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SAFETY DATA SHEET

YaraMila K-Max

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

1.1 Product identifier

Product name	:	YaraMila K-Max
Product code	:	PE75BG
Product type	:	Solid

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

Identified uses
Industrial distribution. Industrial USE to formulate fertilisers product mixtures. Professional formulation of fertiliser products. Professional USE as fertiliser in Greenhouse. Professional USE as liquid fertiliser in open field. Consumer USE of fertilisers.

Uses advised against	:	Other non-specified industry
Reason	:	Due to lack of related experience or data, the supplier cannot approve this use.

1.3 Details of the supplier of the safety data sheet

Yara Hellas S.A.

Address

Street	:	Syngrou Avenue Nea Smyrni
Number	:	137
Postal code	:	17121
City	:	Athens
Country	:	Greece
Telephone number	:	+30 210 9370355
Fax no.	:	+30 210 9370357
e-mail address of person responsible for this SDS	:	info.hellas@yara.com

1.4 Emergency telephone number

National advisory body/Poison Center : Not available.

Supplier
Emergency telephone number (with hours of operation) : +30 2111 983 182 (7/24)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture.

Product definition : Mixture

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

Classification : Eye Irrit. 2, H319
Repr. 1B, H360FD
Aquatic Chronic 3, H412

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.
See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :

Signal word : Danger

Hazard statements :

H319	Causes serious eye irritation.
H360FD	May damage fertility. May damage the unborn child.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention :

P202	Do not handle until all safety precautions have been read and understood.
P280	Wear protective gloves/clothing and eye/face protection.

Response :

P273	Avoid release to the environment.
P308	IF exposed or concerned:
P313	Get medical attention.
P305	IF IN EYES:
P351	Rinse cautiously with water for several minutes.
P338	Remove contact lenses, if present and easy to do. Continue rinsing.
P337	If eye irritation persists:
P313	Get medical attention.

Contains : disodium tetraborate pentahydrate

EU Regulation (EC) No. 1907/2006 (REACH) Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Restricted to professional users.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : None known.

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
ammonium nitrate	REACH #: 01-2119490981-27 EC : 229-347-8 CAS : 6484-52-2	>= 10 - <= 15	Ox. Sol. 3, H272 Eye Irrit. 2, H319	-	[1]
potassium nitrate	REACH #: 01-2119488224-35 EC : 231-818-8 CAS : 7757-79-1	>= 2 - <= 2,5	Ox. Sol. 3, H272	-	[1]
disodium tetraborate pentahydrate	REACH #: 01-2119490790-32 EC : 215-540-4 CAS : 12179-04-3 Index: 005-011-02-	>= 0,3 - < 1	Eye Irrit. 2, H319 Repr. 1B, H360FD	-	[1]

	9				
copper sulphate pentahydrate	REACH #: 01-2119520566-40 EC : 231-847-6 CAS : 7758-99-8 Index: 029-023-00-4	>= 0,25 - <= 0,3	Acute Tox. 4, H302 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 481 mg/kg M [Acute] = 10 M [Chronic] = 1	[1]

See Section 16 for the full text of the H statements declared above.
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, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type
[1] Substance classified with a physical, health or environmental hazard
Occupational exposure limits, if available, are listed in Section 8.

Remarks : This product contains Boron (see section 7 and 11).

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Rinse with plenty of running water. Check for and remove any contact lenses. If irritation persists, get medical attention.

Inhalation : If inhaled, remove to fresh air. In case of inhalation of decomposition products in a fire, symptoms may be delayed. Get medical attention if you feel unwell. The exposed person may need to be kept under medical surveillance for 48 hours.

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.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following: pain or irritation, watering, redness
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

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.

SECTION 5: Firefighting measures

5.1 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.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. 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 and ammonia.

Hazardous combustion products : Decomposition products may include the following materials: nitrogen oxides, sulfur oxides, phosphorus oxides, metal oxide/oxides, ammonia, Avoid breathing dusts, vapors or fumes from burning materials., In case of inhalation of decomposition products in a fire, symptoms may be delayed.

5.3 Advice for firefighters

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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 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".

6.2 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). Water polluting material. May be harmful to the environment if released in large quantities.

6.3 Methods and materials for containment and cleaning up

Small spill : Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Not for human or animal consumption.

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not handle until all safety precautions have been read and understood. As a precaution, keep exposure as low as possible for pregnant women, children and workers in reproductive age. Avoid dust generation. Do not breathe dust. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

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.

7.2 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.Store locked up.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.

