

Potassium Nitrate

Version number: 1.0

SECTION 1: Identification

1.1 Product identifier

Identification of the substance potassium nitrate
Trade name **Potassium Nitrate**
CAS number 7757-79-1

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

Relevant identified uses Fertilizer

1.3 Details of the supplier of the safety data sheet

Valudor Products, LLC Telephone: +1 (760) 635 8500
179 Calle Magdalena Suite 100 e-mail: info@valudor.com
Encinitas, California CA 92024 Website: www.valudor.com
United States

1.4 Emergency telephone number

Emergency information 800-535-5053 (Infotrac)
As above or nearest toxicological information center.

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Classification				
Section	Hazard class	Category	Hazard class and category	Hazard statement
B.14	oxidizing solid	3	Ox. Sol. 3	H272

For full text of abbreviations: see SECTION 16

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Signal word warning

Potassium Nitrate

Version number: 1.0

Pictograms

GHS03



Hazard statements

H272 May intensify fire; oxidizer.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P220 Keep away from clothing and other combustible materials.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P370+P378 In case of fire: Use ... to extinguish.

P501 Dispose of contents/container in accordance with national regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance	potassium nitrate
--------------------------	-------------------

Identifiers

CAS No	7757-79-1
--------	-----------

Molecular formula	KNO ₃
--------------------------	------------------

Molar mass	101.1 g/mol
-------------------	-------------

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Self-protection of the first aider.

Remove affected person from the danger area and lay down.

Do not leave affected person unattended.

Take off immediately all contaminated clothing.

In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air.

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Following skin contact

Potassium Nitrate

Version number: 1.0

Rinse skin with water/shower.

Following eye contact

Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

Following ingestion

Rinse mouth. Do not induce vomiting.

Get medical advice/attention if you feel unwell.

Notes for the doctor

None.

4.2 Most important symptoms and effects, both acute and delayed

Nausea.

Gastrointestinal complaints.

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

water, water mist, fire extinguishing powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

none

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.

Deposited combustible dust has considerable explosion potential.

Oxidizing property.

Hazardous combustion products

nitrogen oxides (NO_x), metal oxide smoke, toxic

5.3 Advice for firefighters

Non-combustible.

In case of fire and/or explosion do not breathe fumes.

Coordinate firefighting measures to the fire surroundings.

Do not allow firefighting water to enter drains or water courses.

Collect contaminated firefighting water separately.

Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

Wear self-contained breathing apparatus

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Potassium Nitrate

Version number: 1.0

Remove persons to safety.

Ventilate affected area.

Avoid contact with skin and eyes.

Do not breathe dust.

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

Knock down dust with water spray.

Keep away from drains, surface and ground water.

Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Take up mechanically.

Advice on how to clean up a spill

Take up mechanically.

Collect spillage.

Kieselgur (diatomite).

Universal binder.

Sand.

Other information relating to spills and releases

Place in appropriate containers for disposal.

Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5.

Personal protective equipment: see section 8.

Incompatible materials: see section 10.

Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provision of sufficient ventilation.

Do not breathe dust.

Control of dust.

Avoid contact with skin and eyes.

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

Removal of dust deposits.

Avoid mixing with flammable or combustible substances (e.g. sawdust).

ATTENTION: Contaminated organic solids (like textiles/paper) may ignite without an external source of ignition (self ignition) after the water is evaporated. Wash contaminated material at once with plenty of

Potassium Nitrate

Version number: 1.0

water.

Keep away from sources of ignition - No smoking.

Specific notes/details

Dust deposits may accumulate on all deposition surfaces in a technical room.

Handling of incompatible substances or mixtures

Keep away from

organic absorbing material, pulp/paper, combustible materials

Measures to protect the environment

Avoid release to the environment.

Do not empty into drains; dispose of this material and its container at hazardous or special waste collection point.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.

Wash hands after use.

Preventive skin protection (barrier creams/ointments) is recommended.

Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities

Flammability hazards

Keep reduction valves/valves and fittings free from oil and grease.

Incompatible substances or mixtures

Incompatible materials: see section 10.

Observe compatible storage of chemicals.

Keep/store away from clothing/combustible materials.

