

SAFETY DATA SHEET

Potassium Nitrate

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Issued: 22/12/2025
Revision No: 4

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

Product form: Substance

Trade name: Potassium Nitrate

Chemical name: Potassium Nitrate

EC-No.: 231-818-8

CAS-No.: 7757-79-1

REACH registration No.: 01-2119488224-35-XXXX

Formula: KNO₃

Synonyms: Saltpeter, Acidic Potassium Nitrate

Product group: Inorganic salt

Relevant identified uses of the substance or mixture and uses advised against:

Relevant identified uses:

Title	Life cycle stage	Use descriptors
Industrial use (ES Ref.: IW-1) (ES Ref.: IW-2) (ES Ref.: IW-3)	Industrial	SU1, SU8, SU9, SU13, SU14, SU15, PC14, PC16, PC20, PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC15, PROC20, PROC22, PROC23, PROC26, ERC4, ERC6a, ERC6b, ERC7
Professional use (ES Ref.: PW-1) (ES Ref.: PW-2) (ES Ref.: PW-3)	Professional	SU0, SU1, SU2a, SU13, SU15, SU19, SU23, PC0, PC4, PC11, PC12, PC16, PC17, PC37, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC15, PROC16, PROC19, PROC26, ERC8a, ERC8d, ERC8e, ERC9a, ERC9b
Consumer use (ES Ref.: C-1) (ES Ref.: C-6) (ES Ref.: C-3) (ES Ref.: C-4) (ES Ref.: C-5)	Consumer	PC0, PC4, PC12, PC35, PC39, ERC1, ERC8a, ERC8b, ERC8d, ERC8e, ERC9a, ERC9b
Formulation (ES Ref.: F-2)	Formulation	PC12, PROC1, PROC2, PROC2, PROC3, PROC3, PROC4, PROC4, PROC5, PROC5, PROC8a, PROC8a, PROC8b, PROC8b, PROC9, PROC13, PROC14, PROC15, ERC3

Full text of use descriptors: See section 16.

Uses advised against:

Title	Use descriptors	Reason
Consumer use	SU21, PC0, PC11	

Full text of use descriptors: See section 16.

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Company name: Nexchem Ltd
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Leicester
LE4 1ET
Tel: 0116 2311130
24/7 Emergency Tel: 0800 246 1274
Email: sales@nexchem.co.uk

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Classification according to Regulation (EC) No. 1272/2008 [CLP]:

Oxidising Solids, Category 3 H272

Full text of H- and EUH-statements: See section 16.

Adverse physicochemical, human health and environmental effects: No additional information available.

Label elements:

Labelling according to Regulation (EC) No. 1272/2008 [CLP]:

Hazard pictograms (CLP):



Signal word (CLP): Warning

Hazard statements (CLP): H272 - May intensify fire; oxidiser.

Precautionary statements (CLP): P210 - Keep away from heat, sparks, open flames, hot surfaces. – No smoking.
P220 - Keep away from clothing and other combustible materials.
P280 - Wear protective gloves, protective clothing, eye protection, face protection.
P501 - Dispose of contents and container to a hazardous or special waste collection point.
P370+P378 - In case of fire: Use Water, foam, extinguishing powder, carbon dioxide (CO2) to extinguish.

Other hazards: This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII.
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII.
Contains no PBT/vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII.

Component:

Potassium Nitrate (7757-79-1): This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII.
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII.
The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

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3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance:

Name: Potassium Nitrate
CAS No.: 7757-79-1
EC No.: 231-818-8

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Potassium Nitrate	CAS-No.: 7757-79-1 EC-No.: 231-818-8 REACH-no: 012119488224-35-XXXX	>97	Ox. Sol. 3, H272

Full text of H- and EUH-statements: See section 16.

Mixtures: Not applicable.

4. FIRST AID MEASURES

Description of first aid measures:

First-aid measures after inhalation: Remove victim to fresh air. Assure fresh air breathing. If breathing is difficult, give oxygen.
Call a physician immediately.

First-aid measures after skin contact: Wash immediately with plenty of soap and water. Remove contaminated clothing and shoes. If on skin, take off contaminated clothing. Obtain medical attention if irritation persists.

