

## LITHIUM NITRATE ANHYDROUS

## Section 1: Identification of the substance/mixture and of the company/undertaking

## 1.1. Product identifier

Product name:	Lithium Nitrate Anhydrous
CAS Number:	7790-69-4
EC Number:	232-218-9
REACH Registration No.	01-2119968667-16-0003 (EU) 01-5156175734-8-0001 (UK)

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

Relevant identified uses	ES 1: Manufacture of lithium nitrate. ES 2: Formulation or re-packing; various products Adsorbents, Heat Transfer Fluids. ES 3: Use at industrial sites; Polymer Preparations and Compounds; Manufacture of rubber products ES 4: Use at industrial sites; Heat Transfer Fluids; Electricity, steam, gas water supply and sewage treatment ES 5: Use at industrial sites; Other
Uses advised against	Do not use for private purposes (household)

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

Company name:	East Harbour Group Ltd 20 Clough Road, Severalls Industrial Park Colchester, Essex, CO4 9QS United Kingdom
Telephone:	+44 (0) 333 242 0100
Email:	<a href="mailto:info@eastharbourgroup.com">info@eastharbourgroup.com</a>

## 1.4 Emergency telephone number

Emergency telephone:	0800 246 1274
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## Section 2: Hazardous identification

## 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)		
H272	Ox. Sol. 3	May intensify fire; Oxidiser
H302	Acute Tox. 4	Harmful if swallowed
H319	Eye Irrit. 2	Causes serious eye irritation

## Additional information

For full text of Hazard- and EU Hazard-statements: see SECTION 16

## LITHIUM NITRATE ANHYDROUS

## 2.2 Label elements

## Pictogram



Signal word

Warning

## Hazard statement(s)

H272

May intensify fire; Oxidiser

H302

Harmful if swallowed

H319

Causes serious eye irritation

## Precautionary statement(s)

P210

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

P221

Take any precaution to avoid mixing with combustibles.

P280

Wear protective gloves/protective clothing/eye protection/face protection

P370+P378

In case of fire: Use water for extinction

P301+P312

IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell.

P305+P351+P338

IF IN EYES: Rinse Cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

## Supplemental information on the label

None

## Supplementary Hazard Information (EU)

None

## Hazard Determining Component(s)

Lithium nitrate

## 2.3. Other hazards

The PBT/vPvB evaluation does not apply to inorganic substances. Lithium nitrate is not considered to have endocrine disrupting properties.

## Section 3: Composition/information on ingredients

## 3.1. Substances

Chemical Name	Lithium nitrate
Identification Numbers	
EC No.	232-218-9
CAS No.	7790-69-4
Index No	Not applicable
REACH Registration No.	01-2119968667-16-0003 (EU) 01-5156175734-8-0001 (UK)
Other means of identification	Not applicable
%	98 - 100

For full text of H-statements, see SECTION 16.

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## Section 4: First aid measures

### 4.1. Description of first aid measures

#### General notes

Call a doctor if you feel unwell.

#### Following inhalation

Remove casualty to fresh air. Allow casualty to regain normal breathing pattern. Wash out mouth with water if necessary. If discomfort persists then obtain medical advice. Apply artificial respiration if the casualty is not breathing and seek immediate medical attention.

#### Following skin contact

Wash thoroughly with soap and water for at least 15 minutes. Wash contaminated clothing before re-use. Any rashes should be washed with soap and warm water. Rashes normally clear up within a couple of hours of being washed. If rashes persist then obtain medical advice.

#### Following eye contact

Irrigate thoroughly with water or saline solution for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain immediate medical attention if discomfort persists.

#### Following ingestion

Wash out mouth thoroughly with water, only if the casualty is conscious. Give plenty of water to drink. Obtain immediate medical attention.

#### Self-protection of the first aider

If it is suspected that the substance is still present, wear appropriate personal protective equipment.

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

Headache, nausea, lowered blood pressure, gastrointestinal disturbance. Irritation of the eyes, the skin and the mucous membranes. This manifests itself on the skin as red itchy patches which have been in contact with the substance. The presence of this substance in the eyes will cause redness and stinging to the person(s) affected.

Irritant effects and components of the product cause formation of methaemoglobin.

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

Treat symptomatically.

