

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

1.1. Product identifier

Product form : Substance
 Trade name : PN TECH CRYST
 Chemical name : POTASSIUM NITRATE
 IUPAC name : POTASSIUM NITRATE
 EC-No. : 231-818-8
 CAS-No. : 7757-79-1
 REACH registration No : 01-2119488224-35
 Product code : 4321
 Type of product : Fertilizer
 Formula : HNO₃.K
 Synonyms : PONI / PN CERAMIC
 Product group : Raw material
 Other means of identification : 13-0-46
 13.5-0-46.5
 13-0-45

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

1.2.1. Relevant identified uses

Main use category : Professional use
 Industrial/Professional use spec : Heat treatment (steel and rubber manufacture), oxidizing flux (metallurgy), Heat transfer, energy storage, Ceramics (tiles, glazes), glass (strengthening, cathode ray tubes, liquid crystals)
 Use of the substance/mixture : Fertilizer

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Haifa Chemicals North West Europe BVBA
 Generaal de Wittelaan 17
 P.O. Box bus 16
 B-2800 Mechelen - Belgium
 T +32-15-270811 - F +32-15-270815
NorthWestEurope@haifa-group.com - www.haifa-group.com

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	NHS111		111	In an emergency telephone NHS111 or contact a doctor.
United Kingdom	National Poisons Information Centre Beaumont Hospital	Dublin 9, Ireland	(01) 809 2166	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Oxidising Solids, Category 3 H272

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS03

Signal word (CLP) :

Warning

Hazard statements (CLP) :

H272 - May intensify fire; oxidiser.

PN TECH CRYST

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Precautionary statements (CLP) : P210 - Keep away from heat, open flames, sparks, hot surfaces. No smoking.
P220 - Keep away from combustible materials.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent
Name : POTASSIUM NITRATE
CAS-No. : 7757-79-1
EC-No. : 231-818-8

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
POTASSIUM NITRATE	(CAS-No.) 7757-79-1 (EC-No.) 231-818-8 (REACH-no) 01-2119488224-35	100	Ox. Sol. 3, H272

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : In all cases of doubt, or when symptoms persist, seek medical attention.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor.
First-aid measures after skin contact : Wash with plenty of water/.... If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact : Rinse immediately with plenty of water. Consult an ophthalmologist if irritation persists.
First-aid measures after ingestion : Ingestion of large quantities: immediately to hospital. If swallowed, rinse mouth with water (only if the person is conscious). Drink plenty of water. Consult a doctor/medical service if you feel unwell. Do not induce vomiting without medical advice.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : Irritation of the eye tissue.
Symptoms/effects after inhalation : May cause respiratory irritation. Dry/sore throat. Dust :
Symptoms/effects after skin contact : Contact during a long period may cause light irritation. Red skin.
Symptoms/effects after eye contact : Redness of the eye tissue. Direct contact with the eyes is likely to be irritating.
Symptoms/effects after ingestion : May cause gastrointestinal irritation, nausea, vomiting and diarrhoea. On ingestion in large quantities: Blood in stool. Methemoglobinemia. Symptoms may be delayed. Symptoms include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

4.3. Indication of any immediate medical attention and special treatment needed

Delayed adverse effects possible. High temperature decomposition products are harmful by inhalation. Keep under medical supervision for at least 48 hours.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media : Do not use : earth, sand, dry chemical powder or foam.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Oxidizing material. Not combustible but enhances combustion of other substances. When heated to decomposition, emits toxic fumes. May cause or intensify fire; oxidiser.
Explosion hazard : Product is not explosive.
Reactivity in case of fire : May intensify fire; oxidiser.
Hazardous decomposition products in case of fire : Nitrogen oxides. Potassium oxides.

5.3. Advice for firefighters

Precautionary measures fire : Keep upwind.
Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Dilute toxic gases with water spray.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Self-contained breathing apparatus.
Other information : Move containers from fire area if it can be done without personal risk.

PN TECH CRYST

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Chemical resistant gloves (according to European standard NF EN 374 or equivalent). Nitrile rubber gloves, natural rubber gloves. Even though no specific eye irritation data are available, wear eye protection appropriate to conditions of use when handling this material. EN 166.

