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SAFETY DATA SHEET

YaraRega BLUE BALANCE

Section 1. Identification

Product identifier : YaraRega BLUE BALANCE
Product type : Solid (prills)
Product code : PHA22P

Uses

Area of application : Professional applications
Material uses : Fertilizers.

Supplier

Supplier's details : Yara Colombia S.A.

Address

Street : Cra 11 Piso 3
Number : #94A-34
City : Bogotá
Country : Colombia

Telephone number : +57(5) 6931215
e-mail address of person : info.colombia@yara.com
responsible for this SDS
Emergency telephone number : 01 8000 916012 (7/24)
01 8000 511414 (Option 1)(7/24)
01 800 5184127 (7/24)

National advisory body/Poison : Not available.
Center

Section 2. Hazard identification

Classification of the : ACUTE TOXICITY oral - Category 5
substance or mixture. SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
AQUATIC HAZARD (ACUTE) - Category 3
AQUATIC HAZARD (LONG-TERM) - Category 3

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H303 May be harmful if swallowed.
 H319 Causes serious eye irritation.
 H402 Harmful to aquatic life.
 H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention : P280-a Wear eye protection.
 P264-a Wash hands thoroughly after handling.
 P273 Avoid release to the environment.

Response : 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.

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

Substance/mixture : Mixture

Ingredient name	CAS number	%
ammonium nitrate	6484-52-2	>= 35 - <= 45
potassium nitrate	7757-79-1	>= 10 - <= 15
potassium chloride	7447-40-7	>= 10 - <= 15
ammonium chloride	12125-02-9	>= 5 - <= 7
ammonium sulphate	7783-20-2	>= 3 - <= 5
ammonium dihydrogenorthophosphate	7722-76-1	>= 2,5 - <= 3
calcium hydrogenphosphate	7757-93-9	>= 2 - <= 2,5
zinc sulphate (monohydrate)	7446-19-7	>= 0,3 - < 1
disodium tetraborate, anhydrous	1330-43-4	>= 0,2 - <= 0,25

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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.

Remark : This product contains Boron (see section 7 and 11).
 The content is below the level required for classification of

the product as toxic to reproduction.

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. 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. |

Most important symptoms/effects, acute and delayed

Potential acute health effects

- | | | |
|---------------------|---|--|
| Eye contact | : | Causes serious eye irritation. |
| 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 | : | May be harmful if swallowed. Irritating to mouth, throat and stomach. |

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 | : | Adverse symptoms may include the following: stomach pains |

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 | : | This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained |

Hazardous thermal decomposition products	: 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.
Special protective actions for fire-fighters	: Decomposition products may include the following materials: nitrogen oxides, sulfur oxides, phosphorus oxides, halogenated compounds, 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.
Special protective equipment 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.
Remark	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	: 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). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Small spill	: Move containers from spill area. Avoid dust generation. 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. 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). 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 ingest. Avoid contact with eyes, skin and clothing. 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. |
| 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. |
| Specific recommendations to end users | : 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

Control parameters**Occupational exposure limits**

Ingredient name	Exposure limits
ammonium chloride	ACGIH TLV (1994-09-01) TWA 10 mg/m ³ Form: Fume STEL 20 mg/m ³ Form: Fume
disodium tetraborate, anhydrous	ACGIH TLV (2005-01-01) TWA 2 mg/m ³ Form: Inhalable fraction STEL 6 mg/m ³ Form: Inhalable fraction

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.

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.
Recommended: Tightly-fitting goggles,

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.

