

## SAFETY DATA SHEET



## NPK 4-1-6

The safety data sheet is in accordance with Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

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

Date issued	08.02.2019
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### 1.1. Product identifier

Product name	NPK 4-1-6
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### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance / preparation	Fertiliser.
Relevant identified uses	SU1 Agriculture, forestry, fishery PC12 Fertilizers

### 1.3. Details of the supplier of the safety data sheet

Company name	AB Lennart Månsson International
Postal address	Långebergavägen 40
Postcode	SE-251 07
City	Helsingborg
Country	Sweden
Telephone number	+46-42-29 20 05
Fax	+46-42-29 24 50
Email	<a href="mailto:info@lmiab.com">info@lmiab.com</a>
Website	<a href="https://www.lmiab.com">https://www.lmiab.com</a>

### 1.4. Emergency telephone number

Emergency telephone	Telephone number: 112 Description: Giftinformationscentralen (akut)
	Telephone number: 08-331231 Description: Giftinformationscentralen (icke akut)

## SECTION 2: Hazards identification

## 2.1. Classification of substance or mixture

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

Eye Irrit. 2; H319

Skin Irrit. 2; H315

## 2.2. Label elements

### Hazard pictograms (CLP)



Signal word

Warning

Hazard statements

H315 Causes skin irritation.  
H319 Causes serious eye irritation.

Precautionary statements

P280 Wear protective gloves / protective clothing / eye protection / face protection.  
P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

## 2.3. Other hazards

PBT / vPvB

Not relevant.

## SECTION 3: Composition / information on ingredients

### 3.2. Mixtures

Substance	Identification	Classification	Contents
Potassium Nitrate	CAS No.: 7757-79-1 EC No.: 231-818-8 REACH Reg. No.: 01-2119488224-35 REACH Reg. No.: 01-2119488224-35	Ox. Sol. 3; H272	10 - 15 %
Magnesium Nitrate solution	CAS No.: 10377-60-3 EC No.: 233-826-7 REACH Reg. No.: 01-2119491164-38		10 - 15 %
Orthophosphoric acid > 25 %	CAS No.: 7664-38-2 EC No.: 231-633-2 Index No.: 015-011-00-6 REACH Reg. No.: 01-2119485924-24	Skin Corr. 1B; H314	5 %
Nitric Acid < 65 %	CAS No.: 7697-37-2 EC No.: 231-714-2 Index No.: 007-004-00-1 REACH Reg. No.: 01-2119487297-23	Ox. Liq. 2; H272 Skin Corr. 1A; H314 Acute tox. 3; H331 Met. Corr. 1; H290	0,3 %
Boric acid	CAS No.: 10043-35-3 EC No.: 233-139-2	Repr. 1B; H360FD	0 - 0,2 %

	Index No.: 005-007-00-2		
	REACH Reg. No.:		
	01-2119486683-25		
Zinc nitrate	CAS No.: 7779-88-6	Ox. Sol. 2; H272	< 0,1 %
	EC No.: 231-943-8	Acute tox. 4; H302	
		Skin Irrit. 2; H315	
		Eye Irrit. 2; H319	
		STOT SE3; H335	
		Aquatic Acute 1; H400	
		M-faktor 1	
		Aquatic Chronic 2; H411	
Copper dinitrate	CAS No.: 3251-23-8	Skin Corr 1B; H314	< 0,1 %
	EC No.: 221-838-5	Eye Dam. 1; H318	
		Aquatic Acute 1; H400	
		Aquatic Chronic 2; H411	

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

Inhalation	Fresh air and rest.
Skin contact	Promptly flush contaminated skin with water. Promptly remove clothing if soaked through and flush the skin with water.
Eye contact	Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart.
Ingestion	Drink plenty of water.

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

General symptoms and effects	Not known.
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### 4.3. Indication of any immediate medical attention and special treatment needed

Medical treatment	Treat Symptomatically.
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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	This product is not flammable. Use fire-extinguishing media appropriate for surrounding materials.
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### 5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards	Not known.
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### 5.3. Advice for firefighters

Personal protective equipment	Wear protective gloves / protective clothing / eye protection / face protection.
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## SECTION 6: Accidental release measures

## 6.1. Personal precautions, protective equipment and emergency procedures

General measures	Absorb spillage to prevent material damage.
Personal protection measures	Wear protective gloves / protective clothing / eye protection / face protection.