Take any precaution to avoid mixing with combustibles.

Store away from acids.

Protect against external exposure, such as

heat, sunlight, humidity, (hygroscopic solid)

Consideration of other advice

Keep away from food, drink and animal feedingstuffs.

Ventilation requirements

Provision of sufficient ventilation.

Specific designs for storage rooms or vessels

Store locked up.

Packaging compatibilities

Only packagings which are approved (e.g. acc. to DOT) may be used.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Potassium Nitrate

Version number: 1.0

The following constituents are the only constituents of the product which have a PEL, a TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Occupational exposure limit values (Workplace Exposure Limits)									
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Notation	Source
US	Particulates not otherwise regulated	-	PEL (CA)	-	10	-	-	dust	Cal/OSHA PEL
US	Particulates not otherwise regulated	-	PEL (CA)	-	5	-	-	r	Cal/OSHA PEL
US	particulates not otherwise classified (PNOC)	-	PEL	-	15	-	-	dust	29 CFR 1910.1000
US	particulates not otherwise classified (PNOC)	-	PEL	1,765	-	-	-	partml, dust	29 CFR 1910.1000
US	particulates not otherwise classified (PNOC)	-	PEL	529.5	-	-	-	partml, r, dust	29 CFR 1910.1000
US	particulates not otherwise classified (PNOC)	-	PEL	-	5	-	-	r	29 CFR 1910.1000
US	particulate not otherwise regulated	-	REL	-	-	-	-	appx-D	NIOSH REL

Notation

appx-D see Appendix D - Substances with No Established RELs

dust as dust

partml particles/ml

r respirable fraction

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

8.2 Exposure controls

Appropriate engineering controls

Use local and general ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Potassium Nitrate

Version number: 1.0

Hand protection

Protective gloves		
Material	Material thickness	Breakthrough times of the glove material
CR: chloroprene (chlorobutadiene) rubber	≥ 0,5 mm	>480 minutes (permeation: level 6)
IIR: isobutene-isoprene (butyl) rubber	≥ 0,5 mm	>480 minutes (permeation: level 6)
PVC: polyvinyl chloride	≥ 0,5 mm	>480 minutes (permeation: level 6)
FKM: fluoro-elastomer	≥ 0,4 mm	>480 minutes (permeation: level 6)
NBR: acrylonitrile-butadiene rubber	≥ 0,35 mm	>480 minutes (permeation: level 6)

Wear suitable gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Body protection

Protective clothing for use against solid particulates.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Particle filter device (DIN EN 143).

Environmental exposure controls

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	solid (crystalline)
Color	white
Odor	characteristic
Odor threshold	not determined
Melting point/freezing point	334 °C
Boiling point or initial boiling point and boiling range	not determined
Evaporation rate	not determined
Flammability (solid, gas)	non-combustible
Explosive limits	not determined

Potassium Nitrate

Version number: 1.0

Explosion limits of dust clouds	not determined
Flash point	not applicable
Auto-ignition temperature	not determined
Decomposition temperature	400 °C
pH (value)	6 – 8 (in aqueous solution: 50 g/l, 20 °C)
Viscosity	not relevant (solid)
Solubility(ies)	
Water solubility	320 g/l at 20 °C
Partition coefficient	
n-octanol/water (log KOW)	not relevant (inorganic)
Vapor pressure	not determined
Density and/or relative density	
Density	2,100 kg/m ³
Relative density / Relative vapour density	2.11 (water = 1 (4 °C)) (ECHA Chem)

9.2 Other information

Information for relevant hazard classes according to GHS	there is no additional information
Other safety characteristics	there is no additional information

SECTION 10: Stability and reactivity

10.1 Reactivity

It's a reactive substance.
Oxidizing property.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

Store away from reducing agents.
Risk of vigorous reaction, ignition and explosion in contact with combustible or flammable substances.

10.4 Conditions to avoid

Keep away from heat.
Sunlight.

Potassium Nitrate

Version number: 1.0

Humidity.

10.5 Incompatible materials

acids, bases, oxidizers, reducing agents, Combustible materials, organic materials

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

Nitrogen oxides (NO_x).

