

SAFETY DATA SHEET

Potassium Nitrate, Standard 13-0-46

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

1.1 Product identifier

Product name : Potassium Nitrate, Standard 13-0-46
Index number : None assigned.
EC number : 231-818-8

REACH Registration number

Registration number	Substance
01-2119488224-35-XXXX	Potassium nitrate

CAS number : 7757-79-1
Product code : 5916-31695
Product description : EC FERTILISER NK Fertiliser, Standard 13-0-46
Product type : Solid.
Other means of identification : Nitric acid, potassium salt (1:1); Nitric acid potassium salt ; Nitric acid, potassium salt
Chemical formula : K-N-O3.K

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

Identified uses	
Industrial use for the formulation of preparations, intermediate use, and end use in industrial settings. Professional use in formulation of preparations and end-use.	
Uses advised against	Reason
Consumer use	Chemical safety assessment

1.3 Details of the supplier of the safety data sheet

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commercial@nutrien.eu

e-mail address of person responsible for this SDS : productsafety@nutrien.com

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : Nutrien Safety Data Sheets are available in many languages at <https://agproducts.nutrien.com/products/>
Physicians, Poison Centres, or the Public may contact Nutrien's Global Emergency Response Number 24/7/365 for service in many languages at +1 303 389 1654

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

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Bordeaux +33 (0)5 56 96 40 80
Lille 0800 59 59 59 (national callers)
Lyon +33 (0)4 72 11 69 11
Marseille +33 (0)4 91 75 25 25
Nancy +33 (0)3 83 22 50 50
Paris +33 (0)1 40 05 48 48
Rennes +33 (0)2 99 59 22 22
Strasbourg +33 (0)3 88 37 37 37
Toulouse +33 (0)5 61 77 74 47
GEORGIA +995 99 53 33 20
GERMANY
Berlin +49 30 192 40
Bonn +49 228 192 40
Erfurt +49 361 730 730
Freiburg +49 761 192 40
Goettingen +49 551 192 40
Homburg (Saar) +49 6841 192 40
Mainz +49 6131 192 40
Munich +49 89 192 40
GREECE +30 21 07 79 37 77
HUNGARY +36 80 20 11 99
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Firenze +39 55 794 7819
Foggia +39 881 732 326
Genoa +39 10 563 62 45
Milan +39 02 6610 1029
Padova +39 49 827 50 78
Pavia +39 38 224 444
Rome +39 06 305 43 43
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NORWAY +47 22 59 13 00
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Krakow +48 12 411 99 99
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Warszawa +48 22 619 66 54
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

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Birmingham 844 892 0111
Edinburgh 844 892 0111
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Supplier

Telephone number : Nutrien Europe SA
EMERGENCY TELEPHONE NUMBERS:
Transportation: 00-1-303-389-1654
Medical: 00-1-303-389-1654

Hours of operation : 24/7/365

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mono-constituent substance

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

Ox. Sol. 3, H272

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H272 May intensify fire; oxidiser.

Precautionary statements

Prevention : P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P220 Keep away from clothing, incompatible materials and combustible materials.
P221 Take any precaution to avoid mixing with combustibles and other incompatible materials.
P280.6 Wear eye or face protection.

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

Storage : Not applicable.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients : Potassium nitrate

Supplemental label elements : Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Special packaging requirements

SECTION 2: Hazards identification

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII : Not applicable.

Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : Not applicable.

Other hazards which do not result in classification : Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

SECTION 3: Composition/information on ingredients

3.1 Substances : Mono-constituent substance

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
Potassium nitrate	EC: 231-818-8 CAS no.: 7757-79-1 REACH Reg.# 01-2119488224-35-XXXX	100	Ox. Sol. 3, H272 See Section 16 for the full text of the H statements declared above.	[A]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[A] Constituent

[B] Impurity

[C] Stabilising additive

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove person to fresh air. No known significant effects. Seek medical attention for any signs of wheezing and/or breathing difficulties. For additional advice call the medical emergency number on this SDS or your poison center or medical provider.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention

SECTION 4: First aid measures

immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

- Eye contact** : May cause irritation due to mechanical action. Adverse symptoms may include the following:
irritation
- Inhalation** : Usually no symptoms occur at the time of exposure. A symptom-free period follows exposure and lasts for 5-72 hr. Fatigue, restlessness, coughing and shortness of breath gradually develops with increasingly rapid and shallow breathing, with mucus and fluid accumulation in the lungs. Circulatory collapse is secondary to anoxia. Death due to blockage of gas exchange in the lungs is possible.
- Skin contact** : No specific data.
- Ingestion** : May interfere with the oxygen carrying capacity of the blood if ingested in large quantities or over a prolonged period of time. Persons with anemia, bowel diseases, or infants, are more likely to develop effects. Over-exposure by ingestion is unlikely under normal working conditions.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : In case of inhalation of decomposition products (carbon monoxide, carbon dioxide, nitrogen oxides) in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for up to 72 hours. In cases of suspected methemoglobinemia, monitor methemoglobin blood levels. Treatment is supportive; methylene blue may be indicated based on patient severity. 24 Hr Medical Emergency telephone number for professional support: 00-1-303-389-1654.
- Specific treatments** : Call the medical emergency number on this SDS or your poison center or doctor immediately if large quantities have been ingested. In cases of suspected methemoglobinemia, methylene blue may be indicated based on patient severity.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Flood fire area with water from a distance.
- Unsuitable extinguishing media** : Do not attempt to smother the fire.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : Oxidising material. May intensify fire. The substance will not burn. Undergoes thermal decomposition at elevated temperatures to release toxic and flammable gases. Risk of explosion if heated under confinement. Evacuate area and fight fire remotely due to the risk of explosion.
- Hazardous combustion products** : Decomposition products may include the following materials:
nitrogen oxides

5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Fight fire from protected location or maximum possible distance.

SECTION 5: Firefighting measures

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
- Additional information** : Oxidising material. Risk of explosion if heated under confinement. Contain and collect the water used to fight the fire for later treatment and disposal.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- 6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused adverse impacts (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

- Small spill** : Put on appropriate personal protective equipment (see Section 8). Move containers from spill area. Use appropriate equipment to put the spilled substance in a container for reuse or disposal.
- Large spill** : Put on appropriate personal protective equipment (see Section 8). Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Use appropriate equipment to put the spilled substance in a container for reuse or disposal. Recycle, if possible.

- 6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from clothing, incompatible materials and combustible materials. Keep away from heat. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

SECTION 7: Handling and storage

Store in accordance with local regulations. May form steep piles that can collapse without warning when stored in bulk. Avoid forming steep slopes when removing product. Ensure that bulk bags or smaller packaged products stored in tiers are stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, rolling, or collapse. Use caution when opening truck or railcar doors as product may have shifted during transport.

Must be stored in a dry location. Absorbs moisture on long-term storage under high humidity conditions. Store away from incompatible materials (see Section 10). When product is stored in sealable containers, keep container tightly closed and sealed until ready for use. Sealable containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Separate from reducing agents and combustible materials. Use appropriate containment to avoid environmental contamination.

Seveso Directive - Reporting thresholds (in tonnes)

Named substances

Name	Notification and MAPP threshold	Safety report threshold
Potassium nitrate, Composite potassium-nitrate based fertilisers composed of potassium nitrate in prilled/granular form	5000	10000

7.3 Specific end use(s)

- Recommendations** : Fertiliser. Manufacture of fertilizers and nitrogen compounds
- Industrial sector specific solutions** : Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tableting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.

This safety data sheet contains an ES in an integrated form. Contents of the exposure scenario have been included into sections 1.2, 8, 9, 12, 15 and 16 of this safety data sheet.

SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available

8.2 Exposure controls

SECTION 8: Exposure controls/personal protection

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Individual protection measures**
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. If operating conditions cause high dust concentrations to be produced, use dust goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. Contact your personal protective equipment manufacturer to verify the compatibility of the equipment for the intended purpose.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : Solid. [Granular solid.]
- Colour** : Colourless. White.
- Odour** : Odourless.
- Odour threshold** : Not available.
- pH** : 7 [Conc. (% w/w): 10%]
- Melting point/freezing point** : 334°C
- Initial boiling point and boiling range** : Not available.
- Flash point** : Not applicable.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : May cause or intensify fire; oxidiser.
- Upper/lower flammability or explosive limits** : Not available.
- Vapour pressure** : Not available.
- Vapour density** : Not available.
- Relative density** : 2.1 g/cm³

SECTION 9: Physical and chemical properties

- Solubility(ies)** : Easily soluble in the following materials: cold water and hot water.
- Partition coefficient: n-octanol/ water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : 400°C
- Viscosity** : Not available.
- Explosive properties** : Explosive in the presence of the following materials or conditions: oxidizing materials, combustible materials and organic materials.
Oxidising material. Risk of explosion if heated under confinement.
- Oxidising properties** : Oxidiser.

