

# Safety Data Sheet

## Liquid Nitrogen Fertiliser with or without Sulphur



According to EC-Regulations 1907/2006 (REACH) & 1272/2008 (CLP)

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

#### 1.1 Product Identifier

Product/Trade name : NitraSol Liquid Nitrogen Grades and NitraSol Liquid Nitrogen Sulphur Grades  
Synonyms : 15N + 15%So3 through to 30N + 10%So3 and straight 28N through to 32N  
EC No : not applicable as fertiliser is a mixture  
CAS No. : not applicable as fertiliser is a mixture  
REACH Registration Number. : not applicable as fertiliser is a mixture

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

Use of the substance/mixture : Fertilizer  
Uses advised against : This mixture should be limited to use as a fertiliser.

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


Manufacturer/Importer/Supplier : Brineflow Limited  
Address : Ferry House 3rd Floor, South Denes Road, Great Yarmouth, Norfolk. NR30 3PJ  
Telephone number : 01493 809820

#### 1.4 Emergency telephone number

Telephone number : 01493 809820

### 2 Hazards identification

#### 2.1 Classification of the substance or mixture

Classification in accordance with Regulation 1272/2008 (CLP) : Eye Irrit. 2, H319 


Hazard Statement(s) : H319 - Causes serious eye irritation

Classification in accordance with Directive 67/548 (DSD) : Xi; R36

Risk phrase(s) : R36 - Irritating to eyes

#### 2.2 Label elements

Contains : Ammonium Nitrate

Hazard pictogram(s) : 

Signal word : Warning

Hazard Statement(s) : H319 - Causes serious eye irritation

Precautionary statements : Prevention • P280 - Wear eye/face protection.  
: Response • P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes.  
: Remove contact lenses, if present and easy to do. Continue rinsing.  
: P337+P313 - If eye irritation persists: Get medical advice/attention.  
: Storage • Store away from incompatible materials.  
: Disposal • P501 - Dispose of contents/container in accordance with local/regional/national/international regulations.




## 2.3 Other hazards

Not a PBT or vPvB mixture based on ingredients.

## 3 Composition/information on ingredients

### 3.1 substance

Hazardous ingredients

Chemical name	CAS no.	EC no.	Generic REACH Registration No.	Classification Regulation (EC) No. 1272/2008 Directive 67/548 (DSD)	% (w/w)
Ammonium Nitrate	6484-52-2	229-347-8	01-2119490981-27-XXXX	  Eye Irrit. 2, H319 Xi; R36 Ox. Sol 3, H272 O; R8	<70
UAN Solution	Not registered as mixture of Ammonium Nitrate, Urea and Water		N/A	 Eye Irrit. 2, H319 Xi; R36	upto 100

Other ingredients

Urea	57-13-6	200315-5	01-2119463277-33-XXXX	none	upto 80
Ammonium Sulphate	7783-20-2	231-984-1	01-2119455044-46-XXXX	none	upto 80
Ammonium Thiosulphate	7783-18-8	231-982-0	01-2119537325-41-XXXX	none	upto 80
Water	7732-18-5	231-791-2	N/A	none	upto 80

EC no. means EINECS or ELINCS number.

## 4 First aid measures

### 4.1 Description of first aid measures

General : In some cases medical attention necessary (see below).

Inhalation : Move to fresh air.

### 4.1 Description of first aid measures cont.....

- : Obtain medical attention if ill effects occur.
- Ingestion : Do not induce vomiting unless instructed to do so by physician.
- : Rinse mouth thoroughly with water or milk.
- : If patient is conscious give water or milk to drink.
- : Obtain medical attention if more than a small quantity has been swallowed.
- Skin contact : Wash the affected area with water.
- Eye contact : Flush/irrigate eyes with copious amounts of water for at least 15 minutes.
- : Remove contact lenses if present and easy to do so.
- : Obtain medical attention if symptoms persist.

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

Acute effects : refer to section 11.

Delayed effects : refer to section 11.

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

- Note to physician : Inhalation of fire and thermal decomposition gases, containing oxides of nitrogen and
- : ammonia, can cause irritation and corrosive effects on the respiratory system. Some lung
- : effects may be delayed. Give oxygen, especially if there is blueness around the mouth.