Personal protective equipment
(Pictograms) :



Section 9. Physical and chemical properties and safety characteristics

Appearance

Physical state	: Solid [prills]
Color	: Gray.,
Odor	: Odorless.
Odor threshold	: Not determined.
pH	: 4 - 7 [Conc.: 100 g/l] @ 25 °C (77 °F)
Melting point/freezing point	: 140 °C
Boiling/condensation point	: Not relevant/applicable due to nature of the product.
Sublimation temperature	: Not determined.
Flash point	: Not determined.
Evaporation rate	: Not determined.
Flammability	: Non-flammable.
Lower and upper explosion limit/flammability limit	: Lower: Not determined. Upper: Not determined.
Vapor pressure	: Not determined.
Bulk density	: 960 - 1.060 kg/m ³
Density	: Not applicable.
Relative density	: Not applicable.
Solubility	: Soluble in the following materials: cold water
Solubility in water	: > 80 g/l
Miscibility with water	: Not relevant/applicable due to nature of the product.
Partition coefficient: n-octanol/water	: Not determined.
Auto-ignition temperature	: Not determined.
Decomposition temperature	: Not determined.
Viscosity	: Dynamic: Not relevant/applicable due to nature of the product. Kinematic: Not relevant/applicable due to nature of the product.
Explosive properties	: Non-explosive.
Oxidizing properties	: None

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	References
ammonium nitrate					
	OECD 401 LD50 Oral	Rat	2.950 mg/kg	Not applicable.	CSR
	OECD 402 LD50 Dermal	Rat	> 5.000 mg/kg	Not applicable.	CSR
potassium nitrate					
	LD50 Oral	Rat	2.000 - 5.000 mg/kg	Not applicable.	CSR
	LD50 Dermal	Rat	> 5.000 mg/kg	Not applicable.	CSR
potassium chloride					
	LD50 Oral	Rat	3.020 mg/kg	Not applicable.	ECHA
ammonium chloride					
	LD50 Oral	Rat	1.410 mg/kg	Not applicable.	CSR
	LD50 Dermal	Rat	> 5.000 mg/kg	Not applicable.	IUCLID
ammonium sulphate					
	OECD 401 LD50 Oral	Rat	4.250 mg/kg	Not applicable.	CSR
	LC50 Inhalation	Rat	1 mg/l	8 h	CSR
	OECD 434 LD50 Dermal	Rat	> 5.000 mg/kg	Not applicable.	CSR
ammonium dihydrogenorthophosphate					
	OECD 425 LD50 Oral	Rat	2.000 - 5.000 mg/kg	Not applicable.	ECHA
	OECD 403	Rat	> 5 mg/l	4 h	ECHA

	LC50 Inhalation				
	OECD 402 LD50 Dermal	Rat	> 5.000 mg/kg	Not applicable.	ECHA
calcium hydrogenphosphate					
	OECD 401 LD50 Oral	Rat	3.986 mg/kg	Not applicable.	IUCLID
	OECD 402 LD50 Dermal	Rabbit	> 5.000 mg/kg	Not applicable.	
zinc sulphate (monohydrate)					
	OECD 401 LD50 Oral	Rat	926 mg/kg	Not applicable.	ECHA
disodium tetraborate, anhydrous					
	LD50 Oral	Rat	2.000 - 5.000 mg/kg	Not applicable.	IUCLID
	LC50 Inhalation	Rat	> 2 mg/l	Not applicable.	
	LD50 Dermal	Rabbit	> 5.000 mg/kg	Not applicable.	IUCLID
ammonium nitrate					
	OECD 401 LD50 Oral	Rat	2.950 mg/kg	Not applicable.	CSR
	OECD 402 LD50 Dermal	Rat	> 5.000 mg/kg	Not applicable.	CSR
potassium nitrate					
	LD50 Oral	Rat	2.000 - 5.000 mg/kg	Not applicable.	CSR
	LD50 Dermal	Rat	> 5.000 mg/kg	Not applicable.	CSR
potassium chloride					
	LD50 Oral	Rat	3.020 mg/kg	Not applicable.	ECHA
ammonium chloride					
	LD50 Oral	Rat	1.410 mg/kg	Not applicable.	CSR
	LD50 Dermal	Rat	> 5.000 mg/kg	Not applicable.	IUCLID
ammonium sulphate					
	OECD 401 LD50 Oral	Rat	4.250 mg/kg	Not applicable.	CSR
	LC50 Inhalation	Rat	1 mg/l	8 h	CSR
	OECD 434 LD50 Dermal	Rat	> 5.000 mg/kg	Not applicable.	CSR
ammonium dihydrogenorthophosphate					
	OECD 425 LD50 Oral	Rat	2.000 - 5.000 mg/kg	Not applicable.	ECHA
	OECD 403 LC50 Inhalation	Rat	> 5 mg/l	4 h	ECHA
	OECD 402 LD50 Dermal	Rat	> 5.000 mg/kg	Not applicable.	ECHA
calcium hydrogenphosphate					
	OECD 401 LD50 Oral	Rat	3.986 mg/kg	Not applicable.	IUCLID

