohydride

Revision Date 22-Mar-2025

## Hazardous Decomposition Products

Oxides of boron. Hydrogen.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects

#### Product Information

##### (a) acute toxicity;

Oral

Based on available data, the classification criteria are not met

Dermal

Based on available data, the classification criteria are not met

Inhalation

Based on available data, the classification criteria are not met

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Borate(1-), tris(acetato-.kappa.O)hydro-, sodium, (T-4)-	>2000 mg/kg (Rat)	LD50 > 2000 mg/kg ( Rat )	-

##### (b) skin corrosion/irritation;

Category 2

##### (c) serious eye damage/irritation;

Category 1

##### (d) respiratory or skin sensitization;

Respiratory

No data available

Skin

No data available

##### (e) germ cell mutagenicity;

No data available

##### (f) carcinogenicity;

No data available

There are no known carcinogenic chemicals in this product

##### (g) reproductive toxicity;

No data available

##### (h) STOT-single exposure;

Category 3

Results / Target organs

Respiratory system.

##### (i) STOT-repeated exposure;

No data available

Target Organs

None known.

##### (j) aspiration hazard;

Not applicable  
Solid

**Symptoms / effects, both acute and delayed** No information available.

#### Endocrine Disrupting Properties

Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

# SAFETY DATA SHEET

Sodium triacetoxymethylborohydride

Revision Date 22-Mar-2025

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity effects** Do not empty into drains.

**Persistence and degradability**

**Persistence** Persistence is unlikely.  
**Degradability** Not relevant for inorganic substances.

**Bioaccumulative potential** Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Borate(1-), tris(acetato-kappa.O)hydro-, sodium, (T-4)-	-2.88	No data available

**Mobility in soil** The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils.

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors

**Other adverse effects** No information available

## SECTION 13: DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Waste from Residues/Unused Products** Waste is classified as hazardous Dispose of in accordance with the European Directives on waste and hazardous waste Dispose of in accordance with local regulations

**Contaminated Packaging** Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous Keep product and empty container away from heat and sources of ignition

**Other Information** Waste codes should be assigned by the user based on the application for which the product was used Do not flush to sewer Can be landfilled or incinerated, when in compliance with local regulations Do not empty into drains

## SECTION 14: TRANSPORT INFORMATION

**IMDG/IMO**

**UN-No** UN3396  
**Hazard Class** 4.3  
**Subsidiary Hazard Class** 4.1  
**Packing Group** II  
**Proper Shipping Name** Organometallic substance, Solid, water-reactive, flammable Sodium triacetoxymethylborohydride

**Road and Rail Transport**

**UN-No** UN3396  
**Hazard Class** 4.3  
**Subsidiary Hazard Class** 4.1  
**Packing Group** II

# SAFETY DATA SHEET

Sodium triacetoxymethylborohydride

Revision Date 22-Mar-2025

**Proper Shipping Name** Organometallic substance, solid, water-reactive, flammable Sodium triacetoxymethylborohydride

## IATA

**UN-No** UN3396  
**Hazard Class** 4.3  
**Subsidiary Hazard Class** 4.1  
**Packing Group** II  
**Proper Shipping Name** Organometallic substance, solid, water-reactive, flammable Sodium triacetoxymethylborohydride

**Special Precautions for User** No special precautions required

## SECTION 15: REGULATORY INFORMATION

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

**International Inventories** X = listed

Component	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	IECSC	AICS	KECL
Borate(1-), tris(acetato-.kappa.O)hydro-, sodium, (T-4)-	-	X	-	-	X	X	-	-	-

### National Regulations

**Persistent Organic Pollutant** This product does not contain any known or suspected substance  
**Ozone Depletion Potential** This product does not contain any known or suspected substance

## SECTION 16: OTHER INFORMATION

### Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**POW** - Partition coefficient Octanol:Water

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (Volatile Organic Compound)



# SAFETY DATA SHEET

Sodium triacetoxyborohydride

Revision Date 22-Mar-2025

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## Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Revision Date

22-Mar-2025

Revision Summary

SDS sections updated.

**In accordance with local and national regulations: Occupational Safety and Health  
(Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013**

## 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 Safety Data Sheet**