



Preparing for the New Era of Laboratories

MATERIAL SAFETY DATA SHEET (MSDS)

According to regulation (EU) no.1907/2006

POTASSIUM NITRATE AR

PRODUCT CODE : O-5154

CAS No : 7757-79-1

FORMULA : KNO_3

UN No : 1486

**MATERIAL SAFETY DATA SHEET (SDS/MSDS)
POTASSIUM NITRATE AR**

MSDS Number : 0294

Date : May 16th, 2025

Version : 1.0

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

- 1.1 Product Name** : POTASSIUM NITRATE AR
Synonyms : Nitrate of potash
CAS No. : 7757-79-1
HS Code : 2834 2100
Chemical Formula : KNO₃
Molecular Weight : 101,10 g/mol
Product Code : O-5154
Brand : Labotiq
- 1.2 Manufacturer** : Labotiq
Address : Jl.Terapi Raya AD2-Bumi Menteng Asri Bogor, Jawa Barat Indonesia – 16111
Website : www.labotiq.net
Email : labotiq.id@gmail.com
For information : Phone : (+62-251) 839110, 8311662, Fax : (+62-251) 83135710
Emergency number : +6281316894650
- 1.3 Application** : Laboratory chemicals, Manufacture of substances, General Chemical reagent

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Oxidizing solids, (Category 3) H272: May intensify fire; oxidizer.

For the full text of the H-Statements mentioned in this Section, see Section 16

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Warning

Hazard statement(s)

H272

May intensify fire; oxidizer

Precautionary statement(s)

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 dry sand, dry chemical or alcohol-resistant foam to extinguish.

P501

Dispose of contents/ container to an approved waste disposal plant

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2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients**3.1 Substances**

Synonyms : Potassium Nitrate
Formula : KNO₃
Molecular weight : 101,10 g/mol
CAS-No. : 7757-79-1
EC-No. : 231-818-8

3.2 Mixture

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
Potassium nitrate	Oxidizing solids, (Category 3)	<=100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures**4.1 Description of first aid measures****General advice**

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

In case of eye contact

After eye contact: rinse out with plenty of water. Remove contact lenses.

If swallowed

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Nitrogen oxides (NO_x), Potassium oxides, Not combustible. Has a fire-promoting effect due to release of oxygen. Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures

Change contaminated clothing. Wash hands after working with substance. For precautions see section 2.2.

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7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Do not store near combustible materials. hygroscopic Store under inert gas.

Storage class

Storage class (TRGS 510): 5.1B: Oxidizing hazardous materials

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriat engineering controls

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested: Dermatril® (KCL 740, Size M)

Splash contact

Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested: Dermatril® (KCL 740, Size M)

Body Protection

protective clothing

Respiratory protection

required when dusts are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.
Recommended Filter type: Filter type P1

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The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Appearance	Form: crystalline
Odour	No data available
Odour Threshold	No data available
pH	No data available
Melting point/freezingpoint	Melting point/ range: 334 °C - lit.
Initial boiling point and boiling range	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Density	2,109 g/cm ³ at 16 °C
Relative density	No data available
Water solubility	No data available
Partition coefficient: octanol/water	Not applicable for inorganic substances
Auto-ignition temperature	does not ignite
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	Not classified as explosive.
Oxidizing properties	The substance or mixture is classified as oxidizing with the category 3.

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity**10.1 Reactivity**

No data available

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature)

10.3 Possibility of hazardous reactions

Risk of explosion with:

Cyanides, Sulfides, combustible substances, Fluorine, Potassium, acetates, oxidisable substances, phosphides, Organic Substances, Peroxides, Aluminum, antimony, charcoal, Titanium, Zinc Powdered, metals, arsenic, Boron, Germanium, nitrides, magnesium, sodium thiosulphate, phosphorus, strong reducing agents, sulfur, sugars

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Generates dangerous gases or fumes in contact with: Acids
Possible formation of: nitrogen dioxide
Risk of ignition or formation of inflammable gases or vapours with: calcium silicide

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male and female - > 2.000 mg/kg (OECD Test Guideline 425)

LC50 Inhalation - Rat - male and female - 4 h - > 0,527 mg/l - dust/mist (OECD Test Guideline 403)

LD50 Dermal - Rat - male and female - > 5.000 mg/kg (OECD Test Guideline 402)

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h (OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation (OECD Test Guideline 405)

Respiratory or skin sensitisation

Local lymph node assay (LLNA) - Mouse

Result: negative (OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Chinese hamster fibroblasts

Metabolic activation: without metabolic activation

Result: negative

Remarks: (ECHA)

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Carcinogenicity

No data available

Reproductive toxicity

No data available.

Specific target organ toxicity - single exposure

No data available

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Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information**Endocrine disrupting properties****Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. Repeated dose toxicity - Rat - male and female - Oral - NOAEL (No observed adverse effect level) - > 1.500 mg/kg

RTECS: TT3700000

Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption of large quantities:

Methaemoglobinaemia with headache, cardiac arrhythmia, drop in blood pressure, dyspnoea, and spasms, key symptom: cyanosis (blue colouration of the blood). Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information**12.1 Toxicity***Toxicity to fish*

static test LC50 - *Oncorhynchus mykiss* (rainbow trout) - > 100 mg/l - 96 h
(OECD Test Guideline 203) Remarks: (above the solubility limit in the test medium)

Toxicity to daphnia and other aquatic invertebrates

EC50 - *Daphnia magna* (Water flea) - 490 mg/l - 48 h
Remarks: (above the solubility limit in the test medium) (ECHA)

Toxicity to algae

static test ErC50 - diatoms - > 1.700 mg/l - 10 Days
Remarks: (above the solubility limit in the test medium) (ECHA)

Toxicity to bacteria

EC50 - activated sludge - > 1.000 mg/l - 3 h (OECD Test Guideline 209)
Remarks: (above the solubility limit in the test medium)

12.2 Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

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12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Discharge into the environment must be avoided.

Endocrine disrupting properties**Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

No data available

SECTION 14: Transport information**14.1 UN number**

ADR/RID: 1486

IMDG: 1486

IATA: 1486

14.2 UN proper shipping name

ADR/RID: POTASSIUM NITRATE

IMDG: POTASSIUM NITRATE

IATA: Potassium nitrate

14.3 Transport hazard class(es)

ADR/RID: 5.1

IMDG: 5.1

IATA: 5.1

14.4 Packaging group

ADR/RID: III

IMDG: III

IATA: III

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user**Further information**

No data available

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use

Regulation (EU) 2019/1148 on the marketing and use of explosives precursors : potassium nitrate

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

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OXIDISING LIQUIDS AND SOLIDS

Other regulations

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

National Fire Protection Association (U.S.A.):

Health: 1

Flammability: 1

Reactivity: 2

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Labotiq shall not be held liable for any damage resulting from handling or from contact with the above product.

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