	OECD 402 LD50 Dermal	Rabbit	> 5.000 mg/kg	Not applicable.	
zinc sulphate (monohydrate)					
	OECD 401 LD50 Oral	Rat	926 mg/kg	Not applicable.	ECHA
disodium tetraborate, anhydrous					
	LD50 Oral	Rat	2.000 - 5.000 mg/kg	Not applicable.	IUCLID
	LC50 Inhalation	Rat	> 2 mg/l	Not applicable.	
	LD50 Dermal	Rabbit	> 5.000 mg/kg	Not applicable.	IUCLID

Conclusion/Summary : May be harmful if swallowed.

Irritation/Corrosion

Product/ingredient name	Method	Species	Result	Exposure	References
ammonium nitrate					
	OECD 405 Eyes	Rabbit	Irritant		CSR
potassium nitrate					
	OECD 404 Skin	Rabbit	Non-irritating.		IUCLID 5
ammonium chloride					
	Eyes	Rabbit	Irritant		CSR
zinc sulphate (monohydrate)					
	Eyes	Rabbit	Severe irritant		IUCLID 5
ammonium nitrate					
	OECD 405 Eyes	Rabbit	Irritant		CSR
potassium nitrate					
	OECD 404 Skin	Rabbit	Non-irritating.		IUCLID 5
ammonium chloride					
	Eyes	Rabbit	Irritant		CSR
zinc sulphate (monohydrate)					
	Eyes	Rabbit	Severe irritant		IUCLID 5

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	Method	Species	Result	References
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name				
ammonium nitrate				
	OECD 429 Skin	Mouse	Not sensitizing	
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	References
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	CSR
	OECD 471	Bacteria In vitro	Negative	IUCLID
	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	CSR
	OECD 471	Bacteria In vitro	Negative	IUCLID

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

Carcinogenicity

Product/ingredient name	Method	Species	Result	Exposure	References
ammonium sulphate					
	Oral	Rat	Negative NOAEL 284 mg/kg bw/day	Not applicable.	IUCLID
	Oral	Rat	Negative NOAEL 284 mg/kg bw/day	Not applicable.	IUCLID

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

Reproductive toxicity

Product/ingredient name	Method	Species	Result	Exposure	References
ammonium nitrate					
	OECD 422 Oral	Rat	Fertility effects- Negative Developmental- Negative NOAEL > 1500 mg/kg bw/day	28 days	CSR
ammonium chloride					
	Oral	Rat	Fertility effects- Negative Developmental- Negative 1500 mg/kg bw/day	Not applicable.	IUCLID 5
ammonium sulphate					
	OECD 422 Oral	Rat	Fertility effects- Negative Developmental- Negative 1500 mg/kg bw/day	Not applicable.	IUCLID 5
ammonium dihydrogenorthophosphate					
	Oral	Rat	Fertility effects- Negative Developmental- Negative NOAEL 1500 mg/kg bw/day	Not applicable.	IUCLID 5
calcium hydrogenphosphate					
	Oral	Rat	Developmental- Negative NOAEL > 410 mg/kg bw/day	10 days	IUCLID
	Oral	Rat	Fertility effects-	42 days	IUCLID

