

## 1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

**Product identifier:**

**Product:** Zinc Nitrate Solution

**Relevant identified uses of the substance or mixture and uses advised against:** SU3 Industrial uses.

**Company name:**

Nexchem Ltd  
Unit 3 Barshaw Park  
Leycroft Road  
Leicester  
LE4 1ET  
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24/7 Emergency Tel: 0800 246 1274  
Email: [sales@nexchem.co.uk](mailto:sales@nexchem.co.uk)

## 2. HAZARDS IDENTIFICATION

**Classification of the substance or mixture:**

**In compliance with EC regulation no. 1272/2008 and its amendments:**

Acute oral toxicity, Category 4 (Acute Tox. 4, H302).  
Skin irritation, Category 2 (Skin Irrit. 2, H315).  
Serious eye damage, Category 1 (Eye Dam. 1, H318).  
Specific target organ toxicity (single exposure), Category 3 (STOT SE 3, H335).

**Hazardous to the aquatic environment:** Acute hazard, Category 1 (Aquatic Acute 1, H400).

**Hazardous to the aquatic environment:** Chronic hazard, Category 2 (Aquatic Chronic 2, H411).

This mixture does not present a physical hazard.  
Refer to the recommendations regarding the other products present on the site.

**Label elements:**

**In compliance with EC regulation no. 1272/2008 and its amendments:**

**Hazard pictograms:**



GHS05



GHS07



GHS09

**Signal word:**

Danger.

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**Product identifiers:** EC 231-943-8 ZINC NITRATE  
EC 231-714-2 NITRIC ACID

**Hazard statements:** H302: Harmful if swallowed.  
H315: Causes skin irritation.  
H318: Causes serious eye damage.  
H335: May cause respiratory irritation.  
H411: Very toxic to aquatic life with long lasting effects.

**Precautionary statements - Prevention:**

P273: Avoid release to the environment.  
P280: Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

**Precautionary statements – Response:**

P302+P352: IF ON SKIN: Wash with plenty of water.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310: Immediately call a POISON CENTER/doctor.

**Precautionary statements – Disposal:**

P501: Dispose of contents/receive in accordance with local/regional/national/international regulations.

**Other hazards:**

The mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC)  $\geq 0.1\%$  published by the European Chemicals Agency (ECHA) under article 57 of REACH: <http://echa.europa.eu/fr/candidate-list-table> The mixture fulfils neither the PBT nor the vPvB criteria for mixtures in accordance with annex XIII of the REACH regulations EC 1907/2006.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

**Mixtures:**

Composition: Identification	(EC) 1272/2008	Note	%
ZINC NITRATE	GHS07, GHS05, GHS09, GHS03		25 $\leq x < 5$
CAS: 7779-88-6	Dgr		
EC: 231-943-8	Ox. Liq. 2, H272		
REACH: 01-2119488498-16-XXXX	Acute Tox. 4, H302		
	Skin Irrit. 2, H315		
	Eye Dam. 1, H318		
	STOT SE 3, H335		
	Aquatic Chronic 2, H411		
	Aquatic Acute 1, H400		
	M Acute = 1		

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CAS: 7697-37-2	GHS06, GHS05, GHS03	B	2.5 <= $\%$ <10
EC: 231-714-2	Dgr	[1]	
REACH: 01-2119487297-23-XXXX	Ox. Liq. 3, H272		
NITRIC ACID	Met. Corr. 1, H290		
	Skin Corr. 1A, H314		
	Acute Tox. 3, H331		
	EUH:071		

**Information on ingredients:** [1] Substance for which maximum workplace exposure limits are available.

### 4. FIRST AID MEASURES

As a rule, in case of doubt or if symptoms persist, always call a doctor.

#### Description of first aid measures:

**In the event of exposure by inhalation:** In the event of massive inhalation, remove the person exposed to fresh air. Keep warm and at rest. If the person is unconscious, place in recovery position. Notify a doctor in all events, to ascertain whether observation and supportive hospital care will be necessary. If breathing is irregular or has stopped, effect mouth-to-mouth resuscitation and call a doctor.

**In the event of splashes or contact with eyes:** Wash thoroughly with fresh, clean water for 15 minutes holding the eyelids open. Regardless of the initial state, refer the patient to an ophthalmologist and show him the label.

**In the event of splashes or contact with skin:** Remove contaminated clothing and wash the skin thoroughly with soap and water or a recognised cleaner. Watch out for any remaining product between skin and clothing, watches, shoes, etc. If the contaminated area is widespread and/or there is damage to the skin, a doctor must be consulted, or the patient transferred to hospital.