Oxygen.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

If not otherwise specified the classification is based on:

Animal studies; Evidence from any other toxicity tests; Expert judgment (weight of evidence determination).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Acute toxicity

Shall not be classified as acutely toxic (oral).

Shall not be classified as acutely toxic (dermal).

Exposure route	Endpoint	Value	Species	Method	Source
oral	LD0	>2,000 mg/kg	rat	OECD Guideline 425	ECHA
inhalation: dust/mist	LC50	>0.527 mg/l/4h	rat	OECD Guideline 403	ECHA
dermal	LD0	>5,000 mg/kg	rat	OECD Guideline 402	ECHA

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitization

Skin sensitization

Shall not be classified as a skin sensitizer.

Respiratory sensitization

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

IARC Monographs

Potassium Nitrate

Version number: 1.0

not listed

National Toxicology Program (United States)

not listed

OSHA Carcinogens

Not listed.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Specific target organ toxicity - repeated exposure

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Other information

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity (acute)

Based on available data, the classification criteria are not met.

Endpoint	Exposure time	Value	Species	Method	Source
LC50	48 h	95 mg/l	common carp (<i>Cyprinus carpio</i>)	-	ECHA Chem
LC50	48 h	340 mg/l	<i>Ceriodaphnia sylvestris</i>	-	ECHA Chem

Aquatic toxicity (chronic)

Based on available data, the classification criteria are not met.

Endpoint	Exposure time	Value	Species	Method	Source
ErC50	10 d	>1,700 mg/l	algae	-	ECHA
EC50	7 d	125.8 mg/l	water flea (<i>Daphnia</i>)	-	ECHA Chem
EC50	7 d	447.7 mg/l	fathead minnow (<i>Pimephales promelas</i>)	-	ECHA Chem
EC50	180 min	>730 mg/l	microorganisms	OECD Guideline 209	ECHA Chem

Potassium Nitrate

Version number: 1.0

Endpoint	Exposure time	Value	Species	Method	Source
LC50	7 d	274.6 mg/l	water flea (Daphnia)	-	ECHA Chem
LC50	7 d	518.1 mg/l	fathead minnow (Pimephales promelas)	-	ECHA Chem
NOEC	30 d	257 mg/l	fathead minnow (Pimephales promelas)	-	ECHA Chem
NOEC	7 d	221.4 mg/l	water flea (Daphnia)	-	ECHA Chem
LOEC	30 d	536 mg/l	fathead minnow (Pimephales promelas)	-	ECHA Chem

12.2 Persistence and degradability

Biodegradation

The study does not need to be conducted because the substance is inorganic.

Persistence

The study does not need to be conducted because the substance is inorganic.

12.3 Bioaccumulative potential

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

n-octanol/water (log KOW)

not relevant
(inorganic)

12.4 Mobility in soil

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

12.6 Other adverse effects

Data are not available.

Remarks

None.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packages

Completely emptied packages can be recycled.

Potassium Nitrate

Version number: 1.0

Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1 UN number

DOT UN1486

IMDG-Code UN1486

ICAO-TI UN1486

14.2 UN proper shipping name

DOT Potassium nitrate

IMDG-Code POTASSIUM NITRATE

ICAO-TI Potassium nitrate

14.3 Transport hazard class(es)

DOT 5.1

IMDG-Code 5.1

ICAO-TI 5.1

14.4 Packing group

DOT III

IMDG-Code III

ICAO-TI III

14.5 Environmental hazards -

14.6 Special precautions for user -

14.7 Transport in bulk according to IMO instruments -

14.8 Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT) Additional information

Particulars in the shipper's declaration UN1486, Potassium nitrate, 5.1, III

Danger label(s) 5.1



Special provisions (SP) A1, A29, B120, IB8, IP3, T1, TP33, W1

Potassium Nitrate

Version number: 1.0

ERG No 140

International Maritime Dangerous Goods Code (IMDG) Additional information

Marine pollutant -

Danger label(s) 5.1



Special provisions (SP) 964, 967

Excepted quantities (EQ) E1

Limited quantities (LQ) 5 kg

EmS F-A, S-Q

Stowage category A

International Civil Aviation Organization (ICAO-IATA/DGR) Additional information

Danger label(s) 5.1



Excepted quantities (EQ) E1

Limited quantities (LQ) 10 kg

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Toxic Substance Control Act (TSCA) Substance is listed (ACTIVE)

