

SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **1.1 Product identifier**

· **Trade name:** potassium nitrate

· **Article number:** 1524

· **CAS Number:**

7757-79-1

· **EC number:**

231-818-8

· **Registration number** 01-2119488224-35-XXXX

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

· **Sector of Use**

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU8 Manufacture of bulk, large scale chemicals (including petroleum products)

SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

· **Product category**

PC0 Other

PC4 Anti-Freeze and de-icing products

PC11 Explosives

PC12 Fertilisers

PC14 Metal surface treatment products

PC16 Heat transfer fluids

PC17 Hydraulic fluids

PC19 Intermediate

PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents

PC35 Washing and cleaning products (including solvent based products)

PC37 Water treatment chemicals

PC39 Cosmetics, personal care products

· **Process category**

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

PROC4 Chemical production where opportunity for exposure arises

PROC5 Mixing or blending in batch processes

PROC7 Industrial spraying

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

PROC10 Roller application or brushing

PROC11 Non industrial spraying

PROC13 Treatment of articles by dipping and pouring

PROC14 Tableting, compression, extrusion, pelletisation, granulation

PROC15 Use as laboratory reagent

PROC16 Use of fuels

PROC19 Manual activities involving hand contact

PROC20 Use of functional fluids in small devices

PROC22 Manufacturing and processing of minerals and/or metals at substantially elevated temperature

PROC23 Open processing and transfer operations at substantially elevated temperature


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- PROC26 Handling of solid inorganic substances at ambient temperature
- **Environmental release category**
 - ERC1 Manufacture of the substance
 - ERC2 Formulation into mixture
 - ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
 - ERC6a Use of intermediate
 - ERC7 Use of functional fluid at industrial site
 - ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
 - ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
 - ERC8c Widespread use leading to inclusion into/onto article (indoor)
 - ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
 - ERC8e Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)
 - ERC8f Widespread use leading to inclusion into/onto article (outdoor)
 - ERC9a Widespread use of functional fluid (indoor)
 - ERC9b Widespread use of functional fluid (outdoor)
 - **Application of the substance / the mixture** Laboratory chemical
 - **1.3 Details of the supplier of the safety data sheet**
 - **Manufacturer/Supplier:**
 - PANREAC QUIMICA S.L.U. Tel. (+34) 937 489 400
 - C/Garraf 2 Fax. (+34) 937 489 401
 - Polígono Pla de la Bruguera e-mail: product.safety@panreac.com
 - E-08211 Castellar del Vallès (Barcelona)
 - **Further information obtainable from:** email: product.safety@panreac.com
 - **1.4 Emergency telephone number:**
 - Single telephone number for emergency calls: 112 (EU)
 - Tel.: (+34) 937 489 499

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
 - Ox. Sol. 2 H272 May intensify fire; oxidiser.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
 - The substance is classified and labelled according to the CLP regulation.
- **Hazard pictograms**
 - 
GHS03
- **Signal word** Danger
- **Hazard statements**
 - H272 May intensify fire; oxidiser.
- **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 for extinction: CO2, powder or water spray.
 - P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

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· **vPvB:** Not applicable.

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SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterisation: Substances**
- **CAS No. Description**
7757-79-1 potassium nitrate
- **Identification number(s)**
- **EC number:** 231-818-8

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:**
Supply fresh air; consult doctor in case of complaints.
Take affected persons into fresh air and keep quiet.
- **After skin contact:**
Immediately remove any clothing soiled by the product.
Clean with water and soap. If possible, also wash with polyethylene glycol 400.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
Rinse out mouth.
make victim drink water (maximum of 2 drinking glasses)
Do not induce vomiting; call for medical help immediately.
- **4.2 Most important symptoms and effects, both acute and delayed**
Coughing
Breathing difficulty
Dizziness
Headache
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
Water
Carbon dioxide
Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Nitrogen oxides (NO_x)
During heating or in case of fire poisonous gases are produced.
Has a fire-promoting effect due to release of oxygen.
Non-combustible.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Mouth respiratory protective device.
Wear self-contained respiratory protective device.
Wear fully protective suit.
- **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
 Avoid formation of dust.
 Mount respiratory protective device.
 Wear protective equipment. Keep unprotected persons away.
 Avoid substance contact.
 Ensure adequate ventilation
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
 Pick up mechanically.
 Avoid formation of dust.
 Clean up affected area.
- **6.4 Reference to other sections**
 See Section 7 for information on safe handling.
 See Section 8 for information on personal protection equipment.
 See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
 Prevent formation of dust.
 Any unavoidable deposit of dust must be regularly removed.
- **Information about fire - and explosion protection:**
 Keep ignition sources away - Do not smoke.
 Keep respiratory protective device available.
 The product is not flammable.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
 Keep container tightly sealed.
 Open receptacle only under localised extractor facilities.
 Store receptacle in a well ventilated area.
 Store only outside or in explosion proof rooms.
 Store under lock and key and with access restricted to technical experts or their assistants only.
- **Recommended storage temperature:** Room Temperature
- **Storage class:** 5.1 B
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.