7.3 Specific end use(s)

Recommendations : Do not generate and inhale liquid fertilizer aerosols.

In addition to overalls, gloves and eye protection, use of efficient respiratory protection (P2/P3 respirators with a tight face seal) during discharge of fertilizer bags and maintenance of equipment is recommended to minimize inhalation exposure and to ensure safe-use during this activity (see section 8).

Risk assessments show safe use during normal spreading of fertilizers containing below 5% of boron by tractor (liquid or granular) and backpack (liquid).

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

Remark : No exposure limit value known.

Biological exposure indices
No exposure indices known.

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following:
European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy)
European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents)
European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents)

Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
copper sulphate pentahydrate	DNEL	Long term Dermal	137 mg/kg bw/day	Workers	Local
	DNEL	Long term Oral	0,041 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Inhalation	1 mg/m³	Workers	Local

PNECs

Product/ingredient name	Type	Compartment Detail	Value	Method Detail
ammonium nitrate	PNEC	Sewage Treatment Plant	16,9 mg/l	Assessment Factors
	PNEC	Fresh water	16 mg/l	Sensitivity Distribution
	PNEC	Marine water	15,9 mg/l	Sensitivity Distribution
	PNEC	Fresh water sediment	77,7 mg/kg dwt	Equilibrium Partitioning
	PNEC	Marine water sediment	77,2 mg/kg dwt	Equilibrium Partitioning
potassium nitrate	PNEC	Sewage Treatment Plant	18 mg/l	Assessment Factors
copper sulphate pentahydrate	PNEC	Fresh water	7,8 µg/l	Not applicable.
	PNEC	Marine water	5,2 µg/l	Not applicable.
	PNEC	Sewage Treatment Plant	230 µg/l	Not applicable.
	PNEC	Fresh water sediment	87 mg/kg	Not applicable.
	PNEC	Marine water sediment	676 mg/kg	Not applicable.
	PNEC	Soil	65 mg/kg	Not applicable.

8.2 Exposure controls

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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.
Recommended: Tightly-fitting goggles, Europe:, CEN: EN166,

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.
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 respiratory protection with more than 94% efficiency (P2, P3 or N95) and a tight face seal, when risk of exposure to dust.
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.
Personal protective equipment (Pictograms)	:	

SECTION 9: Physical and chemical properties

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

9.1 Information on basic physical and chemical properties

Appearance

Physical state	:	Solid (granulates)
Color	:	Gray.,
Odor	:	Odorless.
Melting point/freezing point	:	145 - 185 °C
Initial boiling point and boiling range	:	Not applicable.
Flammability	:	Non-flammable.
Lower and upper explosion	:	**Lower:** Not applicable.

limit		**Upper:** Not applicable.
Flash point	:	Not applicable.
Auto-ignition temperature	:	Not applicable.
Decomposition temperature	:	Not applicable.
pH	:	4,1 - 6,5 [Conc.: 100 g/l]
Viscosity	:	**Kinematic:** Not applicable.
Solubility(ies)	:	Soluble in the following materials: cold water
Water solubility	:	> 75 g/l
Partition coefficient: n-octanol/water	:	Not applicable.
Vapor pressure	:	Not applicable.
Relative vapour density	:	Not applicable.
Bulk density	:	950 - 1.250 kg/m3

Particle characteristics

Median particle size	:	3 - 3,6 mm

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Explosive properties	:	Non-explosive.
Oxidizing properties	:	Non-oxidizer. UN Manual of Tests and Criteria, Section 39.

9.2.2 Other safety characteristics

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	:	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	:	The product is stable.
10.3 Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	:	Avoid contamination by any source including metals, dust and organic materials.
10.5 Incompatible materials	:	alkalis combustible materials, reducing materials, organic materials, Acids
10.6 Hazardous	:	Under normal conditions of storage and use, hazardous

decomposition products decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product/ingredient name	Method	Species	Result	Exposure
ammonium nitrate				
	OECD 401 LD50 Oral	Rat	2.950 mg/kg	Not applicable.
	OECD 402 LD50 Dermal	Rat	> 5.000 mg/kg	Not applicable.
potassium nitrate				
	LD50 Oral	Rat	2.000 mg/kg	Not applicable.
	LD50 Dermal	Rat	> 5.000 mg/kg	Not applicable.
disodium tetraborate pentahydrate				
	LD50 Oral	Rat	2.000 mg/kg	Not applicable.
	LD50 Dermal	Rabbit	> 5.000 mg/kg	Not applicable.
copper sulphate pentahydrate				
	OECD 401 LD50 Oral	Rat	481 mg/kg	Not applicable.
	OECD 402 LD50 Dermal	Rat	> 5.000 mg/kg	Not applicable.