## Section 5: Fire-fighting measures

### 5.1. Extinguishing media

Suitable extinguishing media

Water

Unsuitable extinguishing media

Dry chemical, CO<sub>2</sub> or Halon

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

The substance is an oxidiser. Contact with easily oxidisable or combustible material may cause fire or explosion upon ignition from any source.

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## Hazardous combustion products

Nitrogen Oxides and Lithium Oxide

### 5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit. Use water spray to cool unopened containers. Contact with combustible material may cause fire. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

## Section 6: Accidental release measures

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

#### For non-emergency personnel

Ventilate the spill area. Wear personal protective equipment (see Section 8). Avoid contact with the skin, the eyes and clothing. Avoid formation of dust. Wear an approved dust mask if dust is likely.

Persons not wearing personal protective clothing should be restricted from the spillage area.

#### For emergency responders

Evacuate unnecessary personnel. Ventilate the spill area. Wear personal protective equipment (see Section 8). Avoid contact with the skin, the eyes and clothing. Avoid formation of dust. Wear an approved dust mask if dust is likely.

Persons not wearing personal protective clothing should be restricted from the spillage area.

### 6.2. Environmental precautions

Seal inlets to sewers or water courses and seek to contain spillage.

Water used for final wash down of the spillage site should be contained and collected for disposal (see section 13).

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

Collect spillage using clean, dry, metal tools (e.g., small scoop), taking precautions to avoid generation of dust and place in a clean, dry, suitable labelled drum for disposal or re-use (see section 13).

The area affected area should then be washed down and the washings collected for disposal by an accredited waste disposal company.

Contact Leverton-Clarke for advice regarding recycling.

### 6.4. Reference to other sections

For personal protective equipment see Section 8. For disposal see Section 13.

## Section 7: Handling and storage

### 7.1. Precautions for safe handling

When handling, wear personal protective equipment (section 8) and take measures to prevent generation of dusts. Avoid contact with the skin, the eyes and clothing. Do not breathe dust.

Wash thoroughly after handling. Eating, drinking, and smoking should not be permitted in areas where this substance is handled. Wash immediately all contaminated clothing.

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

Store in the original container. Keep containers tightly closed in a cool dry, covered, banded and secure area. Protect from moisture. Containers should be protected from physical damage.

Store away from strong acids, reducing agents and flammable materials.

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

Refer to Section 1.2

**Section 8: Exposure controls/personal protection****8.1. Control parameters**

There is no specific Workplace Exposure Limit (WEL) for this substance.

**Derived No Effect Level (DNEL) – Workers**

Exposure Route	Acute, Local effects	Acute, systemic effects	Chronic, local effects	Chronic, systemic effects
Inhalation		No hazard identified		10 mg/m <sup>3</sup>
Dermal		No hazard identified		41.1 mg/kg bw/day

**Predicted No Effect Concentration (PNEC)**

PNEC fresh water	16.9 mg/l
PNEC marine water	1.69 mg/l
PNEC intermittent release, fresh water	25.7 mg/l
PNEC freshwater, sediments	439 mg/kg dry weight
PNEC marine water, sediments	43.9 mg/kg dry weight
PNEC soil	81.23 mg/kg dry soil
PNEC STP	228 mg/l

**8.2. Exposure controls****Appropriate engineering controls**

Use engineering controls (e.g., local exhaust ventilation) and supply personal protective equipment. Take measures to avoid the production of dust. Take precautionary measures against static discharge. Wear personal protective equipment as described below.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

When using small quantities (grams), approved safety goggles should be adequate (EN 166:2001). If larger quantities are used in a manufacturing/ repacking process, then a full-face visor should be worn.

**Skin protection / Hand protection**

Disposable vinyl gloves should be the minimum protection used when handling small quantities. When handling larger quantities, vinyl gloves should be worn underneath nitrile rubber gloves that provide protection to both the hands and lower arms. (EN374)

**Other**

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Laboratory coat or other cotton/polyester overalls fully covering the body and limbs should be used when handling small quantities in a laboratory or manufacturing/repacking process to prevent contact with the skin, DIN EN 13034 (Type 6).

## Respiratory protection



Any work with this substance in a laboratory should be carried out in a fume cupboard. When handling larger quantities in a manufacturing/repacking process a half-face respirator or an air helmet should be used, along with local exhaust ventilation if there is a chance that dust will be generated. Type P2 (EN143).

## Thermal hazards

None

## Environmental exposure controls

Avoid release to the environment. The substance should only be used in a bunded area to prevent escape to the external environment.