First-aid measures after eye contact: In case of eye contact, remove contact lenses and immediately rinse with clean water for 20-30 minutes. Call a doctor.

First-aid measures after ingestion: If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting.
Call a physician immediately.

Most important symptoms and effects, both acute and delayed:

Symptoms/effects: Respiratory tract irritation. Eye irritation. Skin irritation. Can occur gastrointestinal disturbance.

Indication of any immediate medical attention and special treatment needed: See Heading 4.1.

5. FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable extinguishing media: All extinguishing media can be used.

Special hazards arising from the substance or mixture:

Fire hazard: On exposure to high temperature, may decompose, releasing toxic gases. Oxidising.
Reacts with combustible materials and increases combustion even in the absence of air.
Poisonous nitrous gasses may form in case of fire.

Advice for firefighters:

Precautionary measures fire: Do not enter fire area without proper protective equipment, including respiratory protection.

Other information: Exercise caution when fighting any chemical fire. Avoid mechanical shock. Avoid high temperatures.

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6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

General measures: Provide adequate ventilation to minimize dust and/or vapour concentrations. Equip cleanup crew with proper protection. Personal protective equipment (see section (s) :8.2).

For non-emergency personnel: No additional information available.

For emergency responders: No additional information available.

Environmental precautions: Prevent entry to sewers, soils and natural waters. Notify authorities if product enters sewers or public waters.

Methods and material for containment and cleaning up: Collect spill when it is dry. Sweep or shovel spills into appropriate container for disposal.

Reference to other sections: See section 8 and 13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid dust production. Avoid any direct contact with the product. Packaging, even those that have been emptied, will retain product residue. Always obey safety warnings and handle empty packaging as if they were full. Keep away from sources of ignition. Both local exhaust and general room ventilation are usually required. Keep away from heat and direct sunlight.

Hygiene measures: Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Remove contaminated clothing and shoes.

Conditions for safe storage, including any incompatibilities:

Storage conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep away from combustible material. Keep away from naked flames/heat. Keep away from sources of ignition.

Specific end use(s): No additional information available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:

National occupational exposure and biological limit values:

Potassium Nitrate (7757-79-1):

EU - Indicative Occupational Exposure Limit (IOEL):

IOEL TWA: 10 mg/m³

IOEL STEL: 3 mg/m³

Recommended monitoring procedures: No additional information available.

Air contaminants formed: No additional information available.

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DNEL and PNEC:

POTASSIUM NITRATE (7757-79-1):

PNEC (STP):

PNEC sewage treatment plant: 18 mg/l

Control banding: No additional information available.

Exposure controls:

Appropriate engineering controls: Good ventilation of the workplace required. Please refer to the annex (exposure scenarios).

Personal protection equipment:

Eye and face protection: No additional information available.

Skin protection:

Skin and body protection: Protective clothing (with elasticated cuffs and closed neck).

Hand protection: Use gloves resistant to chemical products corresponding to EN 374:3 "Take advice to gloves' manufacturer."

Respiratory protection: Appropriate dust or mist respirator should be used if airborne particles are generated when handling this material (Type FFP2 in accordance with EN 140 or 149).

Thermal hazards: No additional information available.

Environmental exposure controls: Avoid release to the environment.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Physical state:	Solid
Colour:	White
Appearance:	Crystalline powder
Molecular mass:	101 g/mol
Odour:	Odourless
Odour threshold:	Not applicable
Melting point:	335°C
Freezing point:	Not applicable - solid
Boiling point:	>300°C Study scientifically not justified; Melting point >300°C
Flammability:	Not flammable
Explosive properties:	Product is not explosive
Oxidising properties:	Oxidising
Explosive limits:	Not explosive
Lower explosion limit:	Not applicable
Upper explosion limit:	Not applicable
Flash point:	Not applicable (inorganic substance)
Auto-ignition temperature:	Not applicable – solid