## 6.2. Environmental precautions

Environmental precautionary measures	Do not discharge into drains, water courses or onto the ground.
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## 6.3. Methods and material for containment and cleaning up

Clean up	Smaller quantities of residue may be collected by an absorbent. Flush area with water.
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## 6.4. Reference to other sections

Other instructions	Information on safe handling, see section 7. Information on personal protective equipment, see section 8. Information on waste disposal, see section 13.
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# SECTION 7: Handling and storage

## 7.1. Precautions for safe handling

Handling	Do not store tobacco, food or beverage in work rooms or areas where the product is used. First-aid equipment, including eye wash bottle, must be available at the work site. Wash hands before breaks and before smoking, eating or drinking.
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## 7.2. Conditions for safe storage, including any incompatibilities

Storage	Store in closed original container at temperatures between 0°C and 40°C. Store in a dry place. Store in a closed container.
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## 7.3. Specific end use(s)

Recommendations	Liquid fertilizer.
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# SECTION 8: Exposure controls / personal protection

## 8.1. Control parameters

Substance	Identification	Value	TWA Year
Orthophosphoric acid > 25 %	CAS No.: 7664-38-2	TWA (8h) : 1 mg/m <sup>3</sup> <b>OEL short term value</b> Value: 2 mg/m <sup>3</sup>	

## DNEL / PNEC

Substance	Potassium Nitrate
DNEL	<b>Group:</b> Professional <b>Route of exposure:</b> Lång sikt (upprepad) - Inandning <b>Value:</b> 36,7 mg/m <sup>3</sup>

PNEC	<b>Group:</b> Consumer <b>Route of exposure:</b> Lång sikt (upprepad) - Oral - Systemisk effekt <b>Value:</b> 12,5 mg/kg
	<b>Group:</b> Consumer <b>Route of exposure:</b> Lång sikt (upprepad) - Dermal - Systemisk effekt <b>Value:</b> 12,5 mg/kg
	<b>Group:</b> Consumer <b>Route of exposure:</b> Lång sikt (upprepad) - Inandning - Systemisk effekt <b>Value:</b> 10,9 mg/m3
	<b>Group:</b> Professional <b>Route of exposure:</b> Lång sikt (upprepad) - Dermal - Systemisk effekt <b>Value:</b> 20,8 mg/kg
	<b>Route of exposure:</b> Water <b>Value:</b> 4,5 mg/l <b>Comments:</b> Tillfälligt utsläpp  <b>Route of exposure:</b> Sewage treatment plant STP <b>Value:</b> 18 mg/l  <b>Route of exposure:</b> Freshwater <b>Value:</b> 0,45 mg/l  <b>Route of exposure:</b> Saltwater <b>Value:</b> 0,045 mg/l
Substance	Magnesium Nitrate solution
DNEL	<b>Group:</b> Consumer <b>Route of exposure:</b> Lång sikt (upprepad) - Inandning - Systemisk effekt <b>Value:</b> 10,9 mg/m3
	<b>Group:</b> Consumer <b>Route of exposure:</b> Lång sikt (upprepad) - Dermal - Systemisk effekt <b>Value:</b> 12,5 mg/kg
	<b>Group:</b> Professional <b>Route of exposure:</b> Lång sikt (upprepad) - Dermal - Systemisk effekt <b>Value:</b> 20,8 mg/kg
	<b>Group:</b> Professional <b>Route of exposure:</b> Lång sikt (upprepad) - Inandning - Systemisk effekt <b>Value:</b> 36,7 mg/m3
	<b>Group:</b> Consumer <b>Route of exposure:</b> Lång sikt (upprepad) - Oral - Systemisk effekt <b>Value:</b> 12,5 mg/kg
PNEC	<b>Route of exposure:</b> Saltwater <b>Value:</b> 0,045 mg/l
	<b>Route of exposure:</b> Freshwater <b>Value:</b> 0,45 mg/l
	<b>Route of exposure:</b> Sewage treatment plant STP

Substance	<b>Value:</b> 18 mg/l
	<b>Route of exposure:</b> Water
	<b>Value:</b> 4,5 mg/l
	<b>Comments:</b> Tillfälligt utsläpp i sötvatten.
DNEL	Ortophosphoric acid > 25 %
	<b>Group:</b> Professional
	<b>Route of exposure:</b> Lång sikt (upprepad) - Inandning - Lokal effekt
	<b>Value:</b> 1 mg/m3
	<b>Group:</b> Consumer
	<b>Route of exposure:</b> Lång sikt (upprepad) - Inandning - Lokal effekt
	<b>Value:</b> 0,73 mg/m3
	<b>Group:</b> Professional
	<b>Route of exposure:</b> Kortsiktig (akut) - Inandning - Lokal effekt
	<b>Value:</b> 2 mg/m3

## 8.2. Exposure controls

### Precautionary measures to prevent exposure

Appropriate engineering controls	All handling to take place in well-ventilated area. An eye wash bottle must be available at the work site.
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### Eye / face protection

