

Classified as hazardous in accordance with the criteria of EPA New Zealand

## Section 1 - Identification

### Product Identifier

Product Name	<u>iso-Butyl acetate</u>
CAS No	110-19-0
Synonyms	2-Methylpropyl acetate
Molecular Formula	C6 H12 O2
Molecular Weight	116.16
Recommended Use	Laboratory chemicals.
Uses advised against	No Information available

Product Code	B/5000/17, B/5000/21
Address	Thermo Fisher Scientific New Zealand Ltd 244 Bush Road, Albany, Auckland, New Zealand
Emergency Tel.	CHEMTREC® 09 980 6780 or +64 9 980 6780
Telephone / Fax Numbers	Tel: 09 980 6700 Fax: 09 980 6788
E-mail address	<a href="mailto:ANZinfo@thermofisher.com">ANZinfo@thermofisher.com</a>

## Section 2 - Hazard(s) Identification

### Classification under Work Safe New Zealand

Classified as hazardous in accordance with the criteria of EPA New Zealand

HSNO Approval Number HSR001092

### GHS Classification

#### Physical hazards

Flammable liquids

Category 2

#### Health hazards

Serious Eye Damage/Eye Irritation  
Specific target organ toxicity - (single exposure)

Category 2  
Category 3

#### Environmental hazards

Based on available data, the classification criteria are not met

### Label Elements



Signal Word

Danger

**Hazard Statements**

H336 - May cause drowsiness or dizziness  
H225 - Highly flammable liquid and vapor  
H319 - Causes serious eye irritation

**Precautionary Statements****Prevention**

P233 - Keep container tightly closed  
P240 - Ground and bond container and receiving equipment  
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P242 - Use non-sparking tools  
P243 - Take action to prevent static discharges  
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
P241 - Use explosion-proof electrical/ ventilating/ lighting equipment  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P271 - Use only outdoors or in a well-ventilated area

**Response**

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower  
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P312 - Call a POISON CENTER or doctor if you feel unwell

**Storage**

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

**Disposal**

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

**Other hazards which do not result in classification**

Repeated exposure may cause skin dryness or cracking

## Section 3 - Composition and Information on Ingredients

Component	CAS No	Weight %
Isobutyl acetate	110-19-0	>95

## Section 4 - First Aid Measures

**Description of first aid measures****New Zealand Emergency Tel.**

CHEMTREC®  
09 980 6780 or +64 9 980 6780

**Inhalation**

Remove from exposure, lie down. Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

**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 soap and plenty of water while removing all contaminated

---

	clothes and shoes. Get medical attention.
<b>Ingestion</b>	Clean mouth with water. Get medical attention.
<b>Self-Protection of the First Aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.
<b>First Aid Facilities</b>	Eyewash, safety shower and washroom.
<b>Most important symptoms and effects</b>	Difficulty in breathing. . Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting
<b>Notes to Physician</b>	Treat symptomatically. Symptoms may be delayed.

## Section 5 - Fire Fighting Measures

### **Suitable Extinguishing Media**

Water spray. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Chemical foam. Water mist may be used to cool closed containers.

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

No information available.

### **Specific Hazards Arising from the Chemical**

Flammable. Vapors may form explosive mixtures with air. 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>).

### **Special protective equipment and precautions 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**

#### **Emergency procedures**

Remove all sources of ignition. Take precautionary measures against static discharges.

#### **Environmental Precautions**

See Section 12 for additional Ecological Information.

#### **Methods for Containment and Clean Up**

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Do not let this chemical enter the environment.

#### **Precautions to prevent secondary hazards**

Clean contaminated objects and areas thoroughly observing environmental regulations

#### **Reference to Other Sections**

Refer to protective measures listed in Sections 8 and 13.