9.2 Other information

- Solubility in water** : 357 g/l
- Molecular weight** : 179.31 g/mole

No additional information.

SECTION 10: Stability and reactivity

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- 10.2 Chemical stability** : The product is stable.
- 10.3 Possibility of hazardous reactions** : Hazardous reactions or instability may occur under certain conditions of storage or use.
Conditions may include the following:
contact with combustible materials, reactions may include the following:
risk of causing or intensifying fire
- 10.4 Conditions to avoid** : Avoid contamination by any source including metals, dust and organic materials.
- 10.5 Incompatible materials** : Reactive or incompatible with the following materials:
combustible materials
reducing materials
- 10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Potassium nitrate	LD50 Oral	Rat	3540 mg/kg	-
	LD50 Oral	Rat	3750 mg/kg	-

Conclusion/Summary : Not considered to be acutely toxic.

Irritation/Corrosion

Conclusion/Summary

- Skin** : Non-irritating to the skin.
- Eyes** : May cause slight transient irritation. Effects are not sufficient for classification as hazardous. Classified based on the weight of evidence.
- Respiratory** : Non-irritating to the respiratory system.

Sensitisation

Conclusion/Summary

- Skin** : Non-sensitiser.

SECTION 11: Toxicological information

Respiratory : Non-sensitiser.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Potassium nitrate	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD 479 Genetic Toxicology: In vitro Sister Chromatid Exchange Assay in Mammalian Cells	Experiment: In vitro Subject: Mammalian-Animal	Negative

Conclusion/Summary : No mutagenic effect.

Carcinogenicity

Conclusion/Summary : Potential for nitrosamine formation if ingested. Do not ingest.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
Potassium nitrate	Negative	Negative	Negative	Rat - Male, Female	Oral: 1500 mg/ kg	-

Conclusion/Summary : Not considered to be toxic to the reproductive system.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure : Inhalation

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards. May cause irritation due to mechanical action.
- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : May interfere with the oxygen carrying capacity of the blood if ingested in large quantities or over a prolonged period of time. Persons with anemia, bowel diseases, or infants, are more likely to develop effects. Over-exposure by ingestion is unlikely under normal working conditions.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : May cause irritation due to mechanical action. Adverse symptoms may include the following:
irritation
- Inhalation** : Usually no symptoms occur at the time of exposure. A symptom-free period follows exposure and lasts for 5-72 hr. Fatigue, restlessness, coughing and shortness of breath gradually develops with increasingly rapid and shallow breathing, with mucus and fluid accumulation in the lungs. Circulatory collapse is secondary to anoxia. Death due to blockage of gas exchange in the lungs is possible.

SECTION 11: Toxicological information

- Skin contact** : No specific data.
- Ingestion** : May interfere with the oxygen carrying capacity of the blood if ingested in large quantities or over a prolonged period of time. Persons with anemia, bowel diseases, or infants, are more likely to develop effects. Over-exposure by ingestion is unlikely under normal working conditions.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

- Potential immediate effects** : See above.
- Potential delayed effects** : See above.

Long term exposure

- Potential immediate effects** : See above.
- Potential delayed effects** : See below.

Potential chronic health effects

Not available.

- Conclusion/Summary** : May interfere with the oxygen carrying capacity of the blood if ingested in large quantities or over a prolonged period of time. Persons with anemia, bowel diseases, or infants, are more likely to develop effects. Over-exposure by ingestion is unlikely under normal working conditions.

- General** : See above.
- Carcinogenicity** : Potential for nitrosamine formation if ingested. Do not ingest.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

- Other information** : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Potassium nitrate	Acute LC50 120 to 140 mg/l Marine water	Crustaceans - Portunus pelagicus - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 490 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1200000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Acute LC50 191000 µg/l Fresh water	Fish - Poecilia reticulata - Fry	96 hours
	Acute LC50 22500 µg/l Fresh water	Fish - Gambusia affinis - Adult	96 hours

- Conclusion/Summary** : May be harmful to the environment if released in large quantities.