Suitable eye protection	Wear tight-fitting goggles or face shield.
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### Hand protection

Suitable gloves type	Chemical resistant gloves required for prolonged or repeated contact.
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### Skin protection

Suitable protective clothing	Wear suitable protective clothing as protection against splashing or contamination.
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### Respiratory protection

Respiratory protection necessary at	Under normal conditions of use respiration protection should not be required.
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## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Colour	Yellow.
Odour	Slight odour.
Odour limit	Comments: Not relevant.

pH	Value: 1,0 Temperature: 22 °C
Melting point / melting range	Comments: Not determined.
Freezing point	Comments: Not determined.
Boiling point / boiling range	Comments: Not determined.
Flash point	Comments: Not determined.
Evaporation rate	Comments: Not determined.
Flammability (solid, gas)	Not relevant.
Explosion limit	Comments: Not relevant.
Vapour pressure	Comments: Not determined.
Vapour density	Comments: Not determined.
Density	Value: 1,17 kg/l Temperature: 22 °C
Bulk density	Comments: Not relevant.
Solubility	Medium: Water Comments: Completely soluble in water.
Partition coefficient: n-octanol/ water	Comments: Not determined.
Spontaneous combustability	Comments: Not relevant.
Decomposition temperature	Comments: Not determined.
Viscosity	Comments: As water.
Explosive properties	Not explosive.
Oxidising properties	Not oxidizing.

## 9.2. Other information

### Other physical and chemical properties

Physical and chemical properties	No information.
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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.
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### 10.2. Chemical stability

Stability	Stable under normal temperature conditions and recommended use.
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### 10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	No data recorded.
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### 10.4. Conditions to avoid

Conditions to avoid	Extremes of temperatures.
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## 10.5. Incompatible materials

Materials to avoid	No data recorded.
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## 10.6. Hazardous decomposition products

Hazardous decomposition products	Nitrous gases (NO <sub>x</sub> ). Phosphoric acid mist.
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# SECTION 11: Toxicological information

## 11.1. Information on toxicological effects

Substance	Potassium Nitrate
Acute toxicity	<p><b>Type of toxicity:</b> Acute  <b>Effect tested:</b> LD50  <b>Route of exposure:</b> Oral  <b>Value:</b> &gt; 2000 mg/kg  <b>Animal test species:</b> Råtta</p> <p><b>Type of toxicity:</b> Acute  <b>Effect tested:</b> LD50  <b>Route of exposure:</b> Dermal  <b>Duration:</b> 24 h  <b>Value:</b> &gt; 5000 mg/kg  <b>Animal test species:</b> Råtta</p> <p><b>Type of toxicity:</b> Acute  <b>Effect tested:</b> LC50  <b>Route of exposure:</b> Inhalation.  <b>Duration:</b> 4 h  <b>Value:</b> &gt; 0,527 mg/l  <b>Animal test species:</b> Råtta</p>
Substance	Magnesium Nitrate solution
Acute toxicity	<p><b>Type of toxicity:</b> Acute  <b>Effect tested:</b> LD50  <b>Route of exposure:</b> Oral  <b>Value:</b> &gt; 2000 mg/kg  <b>Animal test species:</b> Råtta Råtta  <b>Comments:</b> Magnesiumnitrat hexahydrat read-across, Kaliumnitrat</p> <p><b>Type of toxicity:</b> Acute  <b>Effect tested:</b> LD50  <b>Route of exposure:</b> Dermal  <b>Value:</b> &gt; 5000 mg/kg  <b>Animal test species:</b> Råtta  <b>Comments:</b> read-across, Kaliumnitrat</p>
Substance	Ortophosphoric acid > 25 %
Acute toxicity	<p><b>Type of toxicity:</b> Acute  <b>Effect tested:</b> LD50</p>



**Route of exposure:** Oral  
**Duration:** 7 dagar  
**Value:** 2600 mg/kg  
**Animal test species:** Råtta  
**Test reference:** OECD 423

**Type of toxicity:** Acute  
**Effect tested:** LD50  
**Route of exposure:** Dermal  
**Value:** 2740 mg/kg  
**Animal test species:** Kanin

**Type of toxicity:** Acute  
**Effect tested:** LC50  
**Route of exposure:** Inhalation.  
**Value:** 850 mg/l  
**Animal test species:** Råtta

## Other information regarding health hazards

Skin corrosion / irritation, human experience	May cause irritation.
Eye damage or irritation, human experience	May cause temporary eye irritation.
Assessment of respiratory sensitisation, classification	No recommendation given.
Assessment of skin sensitisation, classification	No recommendation given.
Assessment of germ cell mutagenicity, classification	No specific health warnings noted.
Assessment of carcinogenicity, classification	No recommendation given.
Assessment of reproductive toxicity, classification	No specific health warnings noted.
Assessment of specific target organ SE, classification	No recommendation given.
Assessment of specific target organ toxicity RE, classification	No recommendation given.
Assessment of aspiration hazard, classification	No known chronic or acute health risks.