Superfund Amendment and Reauthorization Act (SARA TITLE III)

The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

Not listed

Specific Toxic Chemical Listings (EPCRA Section 313)

Toxics Release Inventory: Specific Toxic Chemical Listings				
Name of substance	Name acc. to inventory	CAS No	Remarks	Effective date
potassium nitrate	nitrate compounds		water dissociable; re-portable only when in aqueous solution	1995-01-01

Potassium Nitrate

Version number: 1.0

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

Not listed

Clean Air Act

Not listed

Right to Know Hazardous Substance List

Toxic or Hazardous Substance List (MA-TURA)

Name of substance	Name acc. to inventory	CAS No	DEP CODE	PBT / HHS / LHS	PBT / HHS Thres hold	De Minimis Concentration Threshold
potassium nitrate	Nitrate compounds (water dissociable)	-	1090	-	-	1.0 %

Hazardous Substances List (MN-ERTK)

Not listed

Hazardous Substance List (NJ-RTK)

Name of substance	Name acc. to inventory	CAS No	Remarks	Classifications	Listed in	Substance number	DOT number
potassium nitrate	potassium nitrate	7757-79-1	-		3 17	1574	1486

Legend

- 17 "2008 Emergency Response Guidebook," Research and Special Programs Administration, U.S. Department of Transportation, 2008.
- 3 Office of Hazardous Materials Safety, Research and Special Programs Administration, U.S. Department of Transportation, 49 CFR 172.101-Hazardous Materials Table, October 1, 2008.

Hazardous Substance List (Chapter 323) (PA-RTK)

Name acc. to inventory	CAS No	Classification
NITRIC ACID POTASSIUM SALT	7757-79-1	-

Hazardous Substance List (RI-RTK)

Name of substance	Name acc. to inventory	CAS No	References
potassium nitrate	Niter	7757-79-1	F
potassium nitrate	Potassium nitrate	7757-79-1	F
potassium nitrate	Saltpeter	7757-79-1	F

Potassium Nitrate

Version number: 1.0

Name of substance	Name acc. to inventory	CAS No	References
potassium nitrate	nitrate of potash	7757-79-1	F

Legend

F Flammability (NFPA®)

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

Not listed

Drug precursors, Chemicals designated within the Controlled Substances Act, 21 U.S.C. § 802, paragraphs 34 (list I) and 35 (list II)

Not listed

SECTION 16: Other information, including date of preparation or last revision

Date of preparation: 2026-04-17

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR U.S. Department of Transportation
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DEP CODE	Department of Environmental Protection Code
DGR	Dangerous Goods Regulations (see IATA/DGR)
DOT	Department of Transportation (USA)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
ERG No	Emergency Response Guidebook - Number
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
HHS	Higher hazard substance
IARC	International Agency for Research on Cancer
IARC Mono-graphs	IARC Monographs on the Evaluation of Carcinogenic Risks to Humans
IATA	International Air Transport Association

Potassium Nitrate

Version number: 1.0

Abbr.	Descriptions of used abbreviations
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD0	Lethal dose 0%: LD0 is the dose of a tested substance that causes no deaths in the test population.
LHS	Lower hazard substance
LOEC	Lowest Observed Effect Concentration
NFPA®	National Fire Protection Association (United States)
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
NOEC	No Observed Effect Concentration
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible exposure limit
ppm	Parts per million
STEL	Short-term exposure limit
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200 (May 20, 2024 eff. July 19, 2024).

Transport of dangerous goods by road or rail (49 CFR US DOT).

International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H272	May intensify fire; oxidizer.

Responsible for the safety data sheet

Chemical Regulatory Compliance Com- Telephone: +1 (630) 410-1660
pany
Jasper, GA e-Mail: GHS@crc-us.com
USA Website: www.crc-us.com

Disclaimer

This information is based upon the present state of our knowledge.

Potassium Nitrate

Version number: 1.0

This SDS has been compiled and is solely intended for this product.