12.2 Persistence and degradability

- Conclusion/Summary** : Not persistent.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Potassium nitrate	-	-	Readily

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

SECTION 12: Ecological information

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.
P: Not available. B: Not available. T: Not available.

vPvB : Not applicable.
vP: Not available. vB: Not available.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

European waste catalogue (EWC)





Waste code	Waste designation
06 10 00	wastes from the MFSU of nitrogen chemicals, nitrogen chemical processes and fertiliser manufacture

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	ICAO
14.1 UN number	UN1486	1486	UN1486	1486
14.2 UN proper shipping name	Potassium nitrate (potassium nitrate, solid)	Potassium nitrate (potassium nitrate, solid)	Potassium nitrate (Potassium nitrate, solid)	Potassium nitrate (Potassium nitrate, solid)
14.3 Transport hazard class(es)	5.1 	5.1 	5.1 	5.1 
14.4 Packing group	III	III	III	III

Potassium Nitrate, Standard 13-0-46

SECTION 14: Transport information

14.5 Environmental hazards	No.	No.	No.	No.
Additional information	Limited quantity 5	-	Emergency schedules (EmS) F-A, S-Q	-
	Tunnel code E		Special provisions 964	

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Europe inventory : This material is listed or exempted.

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Aerosol dispensers :

Seveso Directive

This product is controlled under the Seveso Directive.

Named substances

Name

Potassium nitrate, Composite potassium-nitrate based fertilisers composed of potassium nitrate in prilled/granular form

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

SECTION 15: Regulatory information

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia	: This material is listed or exempted.
Canada	: This material is listed or exempted.
China	: This material is listed or exempted.
Japan	: Japan inventory (ENCS) : This material is listed or exempted. Japan inventory (ISHL) : Not determined.
Malaysia	: Not determined.
New Zealand	: This material is listed or exempted.
Philippines	: This material is listed or exempted.
Republic of Korea	: This material is listed or exempted.
Taiwan	: This material is listed or exempted.
Turkey	:
United States	: This material is listed or exempted.

15.2 Chemical safety assessment : Not available.

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Key literature references and sources for data : REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 18 DECEMBER 2006, with successive adaptations, amendments, and corrigenda.
REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 16 DECEMBER 2008, with successive adaptations, amendments, and corrigenda.
ECHA, European Chemicals Agency, Classification and Labelling Database
DIRECTIVE 2012/18/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 4 JULY 2012 on the control of major-accident hazards involving dangerous substances
European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), latest revision.
Directive 2008/68/EC of the European Parliament and of the Council of 24 September 2008 on the inland transport of dangerous goods, with successive amendments.
REGULATION (EC) No 2003/2003 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 13 OCTOBER 2003 RELATING TO FERTILISERS, with successive adaptations, amendments, and corrigenda.
American Conference of Governmental Industrial Hygienists, Threshold Limit Values

SECTION 16: Other information

for Chemical Substances, latest edition.
Corrosion Data Survey, Sixth Edition, 1985, National Association of Corrosion Engineers
ERG 2016 Emergency Response Guidebook
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans.
The Fertilizer Institute, Toxicity Testing Results, March 2003

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Ox. Sol. 3, H272	Weight of evidence

Full text of abbreviated H statements

H272	May intensify fire; oxidiser.
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Full text of classifications [CLP/GHS]

Ox. Sol. 3, H272	OXIDISING SOLIDS - Category 3
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Notice to reader

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Product definition : Mono-constituent substance

Identification of the substance or mixture

Code : 5916-31695

Product name : Potassium Nitrate, Standard 13-0-46

Section 1 - Title

Short title of the exposure scenario : Nutrien KNO3 Exposure Scenario for Workers

List of use descriptors : **Identified use name:** Industrial use for the formulation of preparations, intermediate use, and end use in industrial settings.
Process Category: PROC01, PROC02, PROC03, PROC05, PROC08a, PROC08b, PROC09, PROC15, PROC26
Substance supplied to that use in form of: As such
Sector of end use: SU03, SU10, SU23
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02, ERC06a
Market sector by type of chemical product: PC11, PC12, PC19, PC37
Article category related to subsequent service life: Not applicable.

