# SAFETY DATA SHEET

**Krista-K™ Plus**

## 1. Identification of the substance/preparation and of the company/undertaking

**Identification of the substance or preparation**

| | | |
|---|---|---|
| **Product name** | : | **Krista-K™ Plus** |
| **Chemical name** | : | potassium nitrate |
| **Chemical formula** | : | $KNO_3$ |
| Use of the substance/preparation | | Fertiliser. |

**Company/undertaking identification**

| | | |
|---|---|---|
| Manufacturer / Supplier | | Yara Benelux B.V.<br>Maassluissedijk 103<br>3133 KA Vlaardingen<br>The Netherlands<br>T: +31 10 44 53 188<br>F: +31 10 44 53 180 |
| e-mail address of person responsible for this SDS | : | Yaraquest@Yara.com |
| Emergency telephone number | | **The National Poisons Information Centre (NVIC)**<br>**Advice to doctors**<br>**+31 30 274 88 88 (24h)** |

## 2 . Hazards identification

The product is classified as dangerous according to Directive 67/548/EEC and its amendments.

| | | |
|---|---|---|
| **Classification** | : | O; R8 |
| **Physical/chemical hazards** | : | The product itself is not combustible but it can support combustion, even in absence of air. On heating it melts and further heating can cause decomposition, releasing toxic fumes containing nitrogen oxides. It has high resistance to detonation. Heating under strong confinement can lead to explosive behaviour. |

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

## 3 . Composition/information on ingredients

**Substance/preparation** : Substance

| Ingredient name | CAS number | % | EC number | Classification |
|---|---|---|---|---|
| potassium nitrate<br>**See section 16 for the full text of the R-phrases declared above** | 7757-79-1 | 100 | 231-818-8 | O; R8 |

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

**[1] Substance classified with a health or environmental hazard**

**[2] Substance with a workplace exposure limit**

**Occupational exposure limits, if available, are listed in section 8.**

## 4. First-aid measures

| | | |
|---|---|---|
| **Inhalation** | : | Avoid breathing dust. If inhaled, remove to fresh air. |
| **Ingestion** | : | If large quantities of this material are swallowed, call a physician immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. |
| **Skin Contact** | : | Avoid prolonged or repeated contact with skin. After handling, always wash hands thoroughly with soap and water. Get medical attention if irritation develops. |
| **Eye contact** | : | In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if irritation occurs. |
| **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. |

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

## 5. Fire-fighting measures

| | | |
|---|---|---|
| **Extinguishing media** | : | Use water only in flooding quantities. Do not release runoff from fire to sewers or waterways.<br>Avoid breathing dusts, vapours or fumes from burning materials. In case of inhalation of decomposition products in a fire, symptoms may be delayed. |
| **Hazardous thermal decomposition products** | | These products are: nitrogen oxides (NO, $NO_2$ etc.) |
| **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. |
| **Remark** | : | The product itself is not combustible but it can support combustion, even in absence of air. On heating it melts and further heating can cause decomposition, releasing toxic fumes containing nitrogen oxides. It has high resistance to detonation. Heating under strong confinement can lead to explosive behaviour. |

## 6. Accidental release measures

| | | |
|---|---|---|
| **Personal precautions** | : | Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment (section 8). Follow all fire-fighting procedures (section 5). Do not touch or walk through spilt material. |
| **Environmental precautions and clean-up methods** | : | Avoid contact of spilt material and runoff with soil and surface waterways. |
| | : | Use a tool to scoop up solid material and place into an appropriate labelled waste container. Do not mix with sawdust or other combustible material. Avoid creating dusty conditions and prevent wind dispersal. Keep out of waterways. See section 13 for waste disposal information. |

**Note: see section 8 for personal protective equipment and section 13 for waste disposal.**

## 7. Handling and storage

| | | |
|---|---|---|
| **Handling** | : | Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Avoid contamination by any source including metals, dust and organic materials. Prevent moisture pick-up in handling and storage. |
| **Storage** | : | Keep container tightly closed. Keep container in a cool, well-ventilated area. Separate from acids, alkalis, reducing agents and combustibles. On farm keep away from hay, grain, diesel, etc. |
| **Packaging materials** | | |
| **Recommended** | : | Use original container. |

## 8. Exposure controls/personal protection

**Occupational exposure limits** : Total inhalable dust - 10 mg/m³

Respirable dust - 5 mg/m³

**Exposure controls**

**Respiratory protection** : Recommended: If ventilation is inadequate, use respirator that will protect against dust/mist. Filter P2 (EN 143)

**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.
>8 hours (breakthrough time): butyl rubber, neoprene.

**Eye protection** : Recommended: Use dust goggles if high dust concentration is generated.

**Skin protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved.

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.

## 9. Physical and chemical properties

**General information**

**Appearance**

**Physical state** : Solid.

**Colour** : White.

**Odour** : Odourless.

**Important health, safety and environmental information**

**pH** : 6 to 9 [Conc. (% w/w): 10%]

**Boiling point** : Decomposition temperature: 400°C (752°F)

**Melting/freezing point** : 334°C (633,2°F)

**Density (g/cm³)** : 0,89 to 1,1 g/cm³

**Solubility** : Soluble in the following materials: cold water

**Solubility (at 20°C)** : 316 g/l

## 10. Stability and reactivity

**Stability** : Stable under recommended storage and handling conditions (see section 7).

**Conditions to avoid** : The resistance to detonation is decreased by a number of factors such as the presence of contaminants and/or high temperature. Heating under strong confinement (e.g. in tubes or drains) may lead to a violent reaction or explosion.