Emergency procedures : No open flames, no sparks, and no smoking.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Collect all waste in suitable and labelled containers and dispose according to local legislation.

Methods for cleaning up : Large spills: scoop solid spill into closing containers. Minimize generation of dust. On land, sweep or shovel into suitable containers. This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Minimize generation of dust. Do not breathe dust. Avoid contact with skin and eyes. Always wash hands after handling the product.

Precautions for safe handling : Provide local exhaust or general room ventilation. Keep away from sources of ignition - No smoking. Avoid dust formation. Keep container tightly closed to avoid moisture absorption and contamination. Take off contaminated clothing. Do not discharge the waste into the drain.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Direct sunlight. Keep container tightly closed. Direct sunlight.

Incompatible products : Strong acids. Strong bases.

Incompatible materials : combustible materials. Heat sources. Sources of ignition. Direct sunlight.

Storage temperature : 20 °C

Heat and ignition sources : Keep away from heat and direct sunlight.

Information on mixed storage : Keep away from : Combustible products. Reducing agents. Strong acids. Metals. Organic materials.

Storage area : Store in a clean, dry, fire resistant area. Detached building.

Special rules on packaging : Keep only in original container.

Packaging materials : Suitable packing materials. Synthetic material. Materials to avoid. wood. glass.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

PN TECH CRYST (7757-79-1)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	20.8 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	36.7 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	12.5 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	10.9 mg/m ³
Long-term - systemic effects, dermal	12.5 mg/kg bodyweight/day

PN TECH CRYST

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

PN TECH CRYST (7757-79-1)

PNEC (Water)

PNEC aqua (freshwater)	0.45 mg/l
PNEC aqua (marine water)	0.045 mg/l

8.2. Exposure controls

Appropriate engineering controls:

Do not exceed the occupational exposure limits (OEL). Provide adequate ventilation to minimize dust concentrations. Handle product only in closed system or provide appropriate exhaust ventilation.

Personal protective equipment:

Gloves. Safety glasses. Protective clothing. Dust production: dust mask with filter type P2.

Materials for protective clothing:

Condition	Material	Standard
Good resistance:	Butyl rubber, Natural rubber, Neoprene, Nitrile rubber	
Poor resistance:	Natural fibres	

Hand protection:

protective gloves

Eye protection:

In case of dust production: protective goggles

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Dust production: dust mask with filter type P2

Personal protective equipment symbol(s):



Environmental exposure controls:

Assure that emissions are compliant with all applicable air pollution control regulations.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline powder. Crystalline solid.
Molecular mass	: 101.1 g/mol
Colour	: white. Colourless.
Odour	: odourless.
Odour threshold	: No data available
pH	: 3 - 11 (1 %)
Relative evaporation rate (butylacetate=1)	: non volatile
Melting point	: 334 °C
Freezing point	: No data available
Boiling point	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: 400 °C
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: < 0.001 kPa
Relative vapour density at 20 °C	: 3
Relative density	: 2.1

PN TECH CRYST

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Density	: 0.9 - 1.2 g/cm ³ Bulk density
Solubility	: Soluble in glycerol. Soluble in water. Water: 100 g/l (25°C) Ethanol: 0.16 g/100ml
Log Pow	: < 1
Viscosity, kinematic	: No data available
Viscosity, dynamic	: Not determined
Explosive properties	: No direct explosion hazard.
Oxidising properties	: May intensify fire; oxidiser.
Explosive limits	: No data available
9.2. Other information	
Minimum ignition energy	: Not applicable
Other properties	: Translucent.

SECTION 10: Stability and reactivity

10.1. Reactivity

May intensify fire; oxidiser.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None under recommended storage and handling conditions (see section 7).

10.4. Conditions to avoid

Avoid dust formation. Heat. Moisture.

10.5. Incompatible materials

Organic materials. Strong bases. Strong acids. Oxidizing agents and reducing agents.

