

# Safety Data Sheet

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According to Regulation (EC) No 1907/2006 and (EU) No. 453/2010

Issue date : November 04, 2013

Revision # 1 date : March 20, 2020

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

### 1.1 Product identifier :

|                        |                       |
|------------------------|-----------------------|
| Trade name:            | Potassium nitrate     |
| Chemical name:         | Potassium nitrate     |
| Identification number: | CAS No: 7757-79-1     |
| Registration number:   | 01-2120104950-66-xxxx |

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

|                     |  |
|---------------------|--|
| Identified uses:    | Chemical-Technical application, laboratory use |
| Unrecommended uses: | ---  |

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

#### Macco Organiques, s. r.o.

Zahradní 46, 792 01 Bruntál, Czech Republic

IČ : 26819210 , phone: +420 – 555 – 530 334

MSDS provider's contact: Jaroslav Zavadil , phone: +420 – 555 – 530 340, [jaroslav.zavadil@macco.cz](mailto:jaroslav.zavadil@macco.cz)

### 1.4 Emergency telephone number:

The first aid details may be consulted with toxicological information centre (TIS): Job-related illness clinic, Na Bojišti 1, 128 08 Praha 2, tel. 2 24 91 92 93 or 2 24 91 54 02. Permanent poisoning informations.

## 2: Hazard identification

The substance is classified as dangerous according to Directive 1272/2008/ES.

### 2.1 Classification of the substance or mixture:


|                                |                          |
|--------------------------------|--------------------------|
| Acc. to Directive 1272/2008/ES | Oxidizing solids 3; H272 |
|--------------------------------|--------------------------|

### The most important adverse physicochemical, human health and environmental effects and symptoms :

May cause irritation of the gastrointestinal tract. May cause irritation of skin, eyes and respiratory tract.

The information shown on the label shall be given under heading 15.

### 2.2 Label elements :

|                                 |   |             |         |
|---------------------------------|---|-------------|---------|
| Hazard pictogram                |  | Signal word | Warning |
| Hazard statements               | H272 May intensify fire; oxidizer.  |             |         |
| Precautionary statements        | P210, P 220, P221, P280<br>Full version of P sentences is stated in section 15.     |             |         |
| Additional information on label | none  |             |         |

### 2.3 Other hazards :

Substance is NOT classified as PBT or vPvB.

## 3: Composition / information on ingredients

### 3.1 Substance

#### 3.1.1 Constituent

| Chemical identity | Index No. | CAS       | EINECS    | concentration | classification list number |
|-------------------|-----------|-----------|-----------|---------------|----------------------------|
| Potassium nitrate | ---       | 7757-79-1 | 231-818-8 | 99 – 100%     | So far none                |

#### 3.1.2 Impurities, stabilizers,

| Chemical identity | Index No. | CAS | EINECS | concentration | classification list number |
|-------------------|-----------|-----|--------|---------------|----------------------------|
| none              | ---       | --- | ---    | ---           | ---                        |

### 3.2 Mixtures :

irrelevant

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## 4: First aid measures

In all cases provide the physical and mental rest and avoid of getting chilled. In case of health problems or doubts inform physician and provide him with the information contained in this safety data sheet. Never pass a medication to a unconscious person. Maintain personal safeness during rescue operation.

### 4.1 Description of first aid measures :

#### **If inhaled:**

Stop exposition, move the afflicted person to the fresh air, keep him warm and at rest. If symptoms persist seek medical attention. In case of unconsciousness start with resuscitation (artificial respiration, cardiac massage) and call for medical attention.

#### **In the event of skin contact:**

Remove contaminated clothes and footwear. Wash of any skin contamination with plenty of water. Launder clothes before re-use. In case of persisting irritation contact physician .

#### **In the event of eye contact:**

Remove contact lenses if present. Rinse with a small amount of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical attention in all cases.

**Do not use neutralization solution!**

#### **If swallowed:**

Wash out mouth with water and give plenty of water to drink (at least 300 ml). Do not induce vomiting. Seek medical attention. When vomiting, maintain supervision until the help arrives. Obtain medical advice if symptoms persist.

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

Skin , airways or eye irritation. After consumption of a bigger amount vomiting and diarrhoea, alimentary tract irritation may appear.

### 4.3 Indication of any immediate medical attention and special treatment needed: not available

## 5: Fire fighting measures

### 5.1 Extinguishing media:

#### **Suitable extinguishing media:**

Non-combustible substance . All extinguishing media are allowed, select the appropriate extinguishing media depending on the surrounding fire and environment.

