

Date of issue/ Date of revision : 14.03.2023
Date of previous issue : 22.02.2023
Version : 5.0



SAFETY DATA SHEET

KRISTA MAG

Section 1. Identification

Product name : KRISTA MAG
Product type : Solid (Crystalline)
Product code : PF05HK

Uses

Area of application : Professional applications
Material uses : Fertilizers.

Supplier

Supplier's details : Yara Fertilizers (New Zealand) Limited

Address

Street : 4/211 Heretaunga Street East
Postal code : 4122
City : Hastings
Country : New Zealand

P.O. Box Address

P.O. Box : 8746
Postal code : 4157
City : Hastings
Country : New Zealand

Telephone number : +64 6 877 6600
e-mail address of person responsible for this SDS : nz.enquiries@yara.com
Emergency telephone number (with hours of operation) : +64 9929 1483 (7/24)

National advisory body/Poison Center

Name : New Zealand National Poisons Centre
Telephone number : 0800 POISON = 0800 764 766 (NZ only) / +64 3 479 7248 (outside NZ)
Hours of operation : 24h

Section 2. Hazards identification

HSNO Classification : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : Not applicable.

Precautionary statements : Not applicable.

Prevention : Not applicable.

Other hazards which do not result in classification : Product forms slippery surface when combined with water.

Additional information : Product forms slippery surface when combined with water.

Section 3. Composition/information on ingredients

Substance/mixture : Substance

CAS number/other identifiers

Other means of identification : magnesium nitrate

CAS number : 13446-18-9

EC number : 233-826-7

| Ingredient name | % (w/w) | CAS number |
|-------------------------------|---------------|------------|
| Magnesium nitrate hexahydrate | >= 90 - < 100 | 13446-18-9 |

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.

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

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Rinse with plenty of running water. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : If inhaled, remove to fresh air.

Skin contact : Wash with soap and water. Get medical attention if irritation develops.

Ingestion : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if you feel unwell.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

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 : No known significant effects or critical hazards.

Over-exposure signs/symptoms

| | | |
|---------------------|---|-------------------|
| Eye contact | : | No specific data. |
| Inhalation | : | No specific data. |
| Skin contact | : | No specific data. |
| Ingestion | : | No specific data. |

Indication of immediate medical attention and special treatment needed, if necessary

| | | |
|-----------------------------------|---|---|
| Notes to physician | : | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
| Specific treatments | : | No specific treatment. |
| Protection of first-aiders | : | No action shall be taken involving any personal risk or without suitable training. |

See toxicological information (Section 11)

Section 5. Fire-fighting measures**Extinguishing media**

| | | |
|---|---|---|
| Suitable extinguishing media | : | Use flooding quantities of water for extinction. |
| Unsuitable extinguishing media | : | Do NOT use chemical extinguisher or foam or attempt to smother the fire with steam or sand. |
| Specific hazards arising from the chemical | : | No specific fire or explosion hazard. |
| Hazardous thermal decomposition products | : | Decomposition products may include the following materials: nitrogen oxides, Avoid breathing dusts, vapors or fumes from burning materials., In case of inhalation of decomposition products in a fire, symptoms may be delayed., ammonia |
| Hazchem or Emergency Action Code | : | Not available. |
| Remark | : | Non-flammable substance. |
| 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. |
| 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 | : | Non-explosive. |

Section 6. Accidental release measures**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 spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8). |
|------------------------------------|---|---|

For emergency responders : If specialized 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".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Not for human or animal consumption.

Protective measures : Put on appropriate personal protective equipment (see Section 8).

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.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Keep away from: organic materials, oil and grease.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits : None.

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- 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.

Individual protection measures

- Hygiene measures** : A washing facility or water for eye and skin cleaning purposes should be present. 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.
- 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.