			Negative NOAEL > 500 mg/kg bw/day		
ammonium nitrate					
	OECD 422 Oral	Rat	Fertility effects- Negative Developmental- Negative NOAEL > 1500 mg/kg bw/day	28 days	CSR
ammonium chloride					
	Oral	Rat	Fertility effects- Negative Developmental- Negative 1500 mg/kg bw/day	Not applicable.	IUCLID 5
ammonium sulphate					
	OECD 422 Oral	Rat	Fertility effects- Negative Developmental- Negative 1500 mg/kg bw/day	Not applicable.	IUCLID 5
ammonium dihydrogenorthophosphate					
	Oral	Rat	Fertility effects- Negative Developmental- Negative NOAEL 1500 mg/kg bw/day	Not applicable.	IUCLID 5
calcium hydrogenphosphate					
	Oral	Rat	Developmental- Negative NOAEL > 410 mg/kg bw/day	10 days	IUCLID
	Oral	Rat	Fertility effects- Negative NOAEL > 500 mg/kg bw/day	42 days	IUCLID

Conclusion/Summary

: Contains boron which may harm fertility, based on animal data. Contains boron which may harm the unborn child, based on animal data.

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 : Causes serious eye irritation.
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 : May be harmful if swallowed. Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

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

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 : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Product/ingredient name	Method	Species	Result	Exposure	References
ammonium nitrate					
	OECD 422 Chronic NOAEL Oral	Rat	256 mg/kg	28 days	CSR
	OECD 412 Sub-acute NOEC Inhalation	Rat	> 185 mg/m ³	2 weeks 5 hours per day	CSR
ammonium chloride					
	Sub-chronic NOAEL Oral	Rat	1.695 mg/kg	13 weeks 7 days per week	CSR
ammonium sulphate					
	Chronic NOAEL Oral	Rat	256 mg/kg	365 days	IUCLID 5
	Sub-acute NOEC	Rat	300 mg/m ³	14 days 8 hours per	IUCLID

	Inhalation			day	
ammonium dihydrogenorthophosphate					
	OECD 422 Sub-acute NOAEL Oral	Rat	250 mg/kg	42 days	IUCLID 5
calcium hydrogenphosphate					
	OECD 422 Sub-chronic NOAEL Oral	Rat	250 mg/kg	42 days	IUCLID
ammonium nitrate					
	OECD 422 Chronic NOAEL Oral	Rat	256 mg/kg	28 days	CSR
	OECD 412 Sub-acute NOEC Inhalation	Rat	> 185 mg/m ³	2 weeks 5 hours per day	CSR
ammonium chloride					
	Sub-chronic NOAEL Oral	Rat	1.695 mg/kg	13 weeks 7 days per week	CSR
ammonium sulphate					
	Chronic NOAEL Oral	Rat	256 mg/kg	365 days	IUCLID 5
	Sub-acute NOEC Inhalation	Rat	300 mg/m ³	14 days 8 hours per day	IUCLID
ammonium dihydrogenorthophosphate					
	OECD 422 Sub-acute NOAEL Oral	Rat	250 mg/kg	42 days	IUCLID 5
calcium hydrogenphosphate					
	OECD 422 Sub-chronic NOAEL Oral	Rat	250 mg/kg	42 days	IUCLID

- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Fertility effects** : Contains boron which may harm fertility, based on animal data.
- Developmental effects** : Contains boron which may harm the unborn child, based on animal data.
- 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** : Adverse symptoms may include the following: pain or irritation, watering, redness
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : Adverse symptoms may include the following: stomach pains