#### **Not suitable extinguishing media :**

Strong water jet

### 5.2 Specific hazards arising from the substance or mixture::

Oxidizer. Contact with other material may cause fire. In fires, the product supports combustion. Heating will cause pressure rise with risk of bursting.

### 5.3 Advice for firefighters:

Wear self-contained breathing apparatus and protective suit. No unprotected exposed skin areas. In the event of fire and/or explosion do not breathe fumes.

## 6: Accidental release measures

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

Use personal safety working clothes – section 8. Prevent from skin and eye contact. Do not inhale dust. Well ventilate areas. Prevent from dust making. Evacuate personnel to safe areas. Other safety precautions – section 7.

### 6.2 Environmental precautions:

Prevent from escape to watercourses and soil and from their contamination. If there is no way to avoid it, immediately inform appropriate authority ( police and firemen).

### 6.3 Methods and material for containment and cleaning up:

Clean up contamination/spillages as soon as they occur. Collect as much as possible in a suitable clean container, preferably for re-use, otherwise for disposal (according section 13). Avoid generation of dust. Wash the spillage area with large quantities of water. Do not pick up with the help of saw-dust or other combustible substances. When packaging is damaged, replace the amount into a new packaging with proper marking.

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## 6.4 References to other sections:

Also follow the regulations in sections 8 and 13 of this safety data sheet.

## 7: Handling and storage

### 7.1 Precautions for safe handling:

Use the personal safety tools (section 8). Ensure fresh water for the first aid. Maintain the cleanness and tidiness on the working area. Provide basic employee training to prevent / minimize exposures and to report any health problems that may develop. Do not eat, drink or smoke during work. Avoid contact with skin and eyes. Wash hands duly with soap and water, take a shower. Use a body lotion.

### 7.2 Conditions for safe storage, including any incompatibilities:

Store at a dry, cool and well-ventilated place, in original container. Keep container closed. Keep away from incompatible products. Exhaust ventilation at the object is necessary.

### 7.3 Specific end uses:

Keep away from combustible material.

## 8: Exposure controls / personal protection

### 8.1 Control parameters

#### 8.1.1 Exposure limits

Contains no substances with occupational exposure limit values.

#### 8.1.2 Biological limit values:

- not specified

#### 8.1.3 DNEL and PNEC values:

- not specified

### 8.2 Exposure control

#### 8.2.1 Occupational exposure control:

Operate in a well-ventilated area, avoid inhalation of dusts or mists (for liquids). Atmospheric levels should be controlled in compliance with the occupational exposure limits. Ensure shower and area for eyes rinsing. The mentioned personal safety instruments should be in compliance with EN standards.

The Personal Protective Equipment must be in accordance with EN standards: respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, safety shoes EN-ISO 20345.

#### Personal protective equipment:

|                           |   |
|---------------------------|---|
| Respiratory protection:   | In the case of high dust levels wear suitable respiratory protective equipment, ie. dust mask or respirator conforming to EN standards. Recommended filter = particle filter,P2.  |
| Hand protection:          | Wear suitable chemical resistant protective gloves for frequent or prolonged operations tested to EN374 with an acceptable permeation test. Suitable materials include neoprene (chloroprene), PVC and nitrile rubber. Break through time is > 480 min. Contaminated gloves should be carefully rinsed with water before reuse. Non suitable materials: Leather gloves. |
| Eye / face protection:    | Wear suitable eye/face protection. Most materials for protective goggles and face visors will probably be suitable eg. polycarbonate.   |
| Skin and body protection: | Long sleeved clothing, dust impervious protective suit, rubber or plastic boots, rubber or plastic apron.   |

Do not eat, drink or smoke during work. Immediately remove contaminated clothing. Wash hands duly with soap and water, take a shower. Use a body lotion.

#### 8.2.2 Environmental exposure controls:

Dispose of rinse water in accordance with local and national regulations.

