

Creation Date 24-Sep-2012

Revision Date 09-Feb-2024

Revision Number 7

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

**Product Description:** Lithium aluminium di-n-butylamide, 0.16M solution in 1,2-dimethoxyethane  
**Cat No. :** 449190000; 449191000; 449195000  
**Molecular Formula** C32 H72 Al Li N4

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

**Recommended Use** Laboratory chemicals.  
**Uses advised against** No Information available

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

#### Company

**UK entity/business name**  
 Fisher Scientific UK  
 Bishop Meadow Road,  
 Loughborough, Leicestershire LE11 5RG,  
 United Kingdom

**EU entity/business name**  
 Thermo Fisher Scientific  
 Janssen Pharmaceuticaaan 3a, 2440 Geel,  
 Belgium

**E-mail address** begel.sdsdesk@thermofisher.com

### 1.4. 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

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

**CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567**

#### Physical hazards

Flammable liquids

Category 2 (H225)

#### Health hazards

# SAFETY DATA SHEET

Lithium aluminium di-n-butylamide, 0.16M solution in 1,2-dimethoxyethane

Revision Date 09-Feb-2024

Acute Inhalation Toxicity - Vapors  
Skin Corrosion/Irritation  
Serious Eye Damage/Eye Irritation  
Reproductive Toxicity

Category 4 (H332)  
Category 2 (H315)  
Category 2 (H319)  
Category 1B (H360FD)

## **Environmental hazards**

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

## **2.2. Label elements**



Signal Word

Danger

## **Hazard Statements**

H225 - Highly flammable liquid and vapor  
H332 - Harmful if inhaled  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H360FD - May damage fertility. May damage the unborn child  
EUH019 - May form explosive peroxides

## **Precautionary Statements**

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower  
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  
P312 - Call a POISON CENTER or doctor if you feel unwell

## **Additional EU labelling**

Restricted to professional users

## **2.3. Other hazards**

This product does not contain any known or suspected endocrine disruptors

## **SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

### **3.2. Mixtures**

Component	CAS No	EC No	Weight %	CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
Ethylene glycol dimethyl ether	110-71-4	EEC No. 203-794-9	90	Flam. Liq. 2 (H225) Acute Tox. 4 (H332) Repr. 1B (H360FD) [EUH019]
Lithium aluminium di-n-butylamide	15405-86-4		10	Flam. Liq. 3 (H226)

# SAFETY DATA SHEET

Lithium aluminium di-n-butylamide, 0.16M solution in 1,2-dimethoxyethane

Revision Date 09-Feb-2024

				Acute Tox. 4 (H312) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335)
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Full text of Hazard Statements: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

<b>General Advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or poison control center immediately.
<b>Inhalation</b>	Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.
<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.

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

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

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

<b>Notes to Physician</b>	Treat symptomatically. Symptoms may be delayed.
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## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

#### Suitable Extinguishing Media

Water spray, carbon dioxide (CO<sub>2</sub>), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

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

No information available.

### 5.2. Special hazards arising from the substance or mixture

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 dioxide (CO<sub>2</sub>), Carbon monoxide (CO), Nitrogen oxides (NO<sub>x</sub>), Lithium oxide, Fumes of aluminum or aluminum oxide.

# SAFETY DATA SHEET

Lithium aluminium di-n-butylamide, 0.16M solution in 1,2-dimethoxyethane

Revision Date 09-Feb-2024

## **5.3. Advice for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

### **6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment as required. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges.

### **6.2. Environmental precautions**

Should not be released into the environment. See Section 12 for additional Ecological Information. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

### **6.3. Methods and material for containment and cleaning 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.

### **6.4. Reference to other sections**

Refer to protective measures listed in Sections 8 and 13.

## **SECTION 7: HANDLING AND STORAGE**

### **7.1. Precautions for safe handling**

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. If peroxide formation is suspected, do not open or move container. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. 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.

### **7.2. Conditions for safe storage, including any incompatibilities**

Store under an inert atmosphere. Flammables area. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Containers should be dated when opened and tested periodically for the presence of peroxides. Should crystals form in a peroxidizable liquid, peroxidation may have occurred and the product should be considered extremely dangerous. In this instance, the container should only be opened remotely by professionals.

**Technical Rules for Hazardous Substances (TRGS) 510**  
**Storage Class (LGK) (Germany)**

Class 3

### **7.3. Specific end use(s)**

Use in laboratories

## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

# SAFETY DATA SHEET

Lithium aluminium di-n-butylamide, 0.16M solution in 1,2-dimethoxyethane

Revision Date 09-Feb-2024

## 8.1. Control parameters

### Exposure limits

List source(s):

### Biological limit values

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

### Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

See table for values

Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
Ethylene glycol dimethyl ether 110-71-4 ( 90 )				DNEL = 1.1mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Ethylene glycol dimethyl ether 110-71-4 ( 90 )				DNEL = 3.1mg/m <sup>3</sup>

### Predicted No Effect Concentration (PNEC)

See values below.