· DNELs

Oral	Long-term - systemic effects, general population	12.5 mg/kg
Dermal	Long-term - systemic effects, worker	20.8 mg/kg
	Long term - systemic effects, general population	12.5 mg/kg
Inhalative	Long-term - systemic effects, worker	36.7 mg/m ³
	Long-term - systemic effects, general population	10.9 mg/m ³

· PNECs

Aquatic compartment - freshwater	0.45 mg/L
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Aquatic compartment - marine water	0.045 mg/L
Aquatic compartment - water, intermittent releases	4.5 mg/L
Sewage treatment plant	18 mg/L

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:** Wash hands before breaks and at the end of work.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Filter P1

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact gloves made of the following materials are suitable:**

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

Value for the permeation: Level ≥ 480 min

· **As protection from splashes gloves made of the following materials are suitable:**

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

Value for the permeation: Level ≥ 480 min

· **Eye protection:** Safety glasses

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· **Form:** Crystalline

· **Colour:** Colourless

· **Odour:** Odourless

· **Odour threshold:** Not determined.

· **pH-value:** 5-7.5

· **Change in condition**

· **Melting point/freezing point:** 334 °C

· **Initial boiling point and boiling range:** 400 °C

· **Flash point:** Not applicable.

· **Flammability (solid, gas):** Contact with combustible material may cause fire.

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· Decomposition temperature:	400 °C
· Auto-ignition temperature:	Not determined.
· Explosive properties:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure:	Not applicable.
· Density at 20 °C:	2.109 g/cm ³
· Relative density	Not determined.
· Vapour density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with water at 20 °C:	320 g/l
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** oxidizing agent
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** Reacts with organic substances.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**
alkali metals
sulfides
phosphorus
metals in powder form
boron
carbon/soot
phosphides
magnesium
Reacts with flammable substances.
- **10.6 Hazardous decomposition products:** In the event of fire: See chapter 5

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **LD/LC50 values relevant for classification:**
Quantitative data on the toxicological effect of this product are not available.

· Components	Type	Value	Species
Oral	LD50	3,750 mg/kg	(rat)
Dermal	LD50	>5,000 mg/kg	(rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant effect
- **Serious eye damage/irritation** irritations

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- **After inhalation:** Irritation symptoms in the respiratory tract.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.

Type of test	Effective concentration	Method	Assessment
EC50	490 mg/l	(daphnia magna)	
EC0	200 mg/l	(fish)	
LC50/48 h	490 mg/l	(Aquatic Invertebrata)	
LC50/96 h	1,378 mg/l	(fish)	
	>98.9 mg/l	(Oncorhynchus mykiss)	
NOEC	180 mg/L	(micro-organisms)	

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water
Do not allow product to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Chemicals must be disposed of in compliance with the respective national regulations.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:**
Disposal must be made according to official regulations.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.

SECTION 14: Transport information

· 14.1 UN-Number	
· ADR, IMDG	UN1486
· 14.2 UN proper shipping name	
· ADR, IMDG	POTASSIUM NITRATE

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· **14.3 Transport hazard class(es)**

· **ADR**



· **Class** 5.1 (O2) Oxidising substances.
· **Label** 5.1

· **IMDG, IATA**



· **Class** 5.1 Oxidising substances.
· **Label** 5.1

· **14.4 Packing group**

· **ADR, IMDG, IATA** III

· **14.5 Environmental hazards:**

· **Marine pollutant:** No

· **14.6 Special precautions for user**

· **Hazard identification number (Kemler code):** 50
· **EMS Number:** 5.1-06
· **Stowage Category** A
· **Stowage Code** SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.

· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)** 5 kg
· **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 g
Maximum net quantity per outer packaging: 1000 g
· **Transport category** 3
· **Tunnel restriction code** E

· **IMDG**

· **Limited quantities (LQ)** 5 kg
· **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 g
Maximum net quantity per outer packaging: 1000 g

· **UN "Model Regulation":**

UN 1486 POTASSIUM NITRATE, 5.1, III

SECTION 15: Regulatory information

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

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is listed.
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t

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- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Ox. Sol. 2: Oxidizing solids – Category 2

- * **Data compared to the previous version altered.**

Annex: Exposure scenario

· Short title of the exposure scenario

Formulation and packing/repacking of substances and mixtures
Use in laboratories

· Sector of Use

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
SU8 Manufacture of bulk, large scale chemicals (including petroleum products)
SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

· Product category

PC0 Other
PC4 Anti-Freeze and de-icing products
PC11 Explosives
PC12 Fertilisers
PC14 Metal surface treatment products
PC16 Heat transfer fluids
PC17 Hydraulic fluids
PC19 Intermediate
PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
PC35 Washing and cleaning products (including solvent based products)
PC37 Water treatment chemicals
PC39 Cosmetics, personal care products

· Process category

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises
PROC5 Mixing or blending in batch processes
PROC7 Industrial spraying
PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including

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- weighing)
- PROC10 Roller application or brushing
- PROC11 Non industrial spraying
- PROC13 Treatment of articles by dipping and pouring
- PROC14 Tableting, compression, extrusion, pelletisation, granulation
- PROC15 Use as laboratory reagent
- PROC16 Use of fuels
- PROC19 Manual activities involving hand contact
- PROC20 Use of functional fluids in small devices
- PROC22 Manufacturing and processing of minerals and/or metals at substantially elevated temperature
- PROC23 Open processing and transfer operations at substantially elevated temperature
- PROC26 Handling of solid inorganic substances at ambient temperature
- **Environmental release category**
- ERC1 Manufacture of the substance
- ERC2 Formulation into mixture
- ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
- ERC6a Use of intermediate
- ERC7 Use of functional fluid at industrial site
- ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
- ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
- ERC8c Widespread use leading to inclusion into/onto article (indoor)
- ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
- ERC8e Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)
- ERC8f Widespread use leading to inclusion into/onto article (outdoor)
- ERC9a Widespread use of functional fluid (indoor)
- ERC9b Widespread use of functional fluid (outdoor)
- **Description of the activities / processes covered in the Exposure Scenario**
- See section 1 of the annex to the Safety Data Sheet.
- **Conditions of use**
- **Duration and frequency** 5 workdays/week.
- **Physical parameters**
- **Physical state** Solid
- **Concentration of the substance in the mixture** Raw material.
- **Used amount per time or activity** ≤ 1 tons per day
- **Other operational conditions**
- **Other operational conditions affecting environmental exposure** No special measures required.
- **Other operational conditions affecting worker exposure**
- Keep away from combustible material.
- Avoid breathing particles.
- Indoor application.
- Outdoor application.
- **Other operational conditions affecting consumer exposure** No special measures required.
- **Other operational conditions affecting consumer exposure during the use of the product**
- Not applicable.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures** No special measures required.
- **Technical protective measures**
- No special measures required.
- Ensure that suitable extractors are available on processing machines
- **Personal protective measures**
- Do not inhale dust / smoke / mist.
- In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- Filter P1
- **Measures for consumer protection** Ensure adequate labelling.
- **Environmental protection measures**
- **Water** No special measures required.
- **Disposal measures** Ensure that waste is collected and contained.

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- **Disposal procedures**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Waste type** Partially emptied and uncleaned packaging
- **Exposure estimation**
- **Consumer** Not relevant for this Exposure Scenario.
- **Guidance for downstream users** No further relevant information available.

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