## 9: Physical and chemical properties

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

|                             |                            |
|-----------------------------|----------------------------|
| Physical state ( at 20 °C): | Solid – crystals or powder |
| Colour:                     | white                      |
| Odour (fragrance):          | odourless                  |
| Threshold odour value:      | odourless                  |

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## 9.2 Other information:

|   |  |
|---|--|
| <b>pH ( at 20 °C):</b>                        | 5,5 – 7,5 (50 g/l solution at 20 °C )                        |
| <b>Melting point:</b>                         | 337 °C   |
| <b>Boiling point:</b>                         | Not applicable   |
| <b>Flash point:</b>                           | Not applicable   |
| <b>Evaporation rate:</b>                      | Not applicable   |
| <b>Flamability (solid, gas) :</b>             | The substance is non-flammable                               |
| <b>Explosion limits</b>                       | <i>lower:</i> Not applicable<br><i>upper:</i> Not applicable |
| <b>Vapour pressure:</b>                       | irrelevant   |
| <b>Vapour density:</b>                        | irrelevant   |
| <b>Relative density:</b>                      | 2,09 g/cm <sup>3</sup>                                       |
| <b>Water solubility ( at 20 °C) :</b>         | 320 g / l  |
| <b>Solubility in solvents:</b>                | Not available  |
| <b>Partition coefficient n-octanol/water:</b> | Not available  |
| <b>Self-ignition temperature:</b>             | Not applicable   |
| <b>Decomposition temperature:</b>             | Not applicable   |
| <b>Viscosity:</b>                             | Not applicable   |
| <b>Explosive properties:</b>                  | Not available  |
| <b>Oxidizing properties:</b>                  | The substance is oxidizing                                   |
| <b>Fat solubility:</b>                        | Not available  |
| <b>Conductivity:</b>                          | Not available  |
| <b>Gas group:</b>                             | Not applicable   |

## 10: Stability and reactivity

### 10.1 Reactivity:

Decomposition at 400 °C

### 10.2 Chemical stability:

Stable under recommended storage and handling conditions.

### 10.3 Possibility of hazardous reactions:

Oxidizing agent, can cause a fire if in contact with flammable material

### 10.4 Conditions to avoid:

Avoid contact with combustible material (paper, wool, oil). Keep away from combustible material.

### 10.5 Incompatible materials :

Reactions with combustible substances. Mixtures of inflammable substances are easily combustible and burn vigorously even under exclusion of air

### 10.3 Hazardous decomposition products:

Nitrous Gases, Oxygen.

## 11: Toxicological information

### 11.1 Information on toxicological effects:

#### Acute toxicity:

|   |                    |
|---|--------------------|
| - LD <sub>50</sub> oral, rat (mg.kg <sup>-1</sup> ):  | 3 015              |
| - LD <sub>50</sub> dermal, rabbit (mg.kg <sup>-1</sup> ):                                     | Not available data |
| - LC <sub>50</sub> , 2 hrs, inhalation, rat, for aerosols or particles (mg.l <sup>-1</sup> ): | Not available data |

**Skin irritation:** Not available data**Eye irritation:** Not available data**Chronic toxicity:** Not available data**Carcinogenicity:** Not available data**Mutagenicity:** Not available data**Teratogenicity :** Not available data**Toxicity for reproduction:** Not available data

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|   |   |
|---|---|
| <b>Toxicity for specific target body – single exposition</b>    | Not available data                                    |
| <b>Toxicity for specific target body – repeated exposition:</b> | Not available data                                    |
| <b>Main effect :</b>  | Irritating to skin and mucous membranes.              |
| <b>Inhalation :</b>   | Product dust may be irritating to respiratory system. |
| <b>Eye contact :</b>  | May cause eye irritation.                             |
| <b>Skin contact :</b>   | When in contact with skin, irritation.                |
| <b>Ingestion :</b>  | Ingestion may cause gastrointestinal irritation.      |
| <b>Other information:</b> none                                  |   |

## 12: Ecological information

### 12.1 Toxicity:

|   |   |
|---|---|
| - LC <sub>50</sub> 96 hr., fish (mg.l <sup>-1</sup> ):    | 1 378 Poecilia reticulata (guppy)                     |
| - EC <sub>50</sub> 48 hr., daphnia (mg.l <sup>-1</sup> ): | 490 Daphnia magna (Water flea)                        |
| - EC <sub>50</sub> 72 hr. algae (mg.l <sup>-1</sup> ):    | Not available   |
| <b>12.2 Persistence and degradability:</b>                | Not specified (not relevant for inorganic substances) |
| <b>12.3 Bioaccumulative potential:</b>                    | Not specified   |
| <b>12.4 Mobility in soil:</b>                             | Not specified   |
| <b>12.5 Results of PBT assessment:</b>                    | Substance is not classified as PBT or vPvB.           |

### 12.6 Other adverse effects:

Do not flush into surface water.

## 13: Disposal considerations

### 13.1 Waste treatment methods:

If recycling or reuse is not practical then the product must be disposed of by authorized personnel in accordance with local, state or national regulations. Never dispose by flushing into the drainage! Waste former is responsible for its sorting and disposal.