**In the event of swallowing:** Do not give the patient anything orally. In the event of swallowing, if the quantity is small (no more than one mouthful), rinse the mouth with water, administer activated medical charcoal and consult a doctor. Seek medical attention immediately, showing the label. If swallowed accidentally, call a doctor to ascertain whether observation and hospital care will be necessary. Show the label.

**Most important symptoms and effects, both acute and delayed:** No data available.

**Indication of any immediate medical attention and special treatment needed:** No data available.

### 5. FIRE-FIGHTING MEASURES

Non-flammable.

**Extinguishing media:** If the product is involved in a fire, use any means of extinction suitable for the surrounding materials.

#### Suitable methods of extinction:

**In the event of a fire, use:** Sprayed water or water mist  
Carbon dioxide (CO<sub>2</sub>)  
Alcohol resistant foam  
Dry powder

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## Special hazards arising from the substance or mixture:

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health. Do not breathe in smoke. In the event of a fire, the following may be formed: Nitrogen oxides (NO<sub>x</sub>)

## Advice for firefighters:

Wear self-contained breathing apparatus and full protective clothing in case of fire. Move containers from fire if it can be done without risk. Use normal firefighting methods and take into account the hazards associated with other substances present. Suppress gases / vapours / mist with water spray. Prevent fire extinguishing water from contaminating surface water or the underground water supply system.

## 6. ACCIDENTAL RELEASE MEASURES

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

Consult the safety measures listed under headings 7 and 8. Use individual protective gear. Avoid dust formation. Avoid breathing vapours, spray mist or gases. Provide adequate ventilation. Avoid inhalation of dust.

### For non-first aid worker:

Avoid inhaling the vapours. Avoid any contact with the skin and eyes. If a large quantity has been spilt, evacuate all personnel and only allow intervention by trained operators equipped with safety apparatus.

### For first aid worker:

First aid workers will be equipped with suitable personal protective equipment (See section 8).

### Environmental precautions:

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal. Prevent any material from entering drains or waterways.

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

If the ground is contaminated, once the product has been recovered by sponging with an inert and non-combustible absorbent material, wash the contaminated area in plenty of water. Clean preferably with a detergent, do not use solvents.

### Reference to other sections:

No data available.

## 7. HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the mixture is handled.

### Precautions for safe handling:

Always wash hands after handling. Remove and wash contaminated clothing before re-using. Emergency showers and eye wash stations will be required in facilities where the mixture is handled constantly.

### Fire prevention:

Handle in well-ventilated areas. Prevent access by unauthorised personnel.

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**Recommended equipment and procedures:** For personal protection, see section 8. Observe precautions stated on label and also industrial safety regulations. Avoid inhaling vapours. Carry out any industrial operation which may give rise to this in a sealed apparatus. Provide vapor extraction at the emission source and also general ventilation of the premises. Also provide breathing apparatus for certain short tasks of an exceptional nature and for emergency interventions. In all cases, recover emissions at source. Avoid eye contact with this mixture at all times.

**Prohibited equipment and procedures:** No smoking, eating or drinking in areas where the mixture is used

**Conditions for safe storage, including any incompatibilities:**

Store in a cool place. Keep container tightly closed in a dry and well-ventilated place. Carefully close any opened container and store it vertically to avoid any spillage.

**Storage:** Keep the container tightly closed in a dry, well-ventilated place. Keep away from food and drink, including those for animals.

**Packaging:** Always keep in packaging made of an identical material to the original.

**Specific end use(s):** No data available.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Control parameters:**

**Occupational exposure limits:**

- **ACGIH TLV (American Conference of Governmental Industrial Hygienists, Threshold Limit Values, 2010):**

CAS	TWA	STEL	Ceiling	Definition	Criteria
7697-37-2		2 ppm		4 ppm	

**Germany - AGW (BAuA - TRGS 900, 08/08/2019):**

CAS	VME:	VME:	Excess	Notes
7697-37-2			1 ppm 2.6 mg/m3	

**France (INRS - ED984 / 2019-1487):**

CAS	VME-ppm:	VME-mg/m3	VLE-ppm	VLE-mg/m3	Notes	TMP No:
7697-37-2	-	-	1	2.6	-	-

**Switzerland (SUVAPRO 2017):**

CAS	VME:	VLE	Valeur plafond	Notations
7697-37-2	2 ppm 5 mg/m3	2 ppm 5 mg/m3		

**UK / WEL (Workplace exposure limits, EH40/2005, 2011):**

CAS	TWA	STEL	Ceiling	Definition	Criteria
7697-37-2		-ppm -mg/m3		1 ppm 2.6 mg/m3	

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### Exposure controls:

