

# SAFETY DATA SHEET

Creation Date 21-May-2010

Revision Date 19-Dec-2025

Revision Number 6

This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)

## 1. Identification

<b>Product Name</b>	Aluminium tri-sec-butoxide
<b>Cat No. :</b>	AC191210000; AC191210025; AC191210050; AC191211000; AC191215000
<b>CAS No</b>	2269-22-9
<b>Synonyms</b>	Aluminium sec-butoxide
<b>Recommended Use</b>	Laboratory chemicals.
<b>Uses advised against</b>	Food, drug, pesticide or biocidal product use.

## Details of the supplier of the safety data sheet

<b>Company</b>	
Fisher Scientific Company	Acros Organics
One Reagent Lane	One Reagent Lane
Fair Lawn, NJ 07410	Fair Lawn, NJ 07410
Tel: (201) 796-7100	

## **Emergency Telephone Number**

For information **US** call: 001-800-227-6701 / **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 according to [US] OSHA (29 CFR 1910.1200, 2024)

Flammable liquids	Category 3
Serious Eye Damage/Eye Irritation	Category 2
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system, Central nervous system (CNS).	

## Label Elements

### **Signal Word**

Warning

### **Hazard Statements**

Flammable liquid and vapor

Causes serious eye irritation  
May cause respiratory irritation  
May cause drowsiness or dizziness



### Precautionary Statements

#### Prevention

Wash face, hands and any exposed skin thoroughly after handling  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
Keep container tightly closed  
Ground and bond container and receiving equipment  
Use explosion-proof electrical/ventilating/lighting equipment  
Wear protective gloves/protective clothing/eye protection/face protection  
Keep cool  
Take action to prevent static discharges  
Use non-sparking tools

#### Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing  
Call a POISON CENTER or doctor if you feel unwell

#### Skin

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

#### Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention

#### Fire

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish

#### Storage

Store in a well-ventilated place. Keep container tightly closed

Store locked up

#### Disposal

Dispose of contents/container to an approved waste disposal plant

#### Hazards not otherwise classified (HNOC)

None identified

#### Hazards classified under paragraph (d)(1)(ii) of 1910.1200

No information available

### 3. Composition/information on Ingredients

Component	CAS No	Weight %
2-Butanol, aluminum salt	2269-22-9	>95

### 4. 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.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
<b>Inhalation</b>	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water.
<b>Most important symptoms and effects</b>	. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated
<b>Notes to Physician</b>	Treat symptomatically

## 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	CO <sub>2</sub> , dry chemical, dry sand, alcohol-resistant foam. Water mist may be used to cool closed containers.
<b>Unsuitable Extinguishing Media</b>	No information available
<b>Flash Point</b>	27 °C / 80.6 °F
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	406 °C / 762.8 °F
<b>Explosion Limits</b>	
Upper	9.80%
Lower	1.70%
<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. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Vapors may form explosive mixtures with air. Reacts violently with water.

### Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Burning produces obnoxious and toxic fumes.

### 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	Flammability	Instability	Physical hazards
2	2	1	N/A

## 6. Accidental release measures

<b>Personal Precautions</b>	Ensure adequate ventilation. Use personal protective equipment as required. Remove all sources of ignition. Take precautionary measures against static discharges.
<b>Environmental Precautions</b>	Should not be released into the environment.
<b>Methods for Containment and Clean Up</b>	Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Do not expose spill to water. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

## 7. Handling and Storage

<b>Handling</b>	Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Do not allow contact with water. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Take precautionary measures against static discharges.
<b>Storage.</b>	Keep away from heat, sparks and flame. Corrosives area. Flammables area. Keep under nitrogen. Keep container tightly closed in a dry and well-ventilated place. Keep away from water or moist air. Incompatible Materials. Strong oxidizing agents. Strong acids. Halogens. Metals.

## 8. Exposure controls / personal protection

<b>Exposure Guidelines</b>	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
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<b>Engineering Measures</b>	Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting equipment.
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### Personal Protective Equipment

<b>Eye/face Protection</b>	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.
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<b>Skin and body protection</b>	Wear appropriate protective gloves and clothing to prevent skin exposure.
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<b>Respiratory Protection</b>	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
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<b>Recommended Filter type:</b>	Organic gases and vapours filter. Type A. Brown. conforming to EN14387.
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<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice.
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## 9. Physical and chemical properties

### Appearance

<b>Physical State</b>	Viscous liquid Liquid
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<b>Color</b>	Light yellow
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<b>Odor</b>	No information available
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<b>Odor Threshold</b>	No information available
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<b>Property</b>	<b>Values</b>	<b>Remarks</b>	<b>• Method</b>
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<b>Melting Point/Range</b>	No data available
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<b>Softening Point</b>	No data available
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<b>Boiling Point/Range</b>	200 - 206 °C / 392 - 402.8 °F
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<b>Flash Point</b>	27 °C / 80.6 °F
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<b>Flammability (liquid)</b>	Flammable
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<b>Flammability (solid,gas)</b>	Not applicable
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<b>Explosion Limits</b>	<b>Lower</b> 1.7 Vol%
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<b>Autoignition Temperature</b>	<b>Upper</b> 9.8 Vol%
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<b>Decomposition Temperature</b>	406 °C / 762.8 °F
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<b>pH</b>	No data available
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<b>Viscosity</b>	No information available 1800 mPa.s at 20 °C
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<b>Water Solubility</b>	Decomposes
<b>Solubility in other solvents</b>	No information available
<b>Partition Coefficient (n-octanol/water)</b>	
<b>Vapor Pressure</b>	23 hPa @ 195 °C
<b>Density / Specific Gravity</b>	0.960
<b>Bulk Density</b>	Not applicable
<b>Vapor Density</b>	No data available
<b>Particle characteristics</b>	Not applicable (liquid)