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 (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

PN TECH CRYST (7757-79-1)

LD50 oral rat	> 2000 mg/kg bodyweight (OECD 425 method)
LD50 dermal rat	> 5000 mg/kg bodyweight (OECD 402 method)
LC50 inhalation rat (Dust/Mist - mg/l/4h)	> 0.527 mg/l/4h (OECD 403 method)

Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: 3 - 11 (1 %)
Serious eye damage/irritation	: Slightly irritant but not relevant for classification (Based on available data, the classification criteria are not met) pH: 3 - 11 (1 %)
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
Additional information	: May cause irritation to the respiratory tract and to other mucous membranes
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)

PN TECH CRYST (7757-79-1)

NOAEL (oral, rat, 90 days)	>= 1500 mg/kg bodyweight/day (OECD 422 method)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)

SECTION 12: Ecological information

12.1. Toxicity

Ecology - air	: Not dangerous for the ozone layer.
Acute aquatic toxicity	: Not classified

PN TECH CRYST

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Chronic aquatic toxicity : Not classified

PN TECH CRYST (7757-79-1)	
LC50 fish 1	162 mg/l (96 h; Pisces; Lethal)
LC50 fish 2	<= 1378 mg/l
EC50 other aquatic organisms 1	≥ 490 mg/l 48h;Daphnia
NOEC (acute)	1700 mg/l algae
TLM fish 1	3000 mg/l (96 h; Lepomis macrochirus)
TLM fish 2	162 mg/l (96 h; Gambusia affinis)
Threshold limit other aquatic organisms 1	39 mg/l (96 h; Daphnia magna)
Threshold limit other aquatic organisms 2	490 mg/l (48 h; Daphnia magna)

12.2. Persistence and degradability

PN TECH CRYST (7757-79-1)	
Persistence and degradability	Abiotic degradation.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

PN TECH CRYST (7757-79-1)	
Log Pow	< 1
Bioaccumulative potential	Low bioaccumulation potential.

12.4. Mobility in soil

PN TECH CRYST (7757-79-1)	
Ecology - soil	Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other adverse effects : None known.

Substances which contribute to eutrophication : nitrates

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	: Disposal must be done according to official regulations.
Waste treatment methods	: Recycle or dispose of in compliance with current legislation. Disposal must be done according to official regulations.
Sewage disposal recommendations	: Prevent product from entering drains. Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.
Product/Packaging disposal recommendations	: Discharging into rivers and drains is forbidden. Dispose in a safe manner in accordance with local/national regulations. Dispose as hazardous waste.
Additional information	: Container remains hazardous when empty. Continue to observe all precautions. Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.

SECTION 14: Transport information

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

14.1. UN number

UN-No. (ADR)	: 1486
UN-No. (IMDG)	: 1486
UN-No. (IATA)	: 1486
UN-No. (ADN)	: 1486
UN-No. (RID)	: 1486

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: POTASSIUM NITRATE
Proper Shipping Name (IMDG)	: POTASSIUM NITRATE

PN TECH CRYST

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Proper Shipping Name (IATA)	: Potassium nitrate
Proper Shipping Name (ADN)	: POTASSIUM NITRATE
Proper Shipping Name (RID)	: POTASSIUM NITRATE
Transport document description (ADR)	: UN 1486 POTASSIUM NITRATE, 5.1, III, (E)
Transport document description (IMDG)	: UN 1486 POTASSIUM NITRATE, 5.1, III
Transport document description (IATA)	: UN 1486 Potassium nitrate, 5.1, III
Transport document description (ADN)	: UN 1486 POTASSIUM NITRATE, 5.1, III
Transport document description (RID)	: UN 1486 POTASSIUM NITRATE, 5.1, III

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	: 5.1
Danger labels (ADR)	: 5.1



IMDG

Transport hazard class(es) (IMDG)	: 5.1
Danger labels (IMDG)	: 5.1



IATA

Transport hazard class(es) (IATA)	: 5.1
Hazard labels (IATA)	: 5.1



ADN

Transport hazard class(es) (ADN)	: 5.1
Danger labels (ADN)	: 5.1



RID

Transport hazard class(es) (RID)	: 5.1
Danger labels (RID)	: 5.1



14.4. Packing group

Packing group (ADR)	: III
Packing group (IMDG)	: III
Packing group (IATA)	: III
Packing group (ADN)	: III
Packing group (RID)	: III