#### Personal protection measures, such as personal protective equipment:

#### Pictogram(s) indicating the obligations of wearing personal protective equipment (PPE):



Use personal protective equipment that is clean and has been properly maintained. Store personal protective equipment in a clean place, away from the work area. Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

#### Eye/face protection:

Avoid contact with eyes. Use eye protectors designed to protect against liquid splashes. Before handling, wear safety goggles with protective sides accordance with standard EN166. In the event of high danger, protect the face with a face shield. Prescription glasses are not considered as protection. Individuals wearing contact lenses should wear prescription glasses during work where they may be exposed to irritant vapours. Provide eyewash stations in facilities where the product is handled constantly.

#### Hand protection:

Use suitable protective gloves that are resistant to chemical agents in accordance with standard EN374. Gloves must be selected according to the application and duration of use at the workstation. Protective gloves need to be selected according to their suitability for the workstation in question: other chemical products that may be handled, necessary physical protections (cutting, pricking, heat protection), level of dexterity required.

#### Type of gloves recommended:

Natural latex  
Nitrile rubber (butadiene-acrylonitrile copolymer rubber (NBR))  
PVC (polyvinyl chloride)  
Butyl Rubber (Isobutylene-isoprene copolymer)

#### Recommended properties:

Impervious gloves in accordance with standard EN374

#### Body protection:

Avoid skin contact. Wear suitable protective clothing. Suitable type of protective clothing: In the event of substantial spatter, wear liquid-tight protective clothing against chemical risks (type 3) in accordance with EN14605 to prevent skin contact. In the event of a risk of splashing, wear protective clothing against chemical risks (type 6) in accordance with EN13034 to prevent skin contact. Impervious clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Work clothing worn by personnel shall be laundered regularly. After contact with the product, all parts of the body that have been soiled must be washed.

#### Respiratory protection:

Avoid breathing vapours. If the ventilation is insufficient, wear appropriate breathing apparatus. When workers are confronted with concentrations that are above occupational exposure limits, they must wear a suitable, approved, respiratory protection device.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties:

<b>Physical state:</b>	Fluid liquid.
<b>Molecular formula:</b>	Zn (NO <sub>3</sub> ) <sub>2</sub>
<b>pH:</b>	Not relevant.
<b>pH (aqueous solution):</b>	2 grades: pH<2 and pH>2
<b>Boiling point/boiling range:</b>	Not specified.
<b>Flash point interval:</b>	Not relevant.
<b>Vapour pressure (50°C):</b>	Not relevant.
<b>Density:</b>	1.46 - 1.49 g/cm <sup>3</sup> at 20°C
<b>Water solubility:</b>	Soluble.
<b>Melting point/melting range:</b>	Not specified.
<b>Self-ignition temperature:</b>	Not specified.
<b>Decomposition point/decomposition range:</b>	Not specified.
<b>Other information:</b>	No data available.

## 10. STABILITY AND REACTIVITY

<b>Reactivity:</b>	No data information available.
<b>Chemical stability:</b>	This mixture is stable under the recommended handling and storage conditions in section 7. This product is unstable under the following conditions: When heated it decomposes.
<b>Possibility of hazardous reactions:</b>	No data available.
<b>Conditions to avoid:</b>	Avoid: frost.
<b>Incompatible materials:</b>	Keep away from: strong oxidizing agents.
<b>Hazardous decomposition products:</b>	The thermal decomposition may release/form: Nitrogen oxides (NO <sub>x</sub> ).

## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects:

Harmful if swallowed. May cause irreversible damage to the skin; namely inflammation of the skin or the formation of erythema and eschar or oedema following exposure up to four hours. May have irreversible effects on the eyes, such as tissue damage in the eye, or serious physical decay of sight, which is not fully reversible by the end of observation at 21 days. Serious eye damage is typified by the destruction of cornea, persistent corneal opacity and iritis. Respiratory tract irritation may occur, together with symptoms such as coughing, choking and breathing difficulties.

### Substances:

**Carcinogenicity:** No component of this product present at concentrations greater than or equal to 0.1% has been identified as a probable, possible or recognized human carcinogen by IARC.