## Section 7 - Handling and Storage

### **Precautions for Safe Handling**

#### **Advice on safe handling**

Avoid contact with skin and eyes. Avoid contact with skin and clothing. Avoid breathing vapors or mists. Do not ingest. If swallowed

then seek immediate medical assistance. Use spark-proof tools and explosion-proof equipment. Use only non-sparking tools. Keep away from open flames, hot surfaces and sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

#### Conditions for Safe Storage, Including any Incompatibilities

##### Storage Conditions

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from heat, sparks and flame. Flammables area. Keep container tightly closed in a dry and well-ventilated place.

##### Incompatible Materials

Strong oxidizing agents. Strong bases.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

AS 1940-2004 - The storage and handling of flammable and combustible liquids

## Section 8 - Exposure Controls and Personal Protection

#### Control parameters

##### Exposure limits

**NZ** - Workplace Exposure Standards and Biological Exposure Indices (6th edition). New Zealand Department of Labor

**UK** - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020.

**AUS** - Exposure Standards for Atmospheric Contaminants in the Occupational Environment - Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:3008(1995)]

Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)] updated in August, 2005. Safe Work Australia

**ACGIH** - Threshold Limit Values - Ceiling (TLV-C) guidelines by the American Conference of Governmental Industrial Hygienists (ACGIH) for controlling worker exposure to airborne chemical concentrations in the workplace.

Component	New Zealand WEL	Australia	ACGIH TLV	The United Kingdom
Isobutyl acetate	TWA: 150 ppm TWA: 713 mg/m <sup>3</sup>	TWA: 150 ppm TWA: 713 mg/m <sup>3</sup>	TWA: 50 ppm STEL: 150 ppm	STEL: 187 ppm 15 min STEL: 903 mg/m <sup>3</sup> 15 min TWA: 150 ppm 8 hr TWA: 724 mg/m <sup>3</sup> 8 hr

##### Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

#### Appropriate engineering controls

##### Engineering Measures

Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting equipment. 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

#### Individual protection measures, such as personal protective equipment

##### Eye Protection

Wear safety glasses with side shields (or goggles) (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

##### Hand Protection

Protective gloves

Glove material	Breakthrough time	Glove thickness	AUS/NZ Standard	Glove comments
Laminated film (Barrier).	> 480 minutes	0.5 mm	AS/NZS 2161	(minimum requirement)
Butyl rubber	< 60 minutes	0.3 mm		

PVC	< 30 minutes	0.9 mm
-----	--------------	--------

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.

<b>Skin and body protection</b>	Wear appropriate protective gloves and clothing to prevent skin exposure
<b>Respiratory Protection</b>	Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of respiratory protective devices
<b>Recommended Filter type:</b>	Organic gases and vapours filter Type A Brown conforming to EN14387 (or AUS/NZ equivalent)
<b>Recommended half mask:-</b>	Valve filtering: EN405 or Half mask: EN140 plus filter, EN 141 (or AUS/NZ equivalent)

**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

<b>Physical State</b>	Liquid	
<b>Appearance</b>	Colorless	
<b>Odor</b>	sweet	
<b>Odor Threshold</b>	4.05 ppm	
<b>pH</b>	5.0	4g/lH <sub>2</sub> O
<b>Melting Point/Range</b>	-99 °C / -146.2 °F	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	116 - 118 °C / 240.8 - 243.5 °F	@ 760 mmHg
<b>Flammability (liquid)</b>	Highly flammable	On basis of test data
<b>Flammability (solid,gas)</b>	Not applicable	Liquid
<b>Explosion Limits</b>	<b>Lower</b> 2.4 <b>Upper</b> 10.5	
<b>Flash Point</b>	18 °C / 64.4 °F	<b>Method -</b> Abel-Pensky (DIN 51755)
<b>Autoignition Temperature</b>	405 °C / 761 °F	
<b>Decomposition Temperature</b>	No data available	
<b>Viscosity</b>	0.7 mPa s at 20 °C	
<b>Water Solubility</b>	7 g/L (20°C)	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Component</b>	<b>log Pow</b>	
Isobutyl acetate	2.3	
<b>Vapor Pressure</b>	15 mmHg @ 20 °C	
<b>Density / Specific Gravity</b>	0.873	
<b>Bulk Density</b>	Not applicable	Liquid
<b>Vapor Density</b>	4.0	(Air = 1.0)
<b>Particle characteristics</b>	Not applicable (liquid)	