Environmental contributing scenarios : Not applicable.

Health Contributing scenarios : **Bulk transfers** - PROC02, PROC03, PROC05, PROC08a, PROC08b, PROC09, PROC26
Clean-down and maintenance of equipment - PROC02, PROC03, PROC05, PROC08a, PROC08b, PROC09, PROC26
Laboratory activities - PROC15
Mixing operations (open systems) - PROC05, PROC08b
Product packaging - PROC09
Storage - PROC26

Number of the ES : 1

Processes and activities covered by the exposure scenario : Applicable to all identified Process Categories.
An environmental assessment has not been done as the substance does not meet the criteria for being classified as dangerous for the environment.

Section 2 - Exposure controls

Contributing exposure scenario controlling environmental exposure for 1: Not applicable.

Not applicable. Not classified as dangerous to the environment.

Contributing exposure scenario controlling worker exposure for 1: Bulk transfers

Product Characteristics : Solid, low dustiness.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%

Physical state : Solid beads.

Dust : Solid, low dustiness.

Amounts used : Variable, from day to day.

Frequency and duration of use : Use duration (h/d): >4

Human factors not influenced by risk management : Not applicable.

Other operational conditions affecting worker exposure	: Indoor or outdoor use Amounts used
Area of use:	: Indoor and outdoor use.
Technical conditions and measures at process level (source) to prevent release	: Not applicable.
Process control/change measures	: Not applicable.
Technical conditions and measures to control dispersion from source towards the worker	: Use appropriate containment to avoid environmental contamination. Provide enhanced general ventilation by mechanical means.
Engineering controls	: Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Ventilation control measures	: Provide adequate ventilation and, if possible, use or install internal exhaust systems.
Organisational measures to prevent/limit releases, dispersion and exposure	: Ensure operatives are trained to minimise exposures.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: A washing facility or water for eye and skin cleaning purposes should be present. Brush off contaminated clothing. Ensure good industrial hygiene. Provide eye shower and mark its location conspicuously.
Personal protection	: If operating conditions cause high dust concentrations to be produced, use dust goggles.
Respiratory protection	: If ventilation is inadequate, use respirator that will protect against dust/mist.

Contributing exposure scenario controlling worker exposure for 2: Clean-down and maintenance of equipment

Product Characteristics	: Solid, low dustiness.
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100%
Physical state	: Solid beads.
Dust	: Solid, low dustiness.
Amounts used	: Not applicable.
Frequency and duration of use	: Use duration (h/d): >4
Human factors not influenced by risk management	: Not applicable.
Other operational conditions affecting worker exposure	: Indoor or outdoor use
Area of use:	: Indoor and outdoor use.
Technical conditions and measures at process level (source) to prevent release	: Restrict access while emptying or maintaining the unit. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Since the emptied containers retain product residue, follow product insert warnings even after container is emptied.
Process control/change measures	: These controls may include segregation of areas, access only to authorised persons, permit to work systems, confined space working procedures, and hazard awareness training.

Technical conditions and measures to control dispersion from source towards the worker	: Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Engineering controls	: Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Ventilation control measures	: Provide adequate ventilation and, if possible, use or install internal exhaust systems.
Organisational measures to prevent/limit releases, dispersion and exposure	: Ensure operatives are trained to minimise exposures.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: A washing facility or water for eye and skin cleaning purposes should be present. Brush off contaminated clothing. Pay attention to good general hygiene and housekeeping. Provide eye shower and mark its location conspicuously. When using do not eat or drink.
Personal protection	: If operating conditions cause high dust concentrations to be produced, use dust goggles.
Respiratory protection	: If ventilation is inadequate, use respirator that will protect against dust/mist.

Contributing exposure scenario controlling worker exposure for 3: Laboratory activities

Product Characteristics	: Solid, low dustiness. Liquid.
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100%
Physical state	: Solid beads.
Dust	: Solid, low dustiness.
Amounts used	: Variable, from day to day.
Frequency and duration of use	: Use duration (h/d): >4
Human factors not influenced by risk management	: Not applicable.
Other operational conditions affecting worker exposure	: Indoor use
Area of use:	: Indoor
Technical conditions and measures at process level (source) to prevent release	: Not applicable.
Process control/change measures	: Not applicable.
Technical conditions and measures to control dispersion from source towards the worker	: Manipulate in a well-ventilated area or under an adequate fume hood.
Engineering controls	: Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Ventilation control measures	: Provide adequate ventilation and, if possible, use or install internal exhaust systems.
Organisational measures to prevent/limit releases, dispersion and exposure	: Ensure operatives are trained to minimise exposures.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: A washing facility or water for eye and skin cleaning purposes should be present.