### Special safety precaution for recommended waste treatment:

Preferably dispose in independent container.

### Packaging:

If recycling or reuse is not practical then packaging must be disposed of by authorized personnel in accordance with local, state or national regulations. Clean packaging with water and dispose of washings in accordance to local regulations. Packaging can be passed to a packaging return system after the cleaning.

### Legal waste regulations:

Directive 2008/98/ES, Regulation No. 1013/2006

National or regional provisions may be in force !

## 14: Transport information

### 14.1 ADR/RID (Land Transport) :

|                            |                   |
|----------------------------|-------------------|
| UN Number                  | 1486              |
| UN proper shipping name    | POTASSIUM NITRATE |
| Transport hazard class(es) | 5.1               |
| Packaging group            | III               |
| Classification Code        | O2                |
| Hazard identification No   | 50                |
| ADR/RID-Labels             | 5.1               |
| Environmental hazard       | N0                |

### 14.2 IMDG (Marine Transport) :

|                         |                   |
|-------------------------|-------------------|
| UN Number               | 1486              |
| UN proper shipping name | POTASSIUM NITRATE |

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|   |                   |
|---|-------------------|
| Transport hazard class(es)              | 5.1               |
| Packaging group                         | III               |
| Hazard Labels                           | 5.1               |
| EmS Number                              | F-A, S-Q          |
| Marine Pollutant                        | no                |
| <b>14.3 ICAO/IATA (Air Transport) :</b> |                   |
| UN Number                               | 1486              |
| UN proper shipping name                 | POTASSIUM NITRATE |
| Transport hazard class(es)              | 5.1               |
| Packaging group                         | III               |
| Hazard Labels                           | 5.1               |

## 15: Regulatory Information

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



Warning

|       |   |
|-------|---|
| H 272 | May intensify fire; oxidizer.   |
| P 210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking.        |
| P 220 | Keep/Store away from clothing/.../combustible materials                   |
| P 221 | Take any precaution to avoid mixing with combustibles/...                 |
| P 280 | Wear protective gloves/protective clothing/eye protection/face protection |

### 15.2 Chemical Safety Assessment:

Chemical safety Report (CSR) has been carried out for the substance.

#### National legislation:

Regulation (EC) No. 1907 / 2006 / ES, REACH

Regulation (EC) No. 1272 / 2008 / ES, CLP

**National laws or provisions may be in force !**

### Other inventory information :

|  |  |
|--|--|
| US. Toxic Substances Control Act   | : On TSCA Inventory                                      |
| Australia. Industrial Chemical (Notification and Assessment) Act   | : On the inventory, or in compliance with the inventory  |
| Canada. Canadian Environmental Protection Act (CEPA).<br>Domestic Substances List (DSL)  | : All components of this product are on the Canadian DSL |
| Japan. Kashin-Hou Law List   | : On the inventory, or in compliance with the inventory  |
| Japan. Industrial Safety & Health Law (ISHL) List  | : On the inventory, or in compliance with the inventory  |
| Korea. Toxic Chemical Control Law (TCCL) List  | : On the inventory, or in compliance with the inventory  |
| Philippines. The Toxic Substances and Hazardous and Nuclear<br>Waste Control Act China. Inventory of Existing Chemical<br>Substances | : On the inventory, or in compliance with the inventory  |
| New Zealand. Inventory of Chemicals (NZIoC), as<br>published by ERMA New Zealand   | : On the inventory, or in compliance with the inventory  |

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## 16: Other information

### **Changes made in Safety Data Sheet in terms of revision:**

Revision of Safety data sheet in terms of avoidance of Directive 67/548/EHS

### **Key or explanation for abbreviations:**

DNEL Derived No Effect Level (derived concentration of substance, at which no unfavourable effects occur )  
PNEC Predicted No Effect Concentration (prediction of substance concentration, at which no unfavourable effects occur )  
PEL Acceptable exposure limit, long-term (8 hours)

### **Important literature references and data sources:**

SDS of other producers, special literature, ECHA web. site <http://apps.echa.europa.eu/registered/registered-sub.aspx> )

### **Training instructions:**

According to Safety Data Sheet.

### **Recommended restrictions of use:**

Not specified

### **Other :**

The information contained herein were processed and compiled in accordance with the latest state-of-the-art. Although having been compiled in an utmost good faith, they do not deliver or guarantee any of the product properties, thus they cannot constitute an official base for any contract or legal relation. Various factors may affect the properties under certain conditions. It is the user sole responsibility to assess and consider the accuracy and veracity of the above-indicated information in particular application and/or environment.