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Decomposition temperature:	>600°C
pH:	4 -9
pH solution:	Not available
Viscosity, kinematic:	Not applicable - solid
Viscosity, dynamic:	Not applicable - solid
Solubility:	Water: 240g/l @ 20°C
Partition coefficient n-octanol/water (Log Kow):	Not applicable (inorganic substance)
Partition coefficient n-octanol/water (Log Pow):	Not applicable (inorganic substance)
Vapour pressure:	Study scientifically not justified; Melting point >300°C
Vapour pressure at 50°C:	Not available
Density:	1000 – 1190kg/m ³
Relative density:	2.1 @ 20°C
Relative vapour density at 20°C:	Not applicable
Particle size:	350 (80 – 650) µm (laser diffraction – volume)
Particle size distribution:	Not available
Particle shape:	Not available
Particle aspect ratio:	Not available
Particle aggregation state:	Not available
Particle agglomeration state:	Not available
Particle specific surface area:	Not available
Particle dustiness:	Not available

Other information:

Information with regard to physical hazard classes: No additional information available.

Other safety characteristics: No additional information available.

10. STABILITY AND REACTIVITY

Reactivity: Under normal circumstances (temperature and pressure) the product is stable.

Chemical stability: The product is stable at normal handling and storage conditions.

Possibility of hazardous reactions: Reacts violently with : Acids. Combustibles. Metal powder. Reducing agents.

Conditions to avoid: Contact with combustible material may cause fire.

Incompatible materials: Flammable materials. combustibles. Reducing agent.

Hazardous decomposition products: On exposure to high temperature, may decompose, releasing toxic gases. (+/- 400 °C).

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11. TOXICOLOGICAL INFORMATION

Information on hazard classes as defined in Regulation (EC) No 1272/2008:

Acute toxicity (oral):	Not classified (Based on available data, the classification criteria are not met).
Acute toxicity (dermal):	Not classified.
Acute toxicity (inhalation):	Not classified.

POTASSIUM NITRATE (7757-79-1):

LD50 oral - rat:	>2000 mg/kg (OECD 425)
LD50 dermal - rat:	>5000 mg/kg (OECD 402)
LC50 Inhalation - rat:	>527 mg/m ³ (OECD 403)
Skin corrosion/irritation:	Not classified. pH: 5 – 8
Additional information:	Not irritating Rabbit (OECD 404 method).

Potassium Nitrate (7757-79-1):

pH:	5 – 8
Serious eye damage/irritation:	Not classified, pH: 5 - 8
Additional information:	Not irritating. Rabbit (OECD 405 method).

Potassium Nitrate (7757-79-1):

pH:	5 – 8
Respiratory or skin sensitisation:	Not classified (Did not cause sensitisation. (OECD 429 method))
Germ cell mutagenicity:	Not classified (Based on available data, the classification criteria are not met. Ames tests, according to OECD 476 and EC B.17)
Carcinogenicity:	No carcinogenic effect.
Reproductive toxicity:	Not classified.

Potassium Nitrate (7757-79-1):

NOAEL (animal/male, F0/P):	≥ 1500 mg/kg bodyweight (OECD 422 method)
STOT-single exposure:	Not classified.
STOT-repeated exposure:	Not classified.
NOAEL (oral, rat, 90 days):	≥ 1500 mg/kg bodyweight/day (OECD 422 method)
Aspiration hazard:	Not classified.

Potassium Nitrate (7757-79-1):

Viscosity, kinematic:	Not applicable – Solid.
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Information on other hazards:

Endocrine disrupting properties:

Adverse health effects caused by endocrine disrupting properties:

The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

Other information:

No additional information available.

12. ECOLOGICAL INFORMATION

Toxicity:

Hazardous to the aquatic environment, short-term (acute): Not classified.

Hazardous to the aquatic environment, long-term (chronic): Not classified.

POTASSIUM NITRATE (7757-79-1):

LC50 - Fish [1]: 1378 mg/l (96h - *Poecilia reticulata*, OECD 203)

EC50 Daphnia 1: 490 mg/l (48h - *Daphnia*)

EC50 other aquatic organisms 1: > 1000 mg/l (3h - ACTIVATED SLUDGE, OECD 209)

ErC50 (algae): > 1700 mg/l (10 d - Benthic diatoms)

NOEC (additional information): ACTIVATED SLUDGE 180 mg/l OECD 209

Persistence and degradability: No additional information available.