Local exhaust ventilation should be used where there is a chance of dust being generated.

## Section 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	Granular powder
Colour	White
Odour	None
Odour threshold	Not applicable
Melting point/freezing point	253 - 264 °C
Boiling point or initial boiling point and boiling range	Decomposes above 600 °C
Flammability	Not flammable. Oxidiser. Contact with flammable materials may cause fire
Lower and upper explosion limit	Not applicable
Flash point	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	600 °C
pH	c.6 at 10% w/w aqueous solution
Kinematic viscosity	Not applicable
Solubility	1020 g/L (20 °C, water)
Partition coefficient n-octanol/water (log value)	No data available
Vapour pressure	Not applicable
Density and/or relative density	2.38
Relative vapour density	Not applicable
Particle characteristics	d10: 292.01 µm, d50: 508.82 µm, d90: 582.55 µm. (FMC, 2010)

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% < 10 µm: 0.1 %.

## 9.2. Other information

### Information with regard to physical hazard classes

#### Explosive properties

Not explosive

#### Oxidising properties

Oxidiser, category 3

### Other safety characteristics

Hygroscopic

## Section 10: Stability and Reactivity

### 10.1. Reactivity

Oxidiser. Contact with combustible materials may cause fire.

### 10.2. Chemical stability

Stable under normal storage and temperature conditions.

### 10.3. Possibility of hazardous reactions

Contact with combustible materials may cause fire.

### 10.4. Conditions to avoid

Keep dry. Take precautionary measures against static discharge.

### 10.5. Incompatible materials

Alkyl esters, phosphorous, tin(II) chloride, reducing agents, combustibles (such as paper, wood and cotton), strong acids. Some organics (fuels) form explosive mixtures.

### 10.6. Hazardous decomposition products

May decompose to nitrogen oxides (NOx) and Lithium.

## Section 11: Toxicological Information

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

#### acute toxicity

##### acute toxicity - oral

LD50 (Oral, rat): 1426mg/kg

Acute Tox. 4 Harmful if swallowed.

##### acute toxicity - dermal

LD50 (Dermal, rat): >2000mg/kg

Not classified. Based on the available information, the classification criteria are not met.

##### acute toxicity - inhalation

LC50 (Inhalation, rat): > 5.93 mg/L air

Not classified. Based on the available information, the classification criteria are not met.

##### skin corrosion/irritation

Not classified. Based on the available information, the classification criteria are not met.

However, can cause an irritant effect on skin, leading to temporary rashes.

##### serious eye damage/irritation

Eye Irrit. 2 Causes serious eye irritation.

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Irritant to eye. If not flushed may lead to permanent damage.

**respiratory or skin sensitisation**  
**respiratory sensitisation**  
**skin sensitisation**

Not classified. No sensitizing effect known  
 Not classified. Based on the available information, the classification criteria are not met.

**germ cell mutagenicity**

Not classified. Based on the available information, the classification criteria are not met.

**carcinogenicity**

Not classified. Based on the available information, the classification criteria are not met.

**reproductive toxicity**

Not classified. Based on the available information, the classification criteria are not met.

**STOT-single exposure**

Not classified. Based on the available information, the classification criteria are not met.

**STOT-repeated exposure**

Not classified. Based on the available information, the classification criteria are not met.

**aspiration hazard**

Not classified. Based on the available information, the classification criteria are not met.

**11.2 Information on other hazards**  
**Endocrine disrupting properties**  
 None known

**Other information**

No further information

## Section 12: Ecological Information

**12.1. Toxicity**

Not classified. Based on the available information, the classification criteria are not met.

**Data on aquatic toxicity**

**Acute (short-term) toxicity**

		Read-across approach
Fish	LC50 96 h (Oncorhynchus mykiss) NOEC 96 h (Oncorhynchus mykiss)	257 mg/L 97 mg/L
Crustaceans / Invertebrates	EC50 48 h (Daphnia magna)	405 mg/L
Algae and other aquatic plants	EC50 72h (Desmodesmus subspicatus) NOEC 72h (Desmodesmus subspicatus)	652 mg/L 41 mg/L
Other organisms	EC 50 3 h (Activated sludge)	521 mg/L

**Chronic (long-term) toxicity**

Fish	LOEC 34d (Danio rerio) NOEC 34d (Danio rerio)	40 mg/L 28 mg/L
Crustaceans / Invertebrates	NOEC 21d (Daphnia magna)	16.9 mg/L

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## 12.2. Persistence and degradability

Lithium Nitrate is not biodegraded or photodegraded.