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

Acute toxicity estimates

Product/ingredient name	Oral	Dermal	Inhalation (gases)	Inhalation (vapors)	Inhalation (dusts and mists)
ammonium nitrate	2950 mg/kg	N/A	N/A	N/A	N/A
copper sulphate pentahydrate	481 mg/kg	N/A	N/A	N/A	N/A

Irritation/Corrosion

Product/ingredient name	Method	Species	Result	Exposure
ammonium nitrate				
	OECD 405 Eyes	Rabbit	Irritant	
potassium nitrate				
	OECD 404 Skin	Rabbit	Non-irritating.	
copper sulphate pentahydrate				
	OECD 405 Eyes	Rabbit	Severe irritant	

Conclusion/Summary
Skin : No known significant effects or critical hazards.
Eyes : Causes serious eye irritation.
Respiratory : No known significant effects or critical hazards.

Sensitization

Product/ingredient name	Method	Species	Result
ammonium nitrate			
	OECD 429 Skin	Mouse	Not sensitizing

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

Mutagenicity

Product/ingredient name	Method	Test detail	Result
ammonium nitrate			
	OECD 473	Mammalian Toxicity - Genotoxicity - In vitro Mammalian Chromosome Aberration Test or Mammalian Bone Marrow Chromosomal Abberation Test or Mammalian Erythrocyte Micronucleus Test In vitro	Negative
	OECD 471	Bacteria 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
ammonium nitrate				
	OECD 422 Oral	Rat	Fertility effects- Negative Developmental- Negative NOAEL > 1500 mg/kg bw/day	28 days

Conclusion/Summary : May damage fertility or the unborn child.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : Irritating to mouth, throat and stomach.

Skin contact : No known significant effects or critical hazards.

Eye contact : Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : No specific data.
Ingestion : No specific data.
Skin contact : No specific data.
Eye contact : Adverse symptoms may include the following: pain or irritation, watering, redness

Delayed and immediate effects and also chronic effects from short and long term exposure
Short term exposure
Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure
Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

Product/ingredient name	Method	Species	Result	Exposure
ammonium nitrate				
	OECD 422 Chronic NOAEL Oral	Rat	256 mg/kg	28 days
	OECD 412 Sub-acute NOEC Inhalation	Rat	> 185 mg/m³	2 weeks 5 hours per day

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : May damage fertility or the unborn child.

Effects on or via lactation : No known significant effects or critical hazards.

Other effects : No known significant effects or critical hazards.

11.2. Information on other hazards

11.2.1 Endocrine disrupting properties : There are no identified components in this substance/mixture with endocrine disrupting properties
11.2.2 Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Method	Species	Result	Exposure

ammonium nitrate				
	Acute LC50 Fresh water	Fish	346 mg/l	48 h
	Acute EC50 Fresh water	Daphnia	340 mg/l	48 h
	Acute EC50 Salt water	Algae	> 1.048 mg/l	10 d
potassium nitrate				
	OECD 203 Acute LC50 Fresh water	Fish	> 100 mg/l	96 h
	Acute EC50 Fresh water	Daphnia	490 mg/l	48 h
	Acute EC50 Marine water	Algae	> 1.700 mg/l	240 h
disodium tetraborate pentahydrate				
	Acute LC50 Fresh water	Fish	> 100 mg/l	96 h
	Acute EC50 Fresh water	Daphnia	> 100 mg/l	48 h
	Acute EC50 Fresh water	Algae	> 100 mg/l	72 h
copper sulphate pentahydrate				
	Acute LC50 Fresh water	Fish	0,032 mg/l	96 h
	Acute NOEC Fresh water	Daphnia	0,029 mg/l	Not applicable.

Conclusion/Summary : Harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability

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

12.3 Bioaccumulative potential

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

12.4 Mobility in soil

Soil/water partition coefficient (KOC) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Endocrine disrupting properties : There are no identified components in this substance/mixture with endocrine disrupting properties

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

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

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.

Hazardous waste : Yes.

European waste catalogue (EWC)

Waste code	Waste designation
06 10 02*	wastes containing hazardous substances

Packaging

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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.