Component	Fresh water	Fresh water sediment	Water Intermittent	Microorganisms in sewage treatment	Soil (Agriculture)
Ethylene glycol dimethyl ether 110-71-4 ( 90 )	PNEC = 6.4mg/L	PNEC = 25.7mg/kg sediment dw	PNEC = 40mg/L	PNEC = 20mg/L	PNEC = 1.39mg/kg soil dw

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
Ethylene glycol dimethyl ether 110-71-4 ( 90 )	PNEC = 0.64mg/L	PNEC = 2.57mg/kg sediment dw		PNEC = 0.622mg/kg food	

## 8.2. Exposure controls

### Engineering Measures

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

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 (European standard - EN 166)

#### Hand Protection

Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Nitrile rubber Viton (R)	See manufacturers recommendations	-	EN 374	(minimum requirement)

#### Skin and body protection

Long sleeved clothing.

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.

# SAFETY DATA SHEET

Lithium aluminium di-n-butylamide, 0.16M solution in 1,2-dimethoxyethane

Revision Date 09-Feb-2024

(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

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

## Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

**Recommended Filter type:** Organic gases and vapours filter Type A Brown conforming to EN14387

## Small scale/Laboratory use

Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Recommended half mask:-** Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141

When RPE is used a face piece Fit Test should be conducted

## Environmental exposure controls

No information available.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

#### Physical State

Liquid

#### Appearance

#### Odor

No information available

#### Odor Threshold

No data available

#### Melting Point/Range

-54 °C / -65.2 °F

#### Softening Point

No data available

#### Boiling Point/Range

No data available

#### Flammability (liquid)

Highly flammable

On basis of test data

#### Flammability (solid,gas)

Not applicable

Liquid

#### Explosion Limits

No data available

#### Flash Point

-6 °C / 21 °F

**Method -** No information available

#### Autoignition Temperature

No data available

#### Decomposition Temperature

No data available

#### pH

No data available

#### Viscosity

No data available

#### Water Solubility

No information available

#### Solubility in other solvents

No information available

#### Partition Coefficient (n-octanol/water)

#### Component

**log Pow**

Ethylene glycol dimethyl ether

-0.21

#### Vapor Pressure

No data available

#### Density / Specific Gravity

0.86

#### Bulk Density

Not applicable

Liquid

#### Vapor Density

No data available

(Air = 1.0)

#### Particle characteristics

Not applicable (liquid)

### 9.2. Other information

#### Molecular Formula

C32 H72 Al Li N4

#### Molecular Weight

546.86

#### Explosive Properties

Vapors may form explosive mixtures with air

# SAFETY DATA SHEET

Lithium aluminium di-n-butylamide, 0.16M solution in 1,2-dimethoxyethane

Revision Date 09-Feb-2024

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

None known, based on information available

### 10.2. Chemical stability

Air sensitive. Moisture sensitive.

### 10.3. Possibility of hazardous reactions

#### Hazardous Polymerization Hazardous Reactions

Hazardous polymerization does not occur.  
None under normal processing.

### 10.4. Conditions to avoid

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

### 10.5. Incompatible materials

Strong oxidizing agents. Water.

### 10.6. Hazardous decomposition products

Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO). Nitrogen oxides (NO<sub>x</sub>). Lithium oxide.  
Fumes of aluminum or aluminum oxide.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### 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

Category 4

#### Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethylene glycol dimethyl ether	LD50 > 4000 mg/kg ( Rat )	LD50 1000 - 2000 mg/kg ( Rabbit )	LC50 20 - 63 mg/L ( Rat ) 6 h

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

Category 2

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

Category 2

#### (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

# SAFETY DATA SHEET

Lithium aluminium di-n-butylamide, 0.16M solution in 1,2-dimethoxyethane

Revision Date 09-Feb-2024

(g) reproductive toxicity; Reproductive Effects	Category 1B May cause harm to the unborn child. May impair fertility.
(h) STOT-single exposure;	No data available
(i) STOT-repeated exposure;  Target Organs	No data available  No information available.
(j) aspiration hazard;	No data available
Symptoms / effects, both acute and delayed	Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

## 11.2. Information on other hazards

Endocrine Disrupting Properties	Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.
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## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

Ecotoxicity effects	Do not empty into drains. May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.
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12.2. Persistence and degradability	Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary
Persistence	May persist.
Degradation in sewage treatment plant	Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

12.3. Bioaccumulative potential	Product has a high potential to bioconcentrate
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Component	log Pow	Bioconcentration factor (BCF)
Ethylene glycol dimethyl ether	-0.21	No data available

12.4. Mobility in soil	No information available
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12.5. Results of PBT and vPvB assessment	No data available for assessment.
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### 12.6. Endocrine disrupting properties

Endocrine Disruptor Information	This product does not contain any known or suspected endocrine disruptors
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### 12.7. Other adverse effects

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



# SAFETY DATA SHEET

Lithium aluminium di-n-butylamide, 0.16M solution in 1,2-dimethoxyethane

Revision Date 09-Feb-2024

## 13.1. 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.

### European Waste Catalogue (EWC)

According to the European Waste Catalog, Waste Codes are not product specific, but application specific.