Numerical measures of toxicity**Acute toxicity estimates**

Route	ATE value
Oral	3.168,6 mg/kg

Section 12. Ecological information**Toxicity**

Product/ingredient name	Method	Species	Result	Exposure	References
ammonium nitrate					
	Acute LC50 Fresh water	Fish	447 mg/l	48 h	CSR
	Acute EC50 Fresh water	Daphnia	490 mg/l	48 h	CSR
	Acute EC50 Salt water	Algae	1.700 mg/l	10 d	CSR
potassium nitrate					
	OECD 203 Acute LC50 Fresh water	Fish	> 100 mg/l	96 h	CSR
	Acute EC50 Fresh water	Daphnia	490 mg/l	48 h	CSR
	Acute EC50 Fresh water	Algae	> 1.700 mg/l	240 h	CSR
potassium chloride					
	Acute LC50	Fish	2.300 mg/l	48 h	IUCLID 5
	Acute EC50	Daphnia	825 mg/l	48 h	IUCLID 5
	Acute EC50	Algae	2.500 mg/l	72 h	IUCLID 5
ammonium chloride					
	OECD 202 Acute EC50 Fresh water	Daphnia	136,6 mg/l	48 h	CSR
	Acute EC50 Fresh water	Algae	1.300 mg/l	5 d	CSR
ammonium sulphate					
	Acute EC50 Fresh water	Daphnia	169 mg/l	48 h	IUCLID
	Acute EC50 Fresh water	Algae	1.605 mg/l	96 h	IUCLID
ammonium dihydrogenorthophosphate					
	OECD 203 Acute LC50 Fresh water	Fish	85,9 mg/l	96 h	IUCLID
	Acute EC50	Daphnia	1.790 mg/l	48 h	IUCLID

	Fresh water				
	OECD 201 Acute LC50 Fresh water	Algae	> 100 mg/l	72 h	IUCLID
	OECD 201 Chronic NOEC Fresh water	Algae	100 mg/l	72 h	IUCLID
calcium hydrogenphosphate					
	OECD 203 Acute LC50 Fresh water	Fish	> 100 mg/l	96 h	IUCLID
	OECD 202 Acute EC50 Fresh water	Daphnia	> 100 mg/l	48 h	IUCLID
	OECD 201 Acute EC50 Fresh water	Algae	> 100 mg/l	72 h	IUCLID
zinc sulphate (monohydrate)					
	Acute LC50 Fresh water	Fish	0,1 - 1 mg/l	96 h	ECHA
	Acute EC50 Fresh water	Daphnia	0,1 - 1 mg/l	48 h	ECHA
disodium tetraborate, anhydrous					
	Acute LC50 Fresh water	Fish	> 100 mg/l	96 h	IUCLID
	Acute EC50 Fresh water	Daphnia	> 100 mg/l	72 h	IUCLID
	Acute EC50 Fresh water	Algae	> 100 mg/l	72 h	IUCLID
ammonium nitrate					
	Acute LC50 Fresh water	Fish	447 mg/l	48 h	CSR
	Acute EC50 Fresh water	Daphnia	490 mg/l	48 h	CSR
	Acute EC50 Salt water	Algae	1.700 mg/l	10 d	CSR
potassium nitrate					
	OECD 203 Acute LC50 Fresh water	Fish	> 100 mg/l	96 h	CSR
	Acute EC50 Fresh water	Daphnia	490 mg/l	48 h	CSR
	Acute EC50 Fresh water	Algae	> 1.700 mg/l	240 h	CSR
potassium chloride					
	Acute LC50	Fish	2.300 mg/l	48 h	IUCLID 5
	Acute EC50	Daphnia	825 mg/l	48 h	IUCLID 5
	Acute EC50	Algae	2.500 mg/l	72 h	IUCLID 5
ammonium chloride					
	OECD 202 Acute EC50 Fresh water	Daphnia	136,6 mg/l	48 h	CSR