Special precautions : This material and its container must be disposed of in a safe way.
Care should be taken when handling emptied containers that have not been cleaned or rinsed out.
Empty containers or liners may retain some product residues.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	Not applicable.	Not applicable.	Not applicable.	Not applicable.
14.3 Transport hazard class(es)	Not applicable.	Not applicable.	Not applicable.	Not applicable.
14.4 Packing group	Not applicable.	Not applicable.	Not applicable.	Not applicable.

14.5. Environmental hazards	No.	No.	No.	No.

Additional information

ADN : **Danger code** N2

Remark : A NPK fertilizer not liable to self-sustaining exothermic decomposition according to the S.1 trough test as defined in the recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, part III, section 38.

Remarks re ADN:

The product is only regulated as an environmentally hazardous substance when transported in tank vessels.

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.

14.7 Maritime transport in bulk according to IMO instruments

Proper shipping name : AMMONIUM NITRATE BASED FERTILIZER

Remarks : **Solid bulk cargoes**
Harmful to the marine environment with regard to MARPOL Annex V: No
Material is hazardous only in bulk according to the IMSBC: No
IMSBC shipping group: C

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Annex XIV

None of the components are listed.

Substances of very high concern

The following components are listed:

Ingredient name	Intrinsic property	Status	Reference number	Date of revision
Disodium tetraborate	Toxic to reproduction	Candidate	ED/30/2010	2010-06-18

EU Regulation (EC) No. 1907/2006 (REACH) Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Product/ingredient name	%	Designation [Usage]
YaraMila K-Max	100	30

ammonium nitrate	>= 10 - <= 15	65
ammonium dihydrogenorthophosphate	>= 10 - <= 15	65
ammonium sulphate	>= 3 - <= 5	65
diammonium hydrogenorthophosphate	>= 3 - <= 5	65
disodium tetraborate pentahydrate	>= 0,3 - < 1	30

Labeling : Restricted to professional users.

Other EU regulations

Explosive precursors : This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.

Ozone depleting substances (1005/2009/EU)
None of the components are listed.

Prior Informed Consent (PIC) (649/2012/EU)
None of the components are listed.

Persistent Organic Pollutants
None of the components are listed.

Seveso Directive
This product is not controlled under the Seveso Directive.

National regulations

Biocidal products regulation : Not applicable.

Notes : To our knowledge no other country or state specific regulations are applicable.

15.2 Chemical Safety Assessment : Complete.

SECTION 16: Other information

Abbreviations and acronyms :
ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
DMEL = Derived Minimal Effect Level
EUH statement = CLP-specific Hazard statement
N/A = Not available
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
SGG = Segregation Group

PBT = Persistent, Bioaccumulative and Toxic
vPvB = Very Persistent and Very Bioaccumulative
bw = Body weight

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.
Regulation (EC) No 1272/2008 Annex VI.

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Eye Irrit. 2, H319	Calculation method
Repr. 1B, H360FD	Calculation method
Aquatic Chronic 3, H412	Calculation method

Full text of abbreviated H statements

H272	May intensify fire; oxidizer.
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H360FD	May damage fertility. May damage the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H272	May intensify fire; oxidizer.
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H360FD	May damage fertility. May damage the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	AQUATIC HAZARD (ACUTE) - Category 1
Aquatic Chronic 1	AQUATIC HAZARD (LONG-TERM) - Category 1
Aquatic Chronic 3	AQUATIC HAZARD (LONG-TERM) - Category 3
Eye Dam. 1	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Ox. Sol. 3	OXIDIZING SOLIDS - Category 3
Repr. 1B	TOXIC TO REPRODUCTION - Category 1B
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	AQUATIC HAZARD (ACUTE) - Category 1
Aquatic Chronic 1	AQUATIC HAZARD (LONG-TERM) - Category 1
Eye Dam. 1	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Ox. Sol. 3	OXIDIZING SOLIDS - Category 3
Repr. 1B	TOXIC TO REPRODUCTION - Category 1B

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|| 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, since all materials may represent unknown hazards and should be used with caution. Final determination of the suitability of any material is the sole responsibility of the user.

Annex to the extended Safety Data Sheet (eSDS) - Exposure Scenario/Safe Use Information:

Identification of the substance or mixture

Product definition : Mixture

Product name : YaraMila K-Max

Exposure Scenario/Safe Use Information : Exposure Scenarios are not attached for corrosive or irritant hazards, relevant information on safe use is included in section 8. For each additional hazard resulting in classification relevant Exposure Scenarios are attached. Boron compounds: Exposure Scenarios are not attached. Relevant information on safe use is included in section 7 and 8.