Personal protection : Goggles, face shield or other full-face protection should be worn if there is a risk of direct exposure to dust.

Contributing exposure scenario controlling worker exposure for 4: Mixing operations (open systems)

Product Characteristics : Solid, low dustiness. Liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%

Physical state : Solid beads.

Dust : Solid, low dustiness.

Amounts used : Not applicable.

Frequency and duration of use : Use duration (h/d): >4

Human factors not influenced by risk management : Not applicable.

Other operational conditions affecting worker exposure : Indoor use

Area of use: : Indoor

Technical conditions and measures at process level (source) to prevent release : Not applicable.

Process control/change measures : Not applicable.

Technical conditions and measures to control dispersion from source towards the worker : Use appropriate containment to avoid environmental contamination. Provide enhanced general ventilation by mechanical means.

Engineering controls : Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Ventilation control measures : Provide adequate ventilation and, if possible, use or install internal exhaust systems.

Organisational measures to prevent/limit releases, dispersion and exposure : Ensure operatives are trained to minimise exposures.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Goggles, face shield or other full-face protection should be worn if there is a risk of direct exposure to dust.

Contributing exposure scenario controlling worker exposure for 5: Product packaging

Product Characteristics : Solid, low dustiness. Liquid.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%

Physical state : Solid beads.

Dust : Solid, low dustiness.

Amounts used : Not applicable.

Frequency and duration of use : Use duration (h/d): >4

Human factors not influenced by risk management : Not applicable.

Other operational conditions affecting worker exposure	: Indoor use
Area of use:	: Indoor
Technical conditions and measures at process level (source) to prevent release	: Not applicable.
Process control/change measures	: Not applicable.
Technical conditions and measures to control dispersion from source towards the worker	: Ensure the area is organised, well lit and ventilated with enough space to deal with spills easily.
Engineering controls	: Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Ventilation control measures	: Ensure sufficient ventilation when re-packing damaged packages. Only use product in a well-ventilated area.
Organisational measures to prevent/limit releases, dispersion and exposure	: Ensure operatives are trained to minimise exposures.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: A washing facility or water for eye and skin cleaning purposes should be present. Brush off contaminated clothing. When using do not eat or drink.
Personal protection	: If operating conditions cause high dust concentrations to be produced, use dust goggles.

Contributing exposure scenario controlling worker exposure for 6: Storage

Product Characteristics	: Solid, low dustiness. Liquid.
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100%
Physical state	: Solid beads.
Dust	: Solid, low dustiness.
Amounts used	: Not applicable.
Frequency and duration of use	: Use duration (h/d): >4
Human factors not influenced by risk management	: Not applicable.
Other operational conditions affecting worker exposure	: Indoor use
Area of use:	: Indoor
Technical conditions and measures at process level (source) to prevent release	: Not applicable.
Process control/change measures	: Not applicable.
Technical conditions and measures to control dispersion from source towards the worker	: Use appropriate containment to avoid environmental contamination. Provide enhanced general ventilation by mechanical means.
Engineering controls	: Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Ventilation control measures	: Provide adequate ventilation and, if possible, use or install internal exhaust systems.

Organisational measures to prevent/limit releases, dispersion and exposure : Ensure operatives are trained to minimise exposures.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : If operating conditions cause high dust concentrations to be produced, use dust goggles.

Section 3 - Exposure estimation and reference to its source

Website: : Qualitative approach used to conclude safe use.

Exposure estimation and reference to its source - Environment: 7: Not applicable.

Exposure assessment (environment): : Qualitative approach used to conclude safe use.

Exposure estimation : Not available.

Exposure estimation and reference to its source - Workers:1: Bulk transfers

Exposure assessment (human): : Qualitative approach used to conclude safe use.

Exposure estimation : Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

Exposure estimation and reference to its source - Workers:2: Clean-down and maintenance of equipment

Exposure assessment (human): : Qualitative approach used to conclude safe use.