## 12.3. Bioaccumulative potential

Not applicable

## 12.4. Mobility in soil

Lithium Nitrate is water soluble and will readily disperse. Lithium Nitrate dissociates rapidly in water, forming lithium and nitrate ions.

## Known or predicted distribution to environmental compartments

Highly soluble in water.

## Surface tension

No data available

## 12.5. Results of PBT and vPvB assessment

Not applicable for inorganic substances.

## 12.6. Endocrine disrupting properties

None known

## 12.7. Other adverse effects

No further relevant information available at present

## Section 13: Disposal considerations

### 13.1 Waste treatment methods

#### Suitable methods

Any waste must not be discharged to sewer or river unless a written discharge consent has been issued by the appropriate authority (in the UK this is the local water authority or the Environment Agency). This procedure should be carried out by suitable trained personnel, using appropriate equipment. Packaging must be thoroughly rinsed with water before disposal or recycling. Wash water should be disposed of as above. Containers, even when cleaned, are considered to be a controlled waste and the duty of care still applies.

## Section 14: Transport Information

### 14.1. UN number or ID number

UN2722

### 14.2. UN proper shipping name

Lithium Nitrate

### 14.3. Transport hazard class(es)

5.1

### 14.4. Packing group

III

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## 14.5. Environmental hazards

No

## 14.6. Special precautions for user

Transport Category 3  
Tunnel Restriction Code E

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

Not applicable

## Section 15: Regulatory Information

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

#### UK Regulations

This Safety Data Sheet complies with REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations UK SI 2019/758 and UK SI 2020/1577. Classification according to Regulation (EU) No. 1272/2008 as amended by GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567.

#### EU Regulations

The substance is classified and labelled according to Regulation (EC) 1272/2008 (CLP). Safety data sheet according to Regulation (EU) 2020/878.

Authorisations and/or restrictions on use

Authorisations

Annex XIV: Not on the list

Restrictions on use

Annex XVII: Not on the list

### 15.2. Chemical safety assessment

A chemical safety assessment has been carried out. Relevant data is included in this SDS and the attached ES.

## Section 16: Other Information

### Indication of changes

Version number	3
Revision: (date)	14/09/2021
SDS Reference	21SDS03
Previous Revision	21SDS02 – 16/03/2018
Reason for revision	Update to Regulation (EU) 2020/878 Inclusion of UK REACH Registration number.

### Abbreviations and acronyms

#### ADR

Accord européen relatif au transport international des marchandises dangereuses par route. European Agreement concerning the International

Carriage of Dangerous Goods by Road.

#### CAS No.

Chemical Abstracts Service Number

#### CLP

Classification, labelling and packaging.

#### LC50

Median Lethal concentration

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<b>LD50</b>	Median Lethal Dose
<b>EC50</b>	Effective concentration, 50%
<b>PBT</b>	persistent, bioaccumulative and toxic
<b>REACH</b>	Registration, Evaluation, Authorisation and Restriction of Chemicals
<b>RID</b>	Regulations concerning the International Carriage of Dangerous Goods by Rail (Reglement International concernant le transport des marchandises Dangereuses par chemin de fer)
<b>SDS</b>	Safety Data Sheet
<b>STP</b>	Sewage Treatment Plant
<b>vPvB</b>	very persistent and very bioaccumulative

## Key literature references and sources for data

Regulation (EC) No. 1272/2008  
Regulation (EU) No. 2020/878  
Regulation (EC) No. 1907/2006  
Dossier ECHA REACH  
Suppliers Safety Data Sheet

## Relevant H-statements (number and full text)

<b>Acute Tox. 4 (Oral)</b>	Acute Toxicity (oral), category 4.
<b>Eye Irrit. 2</b>	Serious eye damage/eye irritation, category 2
<b>Ox. Sol. 3</b>	Oxidising solid, category 3
<b>H272</b>	May intensify fire, Oxidiser
<b>H302</b>	Harmful if swallowed
<b>H319</b>	Causes serious eye irritation

## Training advice

Read the SDS and any additional instructions for handling this substance from the supplier or your employer. Workers should be trained to handle hazardous chemicals. It is recommended that they are familiar with the contents of this safety data sheet

## Further information

No further information