Annex to the extended Safety Data Sheet (eSDS) - Exposure Scenario:

Section 1 — Title

Short title of the exposure scenario	:	Yara - copper sulphate pentahydrate - Distribution, Formulation
Identified use name	:	Industrial distribution. Industrial USE to formulate chemical product mixtures. Industrial USE to formulate fertilisers product mixtures.
Substance supplied to that use in form of	:	In a mixture

List of use descriptors

Process Category	:	PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC15
Environmental Release Category	:	ERC02
Sector of end use	:	SU03
Subsequent service life relevant for that use	:	No.

Number of the ES	:	06370-1/2017-05-03

Section 2 — Exposure controls

Contributing scenario controlling environmental exposure for:

Product characteristics	:	Solid In aqueous preparations

Amounts used	:	Annual site tonnage < 17
Frequency and duration of use	:	Continuous release
Environment factors not influenced by risk management	:	Flow rate of receiving surface water (m³/d): 18.000 Local freshwater dilution factor10 Local marine water dilution factor 100
Other conditions affecting environmental exposure	:	Indoor use Residues which cannot be recycled are disposed off as chemical waste.
Emission days		220
Release fraction to air from process (initial release prior to RMM)		**ERC02:** 0,4 %
Release fraction to wastewater from process (initial release prior to RMM)		**ERC02:** 2 %
Release fraction to soil from process (initial release prior to RMM)		**ERC02:** 0 %
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	:	Specific measures are required.
Risk management measures - Air	:	Treat air emission to provide a typical removal efficiency of, > 90%, Fabric filter, Wet scrubber - particle removal
Risk management measures - Water	:	Typical on-site wastewater treatment technology provides removal efficiency of, > 90%, Chemical precipitation or sedimentation or filtration or electrolysis or reverse osmosis or ion exchange

Contributing scenario controlling worker exposure for:

Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Physical state	:	Solid Powder. Aqueous solution
Dust	:	Solid, medium dustiness
Frequency and duration of use	:	Covers daily exposures up to 8 hours
Other conditions affecting workers exposure	:	Assumes a good basic standard of occupational hygiene is implemented
Area of use:	:	Indoor
Ventilation control measures	:	Provide a good standard of general ventilation.
Organizational measures to prevent/limit releases, dispersion and exposure	:	Ensure operatives are trained to minimise exposures.

Conditions and measures related to personal protection and hygiene

Personal protection	:	Wear protective gloves/clothing and eye/face protection. See Section 8 of the safety data sheet (personal protective equipment).

Section 3 — Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment:

Exposure assessment (environment):	:	EUSES
Exposure estimation and reference to its source	:	See Section 8 in SDS, PNEC. Predicted exposures are not expected to exceed the PNEC when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Contributing scenario	Annual site tonnage	Release rate	Protection target	Exposure estimate (PEC)	RCR	Remark
ERC02	10		Freshwater	5.4 µg/l	0,69	
ERC02	17		Freshwater	3.3 µg/l	0,43	[1]
ERC02	17		Marine water	1.5 µg/l	0,27	
ERC02	10		Freshwater sediment	74,77 mg/kg dwt	0,86	
ERC02	17		Freshwater sediment	12,71 mg/kg dwt	0,15	[1]
ERC02	17		Marine sediment	28,81 mg/kg dwt	0,04	
ERC02	17		Soil	57,85 mg/kg dwt	0,68	[1]
ERC02	10		Soil	44,07 mg/kg dwt	0,90	

[1] Dilution factor 100

Exposure estimation and reference to its source - Workers:

Exposure assessment (human): : MEASE

Exposure estimation and reference to its source : See Section 8 in SDS, DNEL.

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Contributing scenario	General	Conc.	Duration	Protection efficiency (%)			RCR inhal.	RCR Dermal	Remark
				LEV	Respiratory	Dermal			
PROC02	Solids	> 25 %	> 4 h	0	0		0,5		
PROC02	aqueous solution	> 25 %	> 4 h	0	0		0,001		
PROC03	Solids	> 25 %	> 4 h	90	0		0,1		
PROC03	aqueous solution	> 25 %	> 4 h	0	0		0,01		
PROC04	Solids	> 25 %	> 4 h	90	0		0,5		
PROC04	aqueous	> 25 %	> 4 h	0	0		0,05		

	solution								
PROC05	Solids	> 25 %	> 4 h	90	0		0,5		
PROC05	aqueous solution	> 25 %	> 4 h	0	0		0,05		
PROC08a	Solids	> 25 %	> 4 h	90	0		0,5		
PROC08a	aqueous solution	> 25 %	> 4 h	0	0		0,05		
PROC08b	Solids	> 25 %	> 4 h	90	0		0,25		
PROC08b	aqueous solution	> 25 %	> 4 h	0	0		0,01		
PROC09	Solids	> 25 %	> 4 h	90	0		0,5		
PROC09	aqueous solution	> 25 %	> 4 h	0	0		0,01		
PROC15	Solids	> 25 %	> 4 h	0	0		0,5		
PROC15	aqueous solution	> 25 %	> 4 h	0	0		0,01		