Exposure estimation : Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

Exposure estimation and reference to its source - Workers:3: Laboratory activities

Exposure assessment (human): : Qualitative approach used to conclude safe use.

Exposure estimation : Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

Exposure estimation and reference to its source - Workers:4: Mixing operations (open systems)

Exposure assessment (human): : Qualitative approach used to conclude safe use.

Exposure estimation : Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

Exposure estimation and reference to its source - Workers:5: Product packaging

Exposure assessment (human): : Qualitative approach used to conclude safe use.

Exposure estimation : Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

Exposure estimation and reference to its source - Workers:6: Storage

Exposure assessment (human): : Qualitative approach used to conclude safe use.

Exposure estimation : Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

Section 4 - Guidance to Downstream User to evaluate if he works inside the boundaries set by the ES

Environment : No additional risk management measures required.

Health : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Additional good practice advice beyond the REACH CSA

- | | |
|--------------------|--|
| Environment | : Use containment as appropriate. Good hygiene practices and housekeeping measures |
| Health | : Ensure control measures are regularly inspected and maintained.
Pay attention to good general hygiene and housekeeping. |

Product definition : Mono-constituent substance

Identification of the substance or mixture

Code : 5916-31695

Product name : Potassium Nitrate, Standard 13-0-46

Section 1 - Title

Short title of the exposure scenario : Nutrien KNO3 Exposure Scenario for Professionals

List of use descriptors : **Identified use name:** Professional use in formulation of preparations and end-use.
Process Category: PROC02, PROC03, PROC08a, PROC08b, PROC09, PROC15, PROC26
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU03, SU10, SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02, ERC08b, ERC08e
Market sector by type of chemical product: PC11, PC12, PC19, PC21, PC37

Environmental contributing scenarios : **An environmental assessment has not been done as the substance does not meet the criteria for being classified as dangerous for the environment.**

Health Contributing scenarios : **All process categories are addressed by this contributing scenario as all Operational Conditions and Risk Management Measures are identical.**

Number of the ES : 2

Processes and activities covered by the exposure scenario : Applicable to all identified Process Categories.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: An environmental assessment has not been done as the substance does not meet the criteria for being classified as dangerous for the environment.

Not applicable.

Contributing scenario controlling worker exposure for 1: All process categories are addressed by this contributing scenario as all Operational Conditions and Risk Management Measures are identical.

Product characteristics : Solid, low dustiness.

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100%

Physical state : Solid beads.

Dust : Solid, low dustiness.

Amounts used : Variable.

Frequency and duration of use : >4 Hours per shift

Human factors not influenced by risk management : Not applicable.

Other conditions affecting workers exposure : Indoor or outdoor use

Area of use: : Indoor and outdoor use.

Technical conditions and measures at process level (source) to prevent release : Not applicable.

Technical conditions and measures to control dispersion from source towards the worker	: Use containment as appropriate. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Engineering controls	: Provide adequate ventilation.
Ventilation control measures	: Provide adequate ventilation and, if possible, use or install internal exhaust systems.
Product substance-related measures	: Avoid contact with eyes.
Organisational measures to prevent/limit releases, dispersion and exposure	: Ensure operatives are trained to minimise exposures.
Conditions and measures related to personal protection and hygiene	
Advice on general occupational hygiene	: Avoid contact with eyes. Ensure good industrial hygiene. If operating conditions cause high dust concentrations to be produced, use dust goggles.
Personal protection	: Use suitable eye protection. If operating conditions cause high dust concentrations to be produced, use dust goggles.

Section 3 - Exposure estimation and reference to its source

Website: : Qualitative approach used to conclude safe use.

Exposure estimation and reference to its source - Environment: 2: An environmental assessment has not been done as the substance does not meet the criteria for being classified as dangerous for the environment.

Exposure assessment (environment): : Not applicable.

EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE : Not available.

Exposure estimation and reference to its source - Workers:1: All process categories are addressed by this contributing scenario as all Operational Conditions and Risk Management Measures are identical.

Exposure assessment (human): : Qualitative approach used to conclude safe use.

EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE : Not available.

Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES

Environment : Not applicable.

Health : No additional risk management measures required.

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Use containment as appropriate. Ensure control measures are regularly inspected and maintained. Pay attention to good general hygiene and housekeeping.