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. For general applications, we recommend gloves with a thickness typically greater than 0.35 mm. It should be emphasized that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material.
- 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** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.
Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Personal protective equipment (Pictograms) :



Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

| | |
|--|--|
| Physical state | : Solid [Crystalline] |
| Color | : White., |
| Odor | : Odorless. |
| pH | : 5 - 7.5 |
| | |
| Melting point/freezing point | : 95 °C (203 °F) |
| Boiling point, initial boiling point, and boiling range | : Not applicable. |
| Flash point | : Not applicable. |
| Flammability | : Non-flammable. |
| Lower and upper explosion limit/flammability limit | : Lower: Not applicable. Upper: Not applicable. |
| Vapor pressure | : < 0.0000001 hPa @ 20 °C (68 °F) |
| Relative vapor density | : Not applicable. |
| Bulk density | : 1,460 kg/m ³ |
| Solubility(ies) | : Easily soluble in the following materials: cold water |
| Solubility in water | : > 100 g/l @ 20 °C (68 °F) |
| Partition coefficient: n-octanol/water | : Not applicable. |
| Auto-ignition temperature | : Not applicable. |
| Decomposition temperature | : Not applicable. |
| Viscosity | : Kinematic: Not applicable. |
| Explosive properties | : Non-explosive. |
| Oxidizing properties | : Not determined. |
| | |
| <u>Particle characteristics</u> | |
| Median particle size | : 0.3 - 0.8 mm |

Section 10. Stability and reactivity

| | |
|---|--|
| Reactivity | : No specific test data related to reactivity available for this product or its ingredients. |
| Chemical stability | : The product is stable. |
| Possibility of hazardous reactions | : Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions to avoid | : Avoid contamination by any source including metals, dust and organic materials. |

Incompatible materials : alkalis, combustible materials, reducing materials, organic materials, Acids

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Method | Species | Result | Exposure |
|-------------------------------|-------------------------|---------|---------------|-----------------|
| Magnesium nitrate hexahydrate | | | | |
| | OECD 423 LD50 Oral | Rat | > 5,000 mg/kg | Not applicable. |
| | OECD 402 LD50 Dermal | Rat | > 5,000 mg/kg | Not applicable. |

Conclusion/Summary : No known significant effects or critical hazards.

Irritation/Corrosion

Conclusion/Summary

Skin : No known significant effects or critical hazards.

Eyes : Non-irritating.

Respiratory : No known significant effects or critical hazards.

Sensitization

| Product/ingredient name | Method | Species | Result |
|-------------------------------|------------------|---------|-----------------|
| Magnesium nitrate hexahydrate | | | |
| | OECD 429 Skin | Mouse | Not sensitizing |

Conclusion/Summary

Skin : Not sensitizing

Respiratory : No known significant effects or critical hazards.

Mutagenicity

| Product/ingredient name | Method | Test detail | Result |
|-------------------------------|----------|--|----------|
| Magnesium nitrate hexahydrate | | | |
| | OECD 476 | Mammalian-Animal Experiment: In vitro | Negative |

Conclusion/Summary : No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

| Product/ingredient name | Method | Species | Result | Exposure |
|-------------------------------|------------------|---------|--|----------|
| Magnesium nitrate hexahydrate | | | | |
| | OECD 422 Oral | Rat | Fertility effects- Negative Developmental- Negative > 1500 mg/kg | 28 days |

Conclusion/Summary : No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

No known significant effects or critical hazards.

Specific target organ toxicity (repeated exposure)

No known significant effects or critical hazards.

Aspiration hazard

No known significant effects or critical hazards.

Information on the likely routes of exposure : Not available.

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- 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** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure**Short term exposure**

- Potential immediate effects** : Not available.
- Potential delayed effects** : None identified.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : None identified.

Potential chronic health effects

| Product/ingredient name | Method | Species | Result | Exposure |
|-------------------------------|--------------------------------|---------|---------------|----------|
| Magnesium nitrate hexahydrate | | | | |
| | OECD 422 Sub-acute NOAEL | Rat | > 1,500 mg/kg | 28 days |

Oral

- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : No known significant effects or critical hazards.
- Effects on or via lactation** : No known significant effects or critical hazards.
- Other effects** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

Numerical measures of toxicity**Acute toxicity estimates**

N/A

Section 12. Ecological information**Toxicity**

| Product/ingredient name | Method | Species | Result | Exposure |
|-------------------------------|---------------------------------------|---------|------------|----------|
| Magnesium nitrate hexahydrate | | | | |
| | OECD 203 Acute LC50 Fresh water | Fish | > 100 mg/l | 96 h |
| | Acute EC50 Fresh water | Daphnia | 490 mg/l | 48 h |

- Conclusion/Summary** : No known significant effects or critical hazards.