### Other information

<b>Molecular Formula</b>	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>
<b>Molecular Weight</b>	116.16
<b>Explosive Properties</b>	Not explosive Vapors may form explosive mixtures with air

Evaporation Rate 1.5 - (Air = 1.0)

## Section 10 - Stability and Reactivity

**Reactivity** None known, based on information available

**Stability** Stable under normal conditions.

**Sensitivity to Mechanical Impact** No information available

**Sensitivity to Static Discharge** No information available

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Hazardous Reactions** No information available.

**Conditions to Avoid** Keep away from open flames, hot surfaces and sources of ignition, Incompatible products, Exposure to moist air or water.

**Incompatible Materials** Strong oxidizing agents, Strong bases.

**Hazardous Decomposition Products** Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

## Section 11 - Toxicological Information

### Acute Effects

#### Information on likely routes of exposure

**Product Information** No acute toxicity information is available for this product

**Inhalation** Avoid breathing vapors or mists.

**Eyes** Avoid contact with eyes.

**Skin** Avoid contact with skin. Prolonged skin contact may defat the skin and produce dermatitis.

**Ingestion** May be harmful if swallowed.

#### Numerical measures of toxicity

**(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
Isobutyl acetate	LD50 = 15400 mg/kg ( Rat )	LD50 > 17400 mg/kg ( Rabbit )	LC0 = 23.4 mg/l (rat; 4 h)

**(b) skin corrosion/irritation;** Based on available data, the classification criteria are not met

**(c) serious eye damage/irritation;** Based on available data, the classification criteria are not met

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

**Respiratory** Based on available data, the classification criteria are not met

**Skin** Based on available data, the classification criteria are not met

**(e) germ cell mutagenicity;** Based on available data, the classification criteria are not met

(f) **carcinogenicity;** Based on available data, the classification criteria are not met  
There are no known carcinogenic chemicals in this product

(g) **reproductive toxicity;** Based on available data, the classification criteria are not met

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

**Results / Target organs** Central nervous system (CNS)

(i) **STOT-repeated exposure;** Based on available data, the classification criteria are not met

**Target Organs** None known.

(j) **aspiration hazard;** Based on available data, the classification criteria are not met

**Other Adverse Effects** See actual entry in RTECS for complete information

**Symptoms / effects, both acute and delayed**

Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

## Section 12 - Ecological Information

### Ecotoxicity

**Aquatic ecotoxicity** Do not empty into drains.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Isobutyl acetate	LC50: = 17 mg/L, 96h (Oryzias latipes)		EC50: 370 mg/l (Pseudokirchneriella subcapitata (72 h) (OECD Test Guideline 201)	

**Terrestrial ecotoxicity** There is no data for this product

**Persistence and Degradability** Readily biodegradable

**Persistence** Soluble in water, Persistence is unlikely, based on information available.

Component	Degradability
Isobutyl acetate 110-19-0 (>95)	98 % (21 d)(OECD 301 D)

**Bioaccumulative Potential** Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Isobutyl acetate	2.3	No data available

**Mobility** 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

### Other adverse effects

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors  
**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 13 - Disposal Considerations

### Waste treatment methods

**Waste from Residues/Unused Products**

Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable 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**

Disposal agencies or waste contractors must comply with the New Zealand Hazardous Substances (Disposal) Regulations. 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.