### 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.

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

#### 14.1. UN number

UN1993

#### 14.2. UN proper shipping name

Flammable liquid, n.o.s.

#### Technical Shipping Name

1,2-dimethoxyethane, Lithium aluminium di-n-butylamide

#### 14.3. Transport hazard class(es)

3

#### 14.4. Packing group

II

### ADR

#### 14.1. UN number

UN1993

#### 14.2. UN proper shipping name

Flammable liquid, n.o.s.

#### Technical Shipping Name

1,2-dimethoxyethane, Lithium aluminium di-n-butylamide

#### 14.3. Transport hazard class(es)

3

#### 14.4. Packing group

II

### IATA

#### 14.1. UN number

UN1993

#### 14.2. UN proper shipping name

Flammable liquid, n.o.s.

#### Technical Shipping Name

1,2-dimethoxyethane, Lithium aluminium di-n-butylamide

#### 14.3. Transport hazard class(es)

3

#### 14.4. Packing group

II

#### 14.5. Environmental hazards

No hazards identified

#### 14.6. Special precautions for user

No special precautions required.

#### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

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

#### International Inventories

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

# SAFETY DATA SHEET

Lithium aluminium di-n-butylamide, 0.16M solution in 1,2-dimethoxyethane

Revision Date 09-Feb-2024

Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
Ethylene glycol dimethyl ether	110-71-4	203-794-9	-	-	X	X	KE-13665	X	X
Lithium aluminium di-n-butylamide	15405-86-4	-	-	-	-	-	-	-	-

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Ethylene glycol dimethyl ether	110-71-4	X	ACTIVE	X	-	X	X	X
Lithium aluminium di-n-butylamide	15405-86-4	-	-	-	-	-	-	-

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

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

## Authorisation/Restrictions according to EU REACH

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)
Ethylene glycol dimethyl ether	110-71-4	-	Use restricted. See item 30. (see link for restriction details) Use restricted. See item 75. (see link for restriction details)	SVHC Candidate list - Toxic for reproduction (Article 57 c)
Lithium aluminium di-n-butylamide	15405-86-4	-	-	-

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

### REACH links

<https://echa.europa.eu/authorisation-list>

<https://echa.europa.eu/substances-restricted-under-reach>

<https://echa.europa.eu/candidate-list-table>

## Seveso III Directive (2012/18/EC)

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
Ethylene glycol dimethyl ether	110-71-4	Not applicable	Not applicable
Lithium aluminium di-n-butylamide	15405-86-4	Not applicable	Not applicable

## Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

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

Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

Take note of Directive 94/33/EC on the protection of young people at work

Take note of Dir 92/85/EC on the protection of pregnant and breastfeeding women at work

## National Regulations

**UK** - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

## WGK Classification

Water endangering class = 1 (self classification)

# SAFETY DATA SHEET

Lithium aluminium di-n-butylamide, 0.16M solution in 1,2-dimethoxyethane

Revision Date 09-Feb-2024

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Ethylene glycol dimethyl ether	WGK1	

Component	France - INRS (Tables of occupational diseases)
Ethylene glycol dimethyl ether	Tableaux des maladies professionnelles (TMP) - RG 84

Component	Switzerland - Ordinance on the Reduction of Risk from handling of hazardous substances preparation (SR 814.81)	Switzerland - Ordinance on Incentive Taxes on Volatile Organic Compounds (OVOC)	Switzerland - Ordinance of the Rotterdam Convention on the Prior Informed Consent Procedure
Ethylene glycol dimethyl ether 110-71-4 ( 90 )		Group I	

## 15.2. Chemical safety assessment

Chemical Safety Assessment/Reports (CSA/CSR) are not required for mixtures

## SECTION 16: OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3

H332 - Harmful if inhaled  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H360FD - May damage fertility. May damage the unborn child  
EUH019 - May form explosive peroxides  
H225 - Highly flammable liquid and vapor  
H226 - Flammable liquid and vapor  
H312 - Harmful in contact with skin  
H335 - May cause respiratory irritation  
H360Fd - May damage fertility. Suspected of damaging the unborn child

### 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

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer  
Predicted No Effect Concentration (PNEC)

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**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

### Key literature references and sources for data

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

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

**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

Lithium aluminium di-n-butylamide, 0.16M solution in 1,2-dimethoxyethane

Revision Date 09-Feb-2024

**Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:**

<b>Physical hazards</b>	On basis of test data
<b>Health Hazards</b>	Calculation method
<b>Environmental hazards</b>	Calculation method

## 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.

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

Chemical incident response training.

<b>Creation Date</b>	24-Sep-2012
<b>Revision Date</b>	09-Feb-2024
<b>Revision Summary</b>	Not applicable.

**This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as amended.**

## 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**