## 5 Fire-fighting measures

### 5.1 Extinguishing media

Suitable extinguishing media : Product not flammable - use fire extinguishing media for surrounding materials.  
unsuitable extinguishing media : None Known

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

Hazards from the substance or mixture : Pressure caused by heating may cause containers to burst. Not an oxidiser as manufactured but may become an oxidiser through concentration by evaporation.  
Hazardous thermal decomposition products : Oxides of nitrogen and ammonia.

### 5.3 Advice for firefighters

Special fire fighting procedures : Open doors and windows of the store to give maximum ventilation.  
: Avoid breathing the fumes (toxic); stand up-wind of the fire.  
: move containers from fire area if possible without risk.  
Special protective equipment for firefighters : Use a self-contained breathing apparatus if fumes are being entered.

## 6 Accidental release measures

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

Keep unauthorised personnel away.  
Do not walk through spilled material.  
Avoid exposure to vapours or sprays.  
Wear appropriate personal protective equipment.

### 6.2 Environmental precautions

Prevent the contamination of watercourses and drains and sewage systems and inform the appropriate authority in case of accidental contamination of watercourses.

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

Any spillage of fertilizer should be cleaned up promptly, swept up and placed in a clean labelled open container for safe disposal.  
Stop flow of material if possible.  
Absorb spillage with suitable absorbant material.

### 6.4 Reference to other sections

See section 1 for emergency contact information, section 8 for personal protective equipment and section 13 for waste disposal.

## 7 Handling and storage

### 7.1 Personal precautions, protective equipment and emergency procedures

Avoid inhalation of vapours or sprays and contact with skin and eyes.  
Carefully clean all equipment prior to maintenance and repair.  
When handling the product use appropriate personal protective equipment (see section 11).  
Carefully clean all equipment prior to maintenance and repair.

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

Store in compliance with national and local regulations.  
Locate away from the sources of heat or fire.  
Keep away from combustible materials and substances mentioned under Section10.  
On farm, ensure that the fertilizer is not stored near water courses.  
Ensure high standard of housekeeping in the storage area.  
Any container used for the storage should be sound and kept sealed.  
Packaging materials: Plastic synthetic materials. Keep packaging sealed.

### 7.3 Specific end use(s)

## 8 Exposure controls/personal protection

## 8.1 Control parameters

Derived No Effect Level (DNEL)				
Components	Type	Route	Value	Form
Ammonium Nitrate (6484-52-2)	Workers	Dermal	21.3 mg/kg/day	Long-term - systemic effects
		Inhalation	37.6 mg/m <sup>3</sup>	Long-term - systemic effects
Predicted No effect Level Concentrations (PNECs)				
Components	Type	Route	Route	
Ammonium Nitrate (6484-52-2)	Aqua (freshwater)	n/a		0.45 mg/l
	Aqua (intermittent releases)	n/a		4.5 mg/l
	Aqua (marine water)	n/a		0.045 mg/l
	Sewage Treatment Plant	n/a		18 mg/l
Derived No Effect Level (DNEL)				
Components	Type	Route	Value	Form
Ammonium Sulphate (CAS 7783-20-2)	Workers	Dermal	42.667 mg/kg/day	Long-term - systemic effects
		Inhalation	11.167 mg/m <sup>3</sup>	Long-term - systemic effects
Predicted No effect Level Concentrations (PNECs)				
Components	Type	Route	Route	
Ammonium Sulphate (CAS 7783-20-2)	Aqua (freshwater)	n/a		0.312 mg/l
	Aqua (intermittent releases)	n/a		0.53 mg/l
	Aqua (marine water)	n/a		0.0312 mg/l
	Sewage Treatment Plant	n/a		16.18 mg/l
Derived No Effect Level (DNEL)				
Components	Type	Route	Value	Form
Urea (CAS 57-13-6)	Workers	Dermal	580 mg/kg/day	Long-term - systemic effects
		Inhalation	292 mg/m <sup>3</sup>	Long-term - systemic effects

## 8.1 Control parameters cont....

Components	Type	Route	Route
Urea (CAS 57-13-6)	Aqua (freshwater)	n/a	0.47 mg/l
	Aqua (intermittent releases)	n/a	not available
	Aqua (marine water)	n/a	0.047 mg/l
	Sewage Treatment Plant	n/a	not available