Persistence/degradability

- Conclusion/Summary** : Readily biodegradable in plants and soils.

Bioaccumulative potential

- Conclusion/Summary** : No known significant effects or critical hazards.

Mobility in soil

- Soil/water partition coefficient (KOC)** : Not available.
- Mobility** : This product may move with surface or groundwater flows because its water solubility is: high
- Other adverse effects** : No known significant effects or critical hazards.

Section 13. Disposal considerations**Product**

Date of issue : 14.03.2023

Page:9/12

- Methods of disposal** : The generation of waste should be avoided or minimized 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. 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.

Section 14. Transport information

| | UN | IMDG | IATA |
|-----------------------------------|-----------------|-----------------|-----------------|
| UN number | Not regulated. | Not regulated. | Not regulated. |
| UN proper shipping name | Not applicable. | Not applicable. | Not applicable. |
| Transport hazard class(es) | Not applicable. | Not applicable. | Not applicable. |
| Packing group | Not applicable. | Not applicable. | Not applicable. |
| Environmental hazards | No. | No. | No. |

14.6 Special precautions for user

- : Transport within user's premises: Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments

Proper shipping name
Remarks

: Not listed.

: **Solid bulk cargoes**
Harmful to the marine environment with regard to MARPOL Annex V: No
IMSBC shipping group: C

Section 15. Regulatory information

HSNO Approval Number : Not applicable.

Date of issue : 14.03.2023

Page:10/12

| | | |
|----------------------------|---|---|
| HSNO Group Standard | : | Not applicable. |
| HSNO Classification | : | Not classified. |
| Country information | : | SCHEDULE 1 (CONDITIONS OF GROUP STANDARD) of the Fertilisers (Oxidising [5.1.1]) Group Standard 2006. Any location at which a substance is manufactured or stored in quantities that exceed those set out in the Standards' Tables 2 (except a location situated on a farm > hectares), 3, and 4 must comply with the corresponding conditions as set out in the Standards' clauses 6, 7 and 8. |

Inventory list

Philippines inventory (PICCS): All components are listed or exempted.

New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.

Korea inventory: All components are listed or exempted.

Japan inventory (CSCL): All components are listed or exempted.

Japan inventory (ISHL): All components are listed or exempted.

China inventory (IECSC): All components are listed or exempted.

Australia inventory (AIC): All components are listed or exempted.

Taiwan Chemical Substances Inventory (TCSI): All components are listed or exempted.

United States inventory (TSCA 8b): All components are active or exempted.

EC INVENTORY (EINECS/ELINCS): All components are listed or exempted.

Canada: All components are listed or exempted.

Thailand: All components are listed or exempted.

Viet Nam: All components are listed or exempted.

Section 16. Other information

| | | |
|-----------------------------|---|--|
| Key to abbreviations | : | ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor bw = Body weight GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail SUSMP - Standard Uniform Schedule of Medicine and Poisons SGG = Segregation Group UN = United Nations |
| Key data sources | : | EU REACH ECHA/IUCLID5 CSR. 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. Sphera Solutions Inc., 4777 Levy Street, St Laurent, Quebec HAR 2P9, Canada.HSNO Chemical Classification and Information database (CCID), New Zealand Inventory of |

Chemicals (NZIoC),

History**Date of printing** : 20.03.2023**Date of issue/Date of revision** : 14.03.2023**Date of previous issue** : 22.02.2023**Revision comments** : The safety data sheet has been revised according to Hazardous Substances (Safety Data Sheets) Notice 2017**Version** : 5.0**Prepared by** : Product Stewardship and Compliance (PSC).

|| Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.