## Section 14 - Transport Information

Component	Hazchem Code
Isobutyl acetate 110-19-0 ( >95 )	3YE

**NZS 5433:2020**

UN-No	UN1213
Proper Shipping Name	ISOBUTYL ACETATE
Hazard Class	3
Packing Group	II

**IATA**

UN-No	UN1213
Proper Shipping Name	ISOBUTYL ACETATE
Hazard Class	3
Packing Group	II

**IMDG/IMO**

UN-No	UN1213
Proper Shipping Name	ISOBUTYL ACETATE
Hazard Class	3
Packing Group	II

Environmental hazards	No hazards identified
-----------------------	-----------------------

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable, packaged goods
--	--------------------------------

Special Precautions	No special precautions required. Please refer to the applicable dangerous goods regulations for additional information.
---------------------	---

Additional information	None known
------------------------	------------

## Section 15 - Regulatory Information



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

<b>HSNO Approval Number</b>	HSR001092
-----------------------------	-----------

**National Regulations**

There are no applicable tolerable exposure limits or environmental exposure limits according to the EPA Controls for Hazardous Substances

**Certified handlers, tracking and controlled substance license requirements**

Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information. Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information.

**Prohibition or notification/licensing requirements**

Shown below are details of specific prohibition/notifications or licensing requirements when they apply.

**International Regulations**

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

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

**Rotterdam Convention (PIC)** Not applicable

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

**International Inventories**

New Zealand (NZIoC), Australia (AICS), Europe (EINECS/ELINCS/NLP), Korea (KECL), China (IECSC), Taiwan (TCSI), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Component	CAS No	NZIoC	AICS	EINECS	ELINCS	NLP	KECL	IECSC	TCSI
Isobutyl acetate	110-19-0	X	X	203-745-1	-	-	KE-00055	X	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	PICCS	ISHL	ENCS
Isobutyl acetate	110-19-0	X	ACTIVE	X	-	X	X	X

**Legend:** X - Listed '-' - Not Listed

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

**Section 16 - Other Information**

**This safety data sheet complies with the requirements of the EPA Hazardous Substances (Hazard Classification) Notice 2020 and WorkSafe New Zealand Regulations**

**Legend**

**NZIoC** - New Zealand Inventory of Chemicals  
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**IECSC** - Chinese Inventory of Existing Chemical Substances

**AICS** - Australian Inventory of Chemical Substances  
**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances  
**ENCS** - Japanese Existing and New Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**TWA** - Time Weighted Average  
**IARC** - International Agency for Research on Cancer  
**NZS 5433:2020** - Transport of Dangerous Goods on Land  
**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association  
**MARPOL** - International Convention for the Prevention of Pollution from Ships  
**LD50** - Lethal Dose 50%  
**EC50** - Effective Concentration 50%  
**WEL** - Workplace Exposure Limit  
**DNEL** - Derived No Effect Level  
**POW** - Partition coefficient Octanol:Water  
**vPvB** - very Persistent, very Bioaccumulative  
**VOC** - (Volatile Organic Compound)  
**CAS** - Chemical Abstracts Service  
**ACGIH** - American Conference of Governmental Industrial Hygienists  
**PNEC** - Predicted No Effect Concentration  
**OECD** - Organisation for Economic Co-operation and Development  
**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code  
**ADG** - Australian Code for the Transport of Dangerous Goods by Road and Rail  
**LC50** - Lethal Concentration 50%  
**ATE** - Acute Toxicity Estimate  
**RPE** - Respiratory Protective Equipment  
**NOEC** - No Observed Effect Concentration  
**BCF** - Bioconcentration factor  
**PBT** - Persistent, Bioaccumulative, Toxic

**Key literature references and sources for data**

HSNO classifications provided in the New Zealand Chemical Classification Information Database (CCID).  
<https://echa.europa.eu/information-on-chemicals>  
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS  
EPA Guide to classifying hazardous substances in New Zealand  
EPA - Assigning a product to an existing HSNO approval guide

**Training Advice**

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Chemical incident response training.

Fire prevention and fighting, identifying hazards and risks, static electricity, explosive atmospheres posed by vapours and dusts.

<b>Revision Date</b>	13-Mar-2023
<b>Revision Summary</b>	Not applicable

**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