Derived No Effect Level (DNEL)				
Components	Type	Route	Value	Form
Ammonium Thiosulphate (CAS 7783-18-8)	Workers	Dermal	350 mg/kg/day	Long-term - systemic effects
		Inhalation		Long-term - systemic effects

Predicted No effect Level Concentrations (PNECs)				
Components	Type	Route	Route	Route
Ammonium Thiosulphate (CAS 7783-18-8)	Aqua (freshwater)	n/a		0.78 mg/l
	Aqua (intermittent releases)	n/a		not available
	Aqua (marine water)	n/a		not available
	Sewage Treatment Plant	n/a		not available

## 8.2 Exposure controls

Appropriate engineering measures : Ventilate as needed to control vapour and spray.

Hygienic measures : When handling the product do not eat, drink or smoke.

: Wash hands after handling and before eating, smoking, using the lavatory and end of working

: Remove and isolate contaminated clothing. Launder contaminated clothing before reuse.

Individual protection

Respiratory system : use respiratory mask if vapour or spray present.

Skin and body : Working clothes.

- Hands : Wear suitable gloves (e.g. plastic, rubber or leather) when handling the product over long periods.
- Eyes : Use vapour / spray safety goggles where there is danger of eye contact. (EN166)
- Environmental exposure controls : Inform the appropriate authority in case of accidental contamination of watercourses.
- : Do not flush into surface water or sanitary sewer system.

## 9 Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- Appearance : Colourless or slightly brown tinted liquid
- Odour : Slight
- Odour threshold : n/a
- pH : typically > 4.5
- Melting point/freezing point : -5°C
- Initial boiling point and boiling range : >100°C
- Flash point : n/a
- Flammability (solid, gas) : Non-combustible. Decomposes on heating. Evolves toxic fumes when heated to decomposition.
- Upper/lower flammability or explosive limits : Not available
- Explosive properties : Not available
- Auto-ignition temperature : n/a
- Decomposition temperature : >100°C
- Minimum ignition energy : Not available
- Oxidising properties : Dangerous if allowed to dry out. Residue may exhibit oxidizing properties.
- Critical temperature : n/a
- Density : Typically 1.1 - 1.4 kg/litre
- Loose bulk density : Typically 1.1 - 1.4 kg/litre
- Vapour pressure at 20°C : Not available
- Vapour density : Not available
- Partition coefficient : Not available
- Viscosity : Not available
- Mean particle size : n/a
- Water solubility : highly soluble
- Surface tension : Not available

## 10 Stability and reactivity

### 10.1 Information on basic physical and chemical properties

Stable under recommended storage and handling conditions (see section 7, handling and storage).

### 10.2 Chemical stability

Stable under recommended storage and handling conditions (see section 7, handling and storage).

### 10.3 Possibility of hazardous reactions

When heated can decompose.

### 10.4 Conditions to avoid

Avoid thermal decomposition

Contamination by incompatible materials.

Unnecessary exposure to the atmosphere.

Sources of heat or fire close to the product.

Heating under confinement.

Welding or hot work on equipment or plant which may have contained fertilizer without first washing thoroughly to remove all fertilizer.  
water

## 10.5 Incompatible materials

Combustible materials, reducing agents, acids, alkalis, sulphur, chlorates, chlorides, chromates, nitrites, permanganates, metallic powders and substances containing metals such as copper, nickel, cobalt, zinc and their alloys.

## 10.6 Hazardous decomposition products

For fire situation: see section 5.

When strongly heated, it evaporates and concentrates and may decompose releasing toxic fumes (e.g. NO<sub>x</sub>, ammonia).

When in contact with alkaline material such as lime, may give off ammonia gas.

See also Sections 2 and 9.

## 11 Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity	Type	Species	result
Ammonium Nitrate (6484-52-2)	Inhalation LC50	Rat	>88.8 mg/m <sup>3</sup>
	Dermal LD50	Rat	>2980 mg/kg
	Oral LD50	Rat	> 5000mg/kg

Local effects

Skin irritation : no significant irritation expected other than possible mechanical irritation.