	Acute EC50 Fresh water	Algae	1.300 mg/l	5 d	CSR
ammonium sulphate					
	Acute EC50 Fresh water	Daphnia	169 mg/l	48 h	IUCLID
	Acute EC50 Fresh water	Algae	1.605 mg/l	96 h	IUCLID
ammonium dihydrogenorthophosphate					
	OECD 203 Acute LC50 Fresh water	Fish	85,9 mg/l	96 h	IUCLID
	Acute EC50 Fresh water	Daphnia	1.790 mg/l	48 h	IUCLID
	OECD 201 Acute LC50 Fresh water	Algae	> 100 mg/l	72 h	IUCLID
	OECD 201 Chronic NOEC Fresh water	Algae	100 mg/l	72 h	IUCLID
calcium hydrogenphosphate					
	OECD 203 Acute LC50 Fresh water	Fish	> 100 mg/l	96 h	IUCLID
	OECD 202 Acute EC50 Fresh water	Daphnia	> 100 mg/l	48 h	IUCLID
	OECD 201 Acute EC50 Fresh water	Algae	> 100 mg/l	72 h	IUCLID
zinc sulphate (monohydrate)					
	Acute LC50 Fresh water	Fish	0,1 - 1 mg/l	96 h	ECHA
	Acute EC50 Fresh water	Daphnia	0,1 - 1 mg/l	48 h	ECHA
disodium tetraborate, anhydrous					
	Acute LC50 Fresh water	Fish	> 100 mg/l	96 h	IUCLID
	Acute EC50 Fresh water	Daphnia	> 100 mg/l	72 h	IUCLID
	Acute EC50 Fresh water	Algae	> 100 mg/l	72 h	IUCLID

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

Persistence and degradability

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

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
ammonium chloride	-3,2	Not applicable.	low
disodium tetraborate,	-1,53	Not applicable.	low

anhydrous			
ammonium chloride	-3,2	Not applicable.	low
disodium tetraborate, anhydrous	-1,53	Not applicable.	low

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

Mobility in soil

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

Mobility : Not available.

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

Section 13. Disposal considerations

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. 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. 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

Regulation: UN Class	
14.1 UN number	Not regulated.
14.2 UN proper shipping name	Not applicable.
14.3 Transport hazard class(es)	Not applicable.
14.4 Packing group	Not applicable.
14.5 Environmental hazards	
Additional information	

Regulation: IMDG	
14.1 UN number	Not regulated.
14.2 UN proper shipping name	Not applicable.
14.3 Transport hazard class(es)	Not applicable.

14.4 Packing group	Not applicable.
14.5 Environmental hazards	
Additional information <u>Marine pollutant</u> : No.	

Regulation: IATA	
14.1 UN number	Not regulated.
14.2 UN proper shipping name	Not applicable.
14.3 Transport hazard class(es)	Not applicable.
14.4 Packing group	Not applicable.
14.5 Environmental hazards	
Additional information	

- 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.
- 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.

IMSBC

- Bulk cargo shipping name** : AMMONIUM NITRATE BASED FERTILIZER (non-hazardous)
- Class** :
- Group** : C
- Marpol V** : Non-HME
- Transport in bulk according to IMO instruments** : Not applicable.

Section 15. Regulatory information

Inventory list

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

Korea inventory: All components are listed or exempted.

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

Canada inventory: All components are listed or exempted.

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

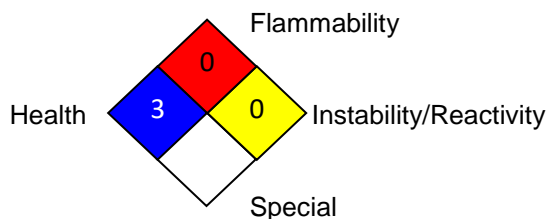
EC INVENTORY (EINECS/ELINCS): All components are listed or exempted.

Canada: All components are listed or exempted.

Section 16. Other information

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National Fire Protection Association (U.S.A.)

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

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

Procedure used to derive the classification

Classification	Justification
ACUTE TOXICITY oral - Category 5	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
AQUATIC HAZARD (ACUTE) - Category 3	Calculation method
AQUATIC HAZARD (LONG-TERM) - Category 3	Calculation method

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.

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Prepared by	:	Yara Chemical Compliance (YCC).

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

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