Section 4 — Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.For scaling, see, http://www.arche-consulting.be/metal-CSA-toolbox/du-scaling-tool
Health	:	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.Scaling tool, scalable parameters and RCR is given in section 3.Scalable parameters:Duration, protection efficiency, Conc.RCR should not be exceeded.

Abbreviations and acronyms

Process Category	:	PROC02 - Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC03 - Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

		PROC04 - Chemical production where opportunity for exposure arises PROC05 - Mixing or blending in batch processes PROC08a - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC08b - Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC09 - Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC15 - Use as laboratory reagent
Environmental Release Category	:	ERC02 - Formulation into mixture
Sector of end use	:	SU03 - Industrial uses

Annex to the extended Safety Data Sheet (eSDS) - Exposure Scenario:

Section 1 — Title

Short title of the exposure scenario	:	Yara - copper sulphate pentahydrate - Professional, Fertilizer.
Identified use name	:	Professional formulation of fertiliser products. Professional USE as fertiliser at Farm - loading and spreading. Professional USE as fertiliser in Greenhouse. Professional USE as liquid fertiliser in open field. Professional USE as fertiliser - maintenance of equipment.
Substance supplied to that use in form of	:	In a mixture

List of use descriptors

Environmental Release Category	:	ERC08b, ERC08e
Market sector by type of chemical product	:	PC12

Subsequent service life relevant for that use	:	No.

Number of the ES	:	06408-1/2017-05-08

Section 2 — Exposure controls

Contributing scenario controlling environmental exposure for:

Product characteristics	:	Liquid. Solid
Concentration of substance in mixture or article	:	< 1 %
Frequency and duration of use	:	Continuous release
Environment factors not influenced by risk management	:	Flow rate of receiving surface water (m^3/d): 18,000 Local freshwater dilution factor10 Local marine water dilution factor 10
Technical conditions and measures at process level (source) to prevent release	:	Observe use instructions.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	:	Professional and consumer product use with limited or no technical control of emission
Organizational measures to prevent/limit release from site	:	Activities should only be executed by trained/authorized personnel., Procedures for process control should be implemented to minimise release/exposure.

Section 3 — Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment:

Exposure assessment (environment):	:	EUSES

Contributing scenario	Annual site tonnage	Release rate	Protection target	Exposure estimate (PEC)	RCR	Remark
ERC08b, ERC08e			Freshwater	0,0029 mg/l		[1], [2]
ERC08b, ERC08e			Freshwater	0,0078 mg/l	1	[1], [3]
ERC08b, ERC08e			Freshwater sediment	0 mg/kg dry weight		[1], [2]
ERC08b, ERC08e			Freshwater sediment	87 mg/kg dry weight	1	[1], [3]
ERC08b, ERC08e			Marine water	0,0011 mg/l		[1], [2]
ERC08b, ERC08e			Marine water	0,0056 mg/l	1	[1], [3]
ERC08b, ERC08e			Marine sediment	16,1 mg/kg dry weight		[1], [2]
ERC08b, ERC08e			Marine sediment	676 mg/kg dry weight	1	[1], [3]
ERC08b, ERC08e			Soil	24,4 mg/kg dry weight		[1], [2]
ERC08b, ERC08e			Soil	64,6 mg/kg dry weight	1	[1], [3]

[1] Cu

[2] Background

[3] Maximum allowable concentrations

Exposure estimation and reference to its source - Workers:

Exposure estimation and reference to its source : As no toxicological hazard was identified, no human-related (worker/consumer) exposure assessment and risk characterization was performed.

Section 4 — Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : The product is not expected to harm the environment when used properly according to directions., No additional risk management measures required.

Health	:	Refer to special instructions/safety data sheet., No additional risk management measures required.

Abbreviations and acronyms

Environmental Release Category	:	ERC08b - Widespread use of reactive processing aid (no inclusion into or onto article, indoor) ERC08e - Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)
Market sector by type of chemical product	:	PC12 - Fertilizers