Eye irritation : Ammonium Nitrate : Causes serious eye irritation

Sensitisation : not classified

Mutagenicity : not classified

Reproductive toxicity : not classified

Carcinogenicity : This product is not considered to be a carcinogen by IARC, ACGIH, NTP or OSHA

Remarks : Adverse health effects are considered unlikely when the product is handled and used correctly.

: If large quantities are ingested may give rise to gastro-intestinal disorders.

## 12 Ecological information

### 12.1 Information on toxicological effects

This material is not classified as environmentally hazardous. However, this does not exclude the possibility that a large spill could have a harmful or damaging effect on the environment.

Aquatic	Type	Species	result
Ammonium Nitrate (6484-52-2)	LC50	Fish	447 mg/l 48 hours
	LC50	Daphnia	490 mg/l 48 hours
	EC50	Algae	1700 mg/l 72 hours

### 12.2 Persistence and degradability

Biodegradation : Standard test is not applicable as the substance is inorganic.

Hydrolysis : No hydrolysable group is present, will completely dissociate into ions.

### 12.3 Bioaccumulative potential

Octanol-water partition coefficient (K<sub>ow</sub>) : Not relevant as the mixture is inorganic, but considered to be low (based on high water solubility)

Bioconcentration factor (BCF) : Low potential for bioaccumulation (based on main ingredient properties).

### 12.4 Mobility in soil

Low potential for adsorption (based on main ingredient properties). Very soluble in water. The NO<sub>3</sub><sup>-</sup> ion is mobile. The NH<sub>4</sub><sup>+</sup> ion is adsorbed by soil.

## 12.5 Results of PBT and vPvB assessment

Not a PBT or vPvB mixture based on ingredients.

## 12.6 Other adverse effects

Heavy spillage may cause adverse environmental impact such as eutrophication in confined surface waters.

## 13 Disposal considerations

### 13.1 Waste Treatment Methods

- Container : Containers should be cleaned by appropriate method and then re-used or disposed by landfill or incineration as appropriate, in accordance with local and national regulations.
- : Do not remove label until container is thoroughly cleaned.
- Methods of disposal : Depending on degree and nature of contamination dispose of by use as fertilizer on farm, as raw material for liquid fertilizer, or to an authorised waste facility.
- : Do not empty into drains; dispose of this material and its container in a safe way and in accordance with all applicable local and national regulations.
- Package waste disposal : Empty the container by shaking to remove as much as possible of its contents.
- : If approved by local authorities, empty containers may be disposed of as non-hazardous material or returned for recycling.

## 14 Disposal considerations

### 14.1 Un Number

- ADR/RID : not classified
- ADN/ADNR : not classified
- IMDG : not classified
- ICAO/IATA : not classified

### 14.2 UN Proper shipping name

- ADR/RID : not regulated as dangerous goods
- ADN/ADNR : not regulated as dangerous goods
- IMDG : not regulated as dangerous goods
- ICAO/IATA : not regulated as dangerous goods

### 14.3 Transport hazard class(es)

- ADR/RID : not applicable
- ADN/ADNR : not applicable
- IMDG : not applicable
- ICAO/IATA : not applicable

### 14.4 Packing group and label

- ADR/RID : not applicable
- ADN/ADNR : not applicable
- IMDG : not applicable
- ICAO/IATA : not applicable

### 14.5 Environmental hazards

- ADR/RID : not applicable
- ADN/ADNR : not applicable



IMDG : not applicable  
ICAO/IATA : not applicable

## 14.6 Special Precautions for user

see section 8

## 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

not applicable

## 15 Regulatory information

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

This product is classified and labelled in accordance with Regulation (EC) 1272/2008 - CLP Regulation.  
This Safety Data Sheet complies with the requirements of Regulation No 1907/2006 - REACH

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out - see attached exposure scenario

## 16 Regulatory information

Abbreviations and acronyms

IMDG : International Maritime Code for Dangerous Goods  
ADR : European Agreement for the Carriage of Dangerous Goods by Road  
RID : European Agreement for the Carriage of Dangerous Goods by Rail  
ICAO : International Civil Aviation Organisation  
IATA : International Air Transport Association  
REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals  
CLP : Classification, Labelling and Packaging  
CAS : Chemical Abstracts Service  
vPvB : Very persistent and very Bioaccumulative

### 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 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 proceed, unless specified in the text.

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