**Materials to avoid** : Contamination by substances such as carbonaceous materials, chromates, zinc, copper and their alloys, chlorates, alkalies and reducing agents decrease the resistance to detonation.

**Hazardous decomposition products** : These products are: nitrogen oxides (NO, $NO_2$ etc.)

## 11. Toxicological information

**Potential acute health effects**

May cause eye and skin irritation.

Adverse health effects are considered unlikely, when the product is used according to directions.

| Product/ingredient name | Result | Species | Dose | References |
|---|---|---|---|---|
| potassium nitrate | LD50 Oral | Rat | 3750 mg/kg | - |
| | LD50 Oral | Rabbit | 1901 mg/kg | - |

## 11. Toxicological information

| | |
|---|---|
| **Chronic effects** | : No known significant effects or critical hazards. |
| **Carcinogenicity** | : No known significant effects or critical hazards. |
| **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. |

**Over-exposure signs/symptoms**

| | |
|---|---|
| **Inhalation** | : No specific data. |
| **Ingestion** | : No specific data. |
| **Skin** | : No specific data. |
| **Eyes** | : No specific data. |

## 12. Ecological information

**Environmental effects** : No known significant effects or critical hazards.

**Aquatic ecotoxicity**

| Product/ingredient name | Test | Result | Species | Exposure | References |
|---|---|---|---|---|---|
| potassium nitrate | | Acute LC50 200 mg/L | Fish | 96 hours | - |
| | | Acute LC50 180 mg/L | Fish | 96 hours | - |

**Biodegradability**

**Conclusion/Summary** : The product does not show any bioaccumulation phenomena.

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

## 13. Disposal considerations

| | |
|---|---|
| **Methods of disposal** | : Empty containers or liners may retain some product residues. Do not empty into drains; dispose of this material and its container in a safe way. Dispose of in accordance with all applicable local and national regulations |
| **European list of waste products (EURAL)** | : 06 03 14 solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13 |
| **Hazardous waste** | : This material and its container must be disposed of as hazardous waste. |
| **Packaging waste** | : Empty the bag by shaking to remove as much as possible of its contents. Empty bags may be disposed of as non-hazardous material or returned for recycling. |

## 14. Transport information

**International transport regulations**

| Regulatory information | UN number | Proper shipping name | Class | Packing group | Label | Additional information |
|---|---|---|---|---|---|---|
| ADR/RID Class | UN1486 | POTASSIUM NITRATE | 5.1 | III |  | Hazard identification number<br>50<br><br>Limited quantity<br>LQ12<br><br>CEFIC Tremcard<br>51S1486 |
| ADNR Class | UN1486 | POTASSIUM NITRATE | 5.1 | III |  | - |
| | | | | | | |

## 14. Transport information

| | | | | | | |
|---|---|---|---|---|---|---|
| IMDG Class | UN1486 | POTASSIUM NITRATE | 5.1 | III |  | Emergency schedules (EmS)<br>F-A, S-Q |
| IATA-DGR Class | UN1486 | POTASSIUM NITRATE | 5.1 | III |  | Passenger and Cargo Aircraft<br>Quantity limitation: 25 kg<br>Cargo Aircraft OnlyQuantity limitation: 100 kg<br>Limited Quantities - Passenger AircraftQuantity limitation: 10 kg |

**The product in prilled form is not subject to the provisions for the transport of dangerous goods (as belonging to class 5.1), based on results of the test O.1 United Nations Manual of Tests and Criteria (ADR 2.2.51.1.5/IMDG chapter 3.3 provision 223).**
**It is recommended to mention in the Transport documents "Product not belonging to Class 5,1" when the prilled product is transported as non dangerous (ADR 5.4.1.5).**

## 15. Regulatory information

EU regulations

Hazard symbol or symbols : 
Oxidising

Risk phrases : R8- Contact with combustible material may cause fire.

Safety phrases : S17- Keep away from combustible material.
S41- In case of fire and/or explosion do not breathe fumes.

Contains EINECS number : potassium nitrate 231-818-8

Product use : Industrial applications.

Classification and labelling have been performed according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and the intended use.

Europe inventory : **Europe inventory:** This material is listed or exempted.

## 16. Other information

Full text of R-phrases referred to in sections 2 and 3 - Netherlands : R8- Contact with combustible material may cause fire.

Full text of classifications referred to in sections 2 and 3 - Netherlands : O - Oxidising

References : European Chemical Bureau, Annex 1 EU Directive 67/548/EEC
National Institute for Occupational Safety and Health, U.S. Dept. of Health, Education, and Welfare, Reports and Memoranda
Registry of Toxic Effects of Chemical Substances
Atrion International Inc. 4777 Levy Street, St Laurent, Quebec HAR 2P9, Canada

History

Date of printing : **2007-12-19.**

Date of issue/Date of revision : **2007-12-19.**

Date of previous issue : **2006-05-10.**

Version : **3**

Prepared by : Yara Product Classification and Regulations

# 16. Other information

☑ Indicates information that has changed from previously issued version.

Notice to reader

*To the best of our knowledge, the information provided in this Safety Data Sheet is accurate as at the date of its issue. The information it contains is being given for safety guidance purposes and relates only to the specific material and uses described in it. This information does not necessarily apply to that material when combined with other material(s) or when used otherwise than as described herein. Final determination of the suitability of any material is the sole responsibility of the user. All materials may represent unknown hazards and should be used with caution. Yara International ASA disclaims any liability for loss or damage resulting from the use of any data, information or recommendations set out in this Safety Data Sheet.*