PN TECH CRYST

Safety Data Sheet


according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : ADR/RID: EAC: 1Z EMS:F-A,S-Q

14.6. Special precautions for user

Overland transport

Classification code (ADR) : O2
Limited quantities (ADR) : 5kg
Excepted quantities (ADR) : E1
Packing instructions (ADR) : P002, IBC08, LP02, R001
Special packing provisions (ADR) : B3
Mixed packing provisions (ADR) : MP10
Portable tank and bulk container instructions (ADR) : T1, BK1, BK2
Portable tank and bulk container special provisions (ADR) : TP33
Tank code (ADR) : SGAV
Tank special provisions (ADR) : TU3
Vehicle for tank carriage : AT
Transport category (ADR) : 3
Special provisions for carriage - Bulk (ADR) : VC1, VC2, AP6, AP7
Special provisions for carriage - Loading, unloading and handling (ADR) : CV24
Hazard identification number (Kemler No.) : 50
Orange plates : 

Tunnel restriction code (ADR) : E
EAC code : 1Z

Transport by sea

Transport regulations (IMDG) : Subject to the provisions
Special provisions (IMDG) : 964, 967
Limited quantities (IMDG) : 5 kg
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P002, LP02
IBC packing instructions (IMDG) : IBC08
IBC special provisions (IMDG) : B3
Tank instructions (IMDG) : T1, BK2, BK3
Tank special provisions (IMDG) : TP33
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-Q
Stowage category (IMDG) : A
Stowage and handling (IMDG) : SW23

Air transport

Transport regulations (IATA) : Subject to the provisions
PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y546
PCA limited quantity max net quantity (IATA) : 10kg
PCA packing instructions (IATA) : 559
PCA max net quantity (IATA) : 25kg
CAO packing instructions (IATA) : 563
CAO max net quantity (IATA) : 100kg
ERG code (IATA) : 5L

Inland waterway transport

Transport regulations (ADN) : Subject to the provisions
Classification code (ADN) : O2
Limited quantities (ADN) : 5 kg

PN TECH CRYST

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Excepted quantities (ADN)	: E1
Carriage permitted (ADN)	: B
Equipment required (ADN)	: PP
Provisions prior to loading (ADN)	: LO04
Provisions for carriage in bulk (ADN)	: CO02
Number of blue cones/lights (ADN)	: 0

Rail transport

Transport regulations (RID)	: Subject to the provisions
Classification code (RID)	: O2
Limited quantities (RID)	: 5kg
Excepted quantities (RID)	: E1
Packing instructions (RID)	: P002, IBC08, LP02, R001
Special packing provisions (RID)	: B3
Mixed packing provisions (RID)	: MP10
Portable tank and bulk container instructions (RID)	: T1, BK1, BK2
Portable tank and bulk container special provisions (RID)	: TP33
Tank codes for RID tanks (RID)	: SGAV
Special provisions for RID tanks (RID)	: TU3
Transport category (RID)	: 3
Special provisions for carriage – Bulk (RID)	: VC1, VC2, AP6, AP7
Special provisions for carriage - Loading, unloading and handling (RID)	: CW24
Colis express (express parcels) (RID)	: CE11
Hazard identification number (RID)	: 50

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions
PN TECH CRYST is not on the REACH Candidate List
PN TECH CRYST is not on the REACH Annex XIV List

Other information, restriction and prohibition regulations : Subject to Regulation (EU) No 98/2013 of the European Parliament and of the Council of 15 January 2013 on the marketing and use of explosives precursors. (ANNEX II: Substances on their own or in mixtures or in substances for which suspicious transactions shall be reported.).

Directive 2012/18/EU (SEVESO III)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

A chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
NOEC	No-Observed Effect Concentration
Full text of H- and EUH-statements:	
Ox. Sol. 3	Oxidising Solids, Category 3
H272	May intensify fire; oxidiser.

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product