POTASSIUM NITRATE (7757-79-1):

Bioaccumulative potential:

Partition coefficient n-octanol/water (Log Pow): Not applicable (inorganic substance).

Bioaccumulative potential: Low bioaccumulation potential.

Mobility in soil: No additional information available.

POTASSIUM NITRATE (7757-79-1):

Results of PBT and vPvB assessment: This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII.

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII.

Endocrine disrupting properties:

Adverse effects on the environment caused by endocrine disrupting properties: The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

Other adverse effects: Nitrate may cause an eutrophication of natural water.

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13. DISPOSAL CONSIDERATIONS

Waste treatment methods: Dispose in a safe manner in accordance with local/national regulations. Dispose of this material and its container at hazardous or special waste collection point.

Ecology - waste materials: See the European waste catalogue.

14. TRANSPORT INFORMATION

In accordance with ADR / IMDG / IATA / ADN / RID:

UN number or ID number: UN 1486

UN proper shipping name: POTASSIUM NITRATE

Transport document description: UN 1486, POTASSIUM NITRATE, 5.1, III, E

Transport hazard class(es): 5.1

Danger labels:



Packing group: III

Environmental hazards:

Dangerous for the environment: No

Marine pollutant: No

Other information: No supplementary information available.

Special precautions for user:

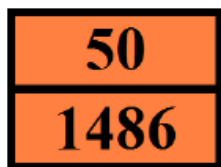
Overland transport:

Classification code (ADR): O2

Excepted quantities (ADR): E1

Hazard identification number (Kemler No.): 50

Orange plates:



Tunnel restriction code (ADR): E

Transport by sea:

MFAG-No: 140

Air transport: No data available

Inland waterway transport: No data available

Rail transport: No data available

Maritime transport in bulk according to IMO instruments: Not applicable.

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15. REGULATORY INFORMATION

EU-Regulations:

Other information, restriction and prohibition regulations: Regulation (EU) 2019/1148 on the marketing and use of explosives precursors.

Drug Precursors Regulation (273/2004): Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on drug precursors)

National regulations: SUBSTANCE LISTED IN THE ANNEX I OF DIRECTIVE 2003/105/CE AMENDING DIRECTIVE 96/82/CE (CONTROL OF MAJOR - ACCIDENT HAZARDS INVOLVING DANGEROUS SUBSTANCES).

Chemical safety assessment: A chemical safety assessment has been carried out.

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

Abbreviations and acronyms:

- ADN: European Agreement concerning international carriage of Dangerous goods by Inland waterways
- ADR: European Agreement concerning international carriage of Dangerous goods by Road
- AF: Assessment factor
- BCF: Bioconcentration factor
- Bw: Body weight
- CAS: Chemical Abstracts Service
- CLP: Classification, labelling, packaging
- CSR: Chemical Safety Report
- DMEL: Derived maximum effect level
- DNEL: Derivative No effect Level
- EC: European Community
- ELV: Emission limit values
- EN: European Norm
- EUH: European Hazard Statement
- EWC: European Waste catalogue
- IATA: International Air Transport Association
- ICAO: International Civil Aviation Organization
- IMDG: International Maritime Dangerous Goods
- LC50: Median lethal concentration
- LD50: Median lethal dose
- NOAEL: No-observed-adverse-effect-level
- NOEC: No observed effect concentration

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NOEL: No observed effect level

OEL: Operator exposure level

PBT: Persistent, bioaccumulative, Toxic

PEC: Predicted effect level

PNEC: Predicted No effect Concentration

REACH: Registration, evaluation and authorisation of chemicals

RID: Regulations concerning the international carriage of dangerous goods by rail

STEL: Short Term Exposure Limit

TWA: Time weighted average

vPvB: Very persistent, very bioaccumulative

Full text of H- and EUH-statements: H272: May intensify fire; oxidiser.

Ox. Sol. 3: Oxidising Solids, Category 3.

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.