**Mixture:** No toxicological data available for the mixture.

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### 12. ECOLOGICAL INFORMATION

**Toxicity:**

**Mixtures:** No aquatic toxicity available for the mixture.

**Persistence and degradability:** No data available.

**Bioaccumulative potential:** No data available.

**Mobility in soil:** No data available.

**Results of PBT and vPvB assessment:** This substance / mixture contains no ingredients considered to be persistent, bioaccumulating and Toxic (PBT), or very persistent and very bioaccumulating (vPvB) at levels of 0.1% or more.

**Other adverse effects:** No data available.

### 13. DISPOSAL CONSIDERATIONS

Proper waste management of the mixture and/or its container must be determined in accordance with Directive 2008/98/EC.

**Waste treatment methods:** Do not pour into drains or waterways. Give surplus and non-recyclable solutions to a licensed waste disposal company. Waste must be disposed of in accordance with the Waste Directive 2008/98/EC and applicable local and national regulations. Leave chemicals in original containers. No mixing with other waste. Treat uncleaned containers as the product itself. Collect and reuse or dispose in sealed containers at an approved landfill. Prevent this substance from entering drains or the water system. Do not contaminate ponds, waterways or ditches with material or used container. Dispose of contents/container in accordance with local/regional/ national/international regulations.

**Waste:** Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals. Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company. Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

**Soiled packaging:** Empty container completely. Keep label(s) on container. Give to a certified disposal contractor.

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## 14. TRANSPORT INFORMATION

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2019 - IMDG 2018 - ICAO/IATA 2020).

**UN Number:** UN3082

**UN proper shipping name:** UN3082=ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (zinc nitrate)

**Transport hazard class(es):**

**Class:** 9

**Packing group:** III

**Environmental hazards:**



**Special precautions for the user:**

ADR/RID	Class	Code	Pack gr.	Label	Ident.	LQ	Provis.	EQ	Cat.	Tunnel
	9	M6	III	9	90	5L	274, 335, 375, 601	E1	3	

**Not subject to this regulation if Q <= 5 l / 5 kg (ADR 3.3.1 - DS 375)**

IMDG	Class	2°Label	Pack gr.	LQ	EMS	Provis.	EQ.	Stowage Handling	Segregation
	9	1	III	5L	F-A, S-F	274, 335, 969	E1	Category A	

IATA	Class	2°Label	Pack gr.	Passenger	Passenger	Cargo	Cargo	note	EQ
	9	-	III	964	450 L	964	450 L	A97, A158, A197	E1
	9	-	III	Y964	30 kg G	-	-	A97, A158, A197	E1

Not subject to this regulation if Q <= 5 l / 5 kg (IATA 4.4.4 - DS A197).

For limited quantities, see part 2.7 of the OACI/IATA and chapter 3.4 of the ADR and IMDG.

For excepted quantities, see part 2.6 of the OACI/IATA and chapter 3.5 of the ADR and IMDG.

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** No data available.

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## 15. REGULATORY INFORMATION

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

**Classification and labelling information included in section 2: The following regulations have been used:**

EU Regulation No. 1272/2008 amended by EU Regulation No. 2020/217 (ATP 14).

**Container information:** No data available.

**Particular provisions:** No data available.

**Chemical safety assessment:** No data available.

**Note:** The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

## 16. OTHER INFORMATION

Acronyms:

- @ - at
- < - less than
- > - more than
- ADR – European Agreement concerning the International Carriage of Dangerous Goods by Road.
- CAS – Chemical Abstracts Service
- Cat. – Category
- CSA – Chemical Safety Assessment
- DNEL – Derived No-Effect Level
- EC – Effective Concentration
- EC OEL – European Commission Occupational Exposure Limit
- EINECS - European Inventory of Existing Commercial Chemical Substances
- GHS – Globally Harmonized System of Classification and Labelling of Chemicals
- H\*\* - Hazard Statements
- IATA – International Air Transport Association
- IMDG – International Maritime Code for Dangerous Goods
- L – Litre
- LC50 – Lethal Concentration, 50 percent
- LD50 – Lethal dose, 50 percent
- m<sup>2</sup> – metre squared
- mg – milligram
- ml – millilitre
- n.o.s. – Not Otherwise Specified
- °C – degrees Centigrade
- P\*\* - Precautionary Statements
- PBT – Persistent, Bio accumulative and Toxic
- pH – Potential of Hydrogen
- PNEC – Predicted No-Effect Level

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RID – Regulations Concerning the International Transport of Dangerous Goods by Rail

SDS – Safety Data Sheet

SG – specific gravity

UN – United Nations

vPvB – very Persistent, very Bio accumulative

### **Legal disclaimer:**

The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation. This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.