## SECTION 12: Ecological information

### 12.1. Toxicity

Substance	Potassium Nitrate
Acute aquatic, fish	<b>Value:</b> 1378 mg/l <b>Test duration:</b> 96 h <b>Species:</b> Poecilia reticulata <b>Method:</b> LC50
Substance	Magnesium Nitrate solution

Acute aquatic, fish	<b>Value:</b> 1378 mg/l <b>Test duration:</b> 96 h <b>Method:</b> LC50 <b>Test reference:</b> OECD 203, med kaliumnitrat
Substance	Potassium Nitrate
Acute aquatic, algae	<b>Value:</b> > 1700 mg/l <b>Test duration:</b> 10 d <b>Method:</b> EC50/LC50 <b>Test reference:</b> NOEC
Substance	Magnesium Nitrate solution
Acute aquatic, algae	<b>Value:</b> > 1700 mg/l <b>Test duration:</b> 10 d <b>Method:</b> ErC50 <b>Test reference:</b> Kaliumnitrat i havsvatten
Substance	Ortophosphoric acid > 25 %
Acute aquatic, algae	<b>Value:</b> > 100 mg/l <b>Test duration:</b> 72 h <b>Species:</b> Desmodesmus subspicatus <b>Method:</b> EC50
Substance	Potassium Nitrate
Acute aquatic, Daphnia	<b>Value:</b> 490 mg/l <b>Test duration:</b> 48 h <b>Species:</b> Magna <b>Method:</b> LC50/EC50
Substance	Magnesium Nitrate solution
Acute aquatic, Daphnia	<b>Value:</b> 490 mg/l <b>Test duration:</b> 48 h <b>Method:</b> EC50 <b>Test reference:</b> Utfört med kaliumnitrat
Substance	Ortophosphoric acid > 25 %
Acute aquatic, Daphnia	<b>Value:</b> > 100 mg/l <b>Test duration:</b> 48 h <b>Species:</b> Magna <b>Method:</b> EC50
Ecotoxicity	Not classified as dangerous to the environment.

## 12.2. Persistence and degradability

Persistence and degradability description	No data recorded.
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## 12.3. Bioaccumulative potential

Bioaccumulative potential	The product does not contain any substances expected to be bioaccumulating.
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## 12.4. Mobility in soil

Mobility	The product is soluble in water.
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## 12.5. Results of PBT and vPvB assessment

PBT assessment results	Not Classified as PBT/vPvB by current EU criteria.
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## 12.6. Other adverse effects

Other adverse effects, comments	No information.
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## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Specify the appropriate methods of disposal	Confirm disposal procedures with environmental engineer and local regulations.
EWC waste code	EWC waste code: 060314 solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13

## SECTION 14: Transport information

Dangerous goods	No
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### 14.1. UN number

Comments	Not relevant.
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### 14.2. UN proper shipping name

Comments	Not relevant.
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### 14.3. Transport hazard class(es)

Comments	Not relevant.
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### 14.4. Packing group

Comments	Not relevant.
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### 14.5. Environmental hazards

Comments	Not relevant.
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### 14.6. Special precautions for user

Special safety precautions for user	No information.
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### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Transport in bulk (yes/no)	No
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### Additional information

Additional information	No other information noted.
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## SECTION 15: Regulatory information

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

Assessed restrictions	No recommendation given.
National regulations	AFS 2011:19 (amended and reprinted in 2014:43) Chemical Hazards in the Working Environment.
Legislation and regulations	The Swedish Chemicals Agency's Classification and Labelling Regulations (KIFS 2005:7). Regulation (EC) No 1272/2008, Regulation on classification, labelling and packaging (CLP). COMMISSION REGULATION (EU) No 453/2010, Annex II: REQUIREMENTS FOR THE COMPILATION OF SAFETY DATA SHEETS. SFS 2011:927, Waste regulation.

## 15.2. Chemical safety assessment

Chemical safety assessment performed	No
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## SECTION 16: Other information

List of relevant H-phrases (Section 2 and 3)	H272 May intensify fire; oxidiser. H290 May be corrosive to metals. H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H318 Causes Serious eye damage. H319 Causes serious eye irritation. H331 Toxic if inhaled. H335 May cause respiratory irritation. H360FD May damage fertility. May damage the unborn child. H400 Very toxic to aquatic life. H411 Toxic to aquatic life with long lasting effects.
Version	1
Prepared by	Martin Åkerberg