**Other Information**

<b>Molecular Formula</b>	C12 H27 Al O3
<b>Molecular Weight</b>	246.33
<b>Explosive Properties</b>	explosive air/vapour mixtures possible

**10. Stability and reactivity**

<b>Reactive Hazard</b>	No
<b>Stability</b>	Moisture sensitive. Air sensitive.
<b>Conditions to Avoid</b>	Exposure to air. Incompatible products. Exposure to moist air or water. Keep away from open flames, hot surfaces and sources of ignition. Exposure to moisture.
<b>Incompatible Materials</b>	Strong oxidizing agents, Strong acids, Halogens, Metals
<b>Hazardous Decomposition Products</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Burning produces obnoxious and toxic fumes
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing. Reacts violently with water.

**11. Toxicological information****Information on expected route of exposure**

<b>Inhalation</b>	Not an expected route of exposure.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Eyes</b>	Avoid contact with eyes. Risk of serious damage to eyes. Irritating to eyes.
<b>Skin</b>	Avoid contact with skin. Contact with moist skin may cause skin burns. May cause irritation.

**Toxicology data for the components**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
2-Butanol, aluminum salt	>2000 mg/kg (Rat)	>2000 mg/kg (Rabbit)	-
<b>Toxicologically Synergistic Products</b>	No information available		
<b>(b) skin corrosion/irritation;</b>	No data available		
<b>(c) serious eye damage/irritation;</b>	Category 2		
<b>(d) respiratory or skin sensitization;</b>			
<b>Respiratory</b>	No data available		
<b>Skin</b>	No data available		

**(e) germ cell mutagenicity;** No data available

**(f) carcinogenicity;**

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
2-Butanol, aluminum salt	2269-22-9	Not listed				

**(g) reproductive toxicity;** No data available

**(h) STOT-single exposure;** Category 3

**Results / Target organs** Respiratory system, Central nervous system (CNS).

**(i) STOT-repeated exposure;** No data available

**Target Organs** No information available.

**(j) aspiration hazard;** No data available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

**Symptoms / effects,both acute and delayed** Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated.

**Other Adverse Effects** The toxicological properties have not been fully investigated.

**Endocrine Disrupting Properties** This product does not contain any known or suspected endocrine disruptors.

## 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** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

### DOT

<b>UN-No</b>	UN1993
<b>Proper Shipping Name</b>	Flammable liquid, n.o.s.
<b>Technical Shipping Name</b>	2-Butanol, aluminum salt
<b>Hazard Class</b>	3

<b>Packing Group</b>	III
<b>TDG</b>	
<b>UN-No</b>	UN1993
<b>Proper Shipping Name</b>	Flammable liquid, n.o.s.
<b>Technical Shipping Name</b>	2-Butanol, aluminum salt
<b>Hazard Class</b>	3
<b>Packing Group</b>	III
<b>IATA</b>	
<b>UN-No</b>	UN1993
<b>Proper Shipping Name</b>	Flammable liquid, n.o.s.
<b>Technical Shipping Name</b>	2-Butanol, aluminum salt
<b>Hazard Class</b>	3
<b>Packing Group</b>	III
<b>IMDG/IMO</b>	
<b>UN-No</b>	UN1993
<b>Proper Shipping Name</b>	Flammable liquid, n.o.s.
<b>Technical Shipping Name</b>	2-Butanol, aluminum salt
<b>Hazard Class</b>	3
<b>Packing Group</b>	III

## 15. Regulatory Information

### United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
2-Butanol, aluminum salt	2269-22-9	X	ACTIVE	-

#### Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

**TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)** Not applicable

**TSCA 12(b) - Notices of Export** Not applicable

### International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
2-Butanol, aluminum salt	2269-22-9	X	-	218-871-2	X	X	X	X	X	KE-03873

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

### U.S. Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

#### SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

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

**Clean Air Act** Not applicable

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

#### **CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

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

**U.S. State Right-to-Know Regulations** Not applicable

#### **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** No information available

**Authorisation/Restrictions according to EU REACH** Not applicable

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
2-Butanol, aluminum salt	2269-22-9	-	-	-

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

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
2-Butanol, aluminum salt	2269-22-9	Not applicable	Not applicable	Not applicable	Not applicable

**Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?**

Not applicable

#### **Other International Regulations**

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
2-Butanol, aluminum salt	2269-22-9	Not applicable	Not applicable	Not applicable	Not applicable

**16. Other Information**

<b>Prepared By</b>	Product stewardship (Regulatory Affairs) Thermo Fisher Scientific email - begel.sdsdesk@thermofisher.com
<b>Creation Date</b>	21-May-2010
<b>Revision Date</b>	19-Dec-2025
<b>Print Date</b>	19-Dec-2025
<b>Revision Summary</b>	Updated to the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) which published its Final Rule in the Federal Register revising the Hazard Communication Standard (HCS/HazCom), 29 CFR 1910.1200 (2024) (HCS §1910.1200, 2024), May 20, 2024, effective July 19, 2024.

**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**