Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II / Regulation (EU) No. 2015/830. - Ireland

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SAFETY DATA SHEET

YaraLiva NITRABOR

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

1.1 Product identifier

Product name	:	YaraLiva NITRABOR
Product code	:	PA34LG
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 chemical product mixtures. 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.

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 UK Limited

Address

Street	:	Harvest House, Europarc
Postal code	:	DN37 9TZ
City	:	Grimsby, North East Lincolnshire
Country	:	United Kingdom
Telephone number	:	+44 (0) 1472 889250

Fax no.	:	+44 (0) 1472 889251
e-mail address of person responsible for this SDS	:	yarauk.hesq@yara.com

1.4 Emergency telephone number

National advisory body/Poison Center

Name	:	NPIC Poison centre, Dublin
Telephone number	:	01 809 2166

Supplier

Emergency telephone number (with hours of operation)	:	National Chemical Emergency Centre +44 (0) 1865 407333 (24h)

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 : Acute Tox. 4, H302
Eye Dam. 1, H318

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	:	H302	Harmful if swallowed.
		H318	Causes serious eye damage.

Precautionary statements

Prevention	:	P280	Wear protective gloves and eye protection.
		P270	Do not eat, drink or smoke when using this product.
		P264-a	Wash hands thoroughly after handling.
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.
		P310	Immediately call a POISON CENTER or

	doctor/physician.
P301	IF SWALLOWED:
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P330	Rinse mouth.

Hazardous ingredients : Nitric acid, ammonium calcium salt

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 : Applicable, Table 65.

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	%	Regulation (EC) No. 1272/2008 [CLP]	Type
Nitric acid, ammonium calcium salt	RRN: 01-2119493947-16 EC: 239-289-5 CAS : 15245-12-2	>= 90 - 100	Acute Tox. 4, H302 Eye Dam. 1, H318	[1]
disodium tetraborate pentahydrate	RRN: 01-2119490790-32 EC: 215-540-4	>= 2 - <= 2.5	Eye Irrit. 2, H319 Repr. 1B, H360	[1] [2]

	CAS : 12179-04-3 Index: 005-011-02-9			

Type
[1] Substance classified with a physical, health or environmental hazard
[2] Substance with a workplace exposure limit
[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
[5] Substance of equivalent concern

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

Remarks : 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

4.1 Description of first aid measures

Eye contact : Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Check for and remove any contact lenses. Get medical attention immediately.

Inhalation : If inhaled, remove to fresh air. Get medical attention immediately. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus.

Skin contact : Gently wash with plenty of soap and water. Do not rub affected area. 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. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

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

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	:	No specific fire or explosion hazard.
Hazardous combustion products	:	Decomposition products may include the following materials: nitrogen 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).

6.3 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.

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). 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. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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

Product/ingredient name	Exposure limit values
disodium tetraborate pentahydrate	**NAOSH (2018-08-21).** TWA 2 mg/m3

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
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
Nitric acid, ammonium calcium salt	DNEL	Short term Oral	10 mg/kg bw/day	General population [Consumers]	Systemic

PNECs

Product/ingredient name	Type	Compartment Detail	Value	Method Detail
Nitric acid, ammonium calcium salt	PNEC	Sewage Treatment Plant	18 mg/l	Assessment Factors

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, 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. > 8 hours (breakthrough time): Protective gloves should be worn under normal conditions of use.
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

9.1 Information on basic physical and chemical properties

Appearance

Physical state	:	Solid (granulates)
Color	:	White.,
Odor	:	Odorless.
Odor threshold	:	Not determined.
pH	:	5 - 7 [Conc.: 50 g/l]
Melting point/freezing point	:	90 - 100 °C
Initial boiling point and boiling range	:	Not relevant/applicable due to nature of the product.

Flash point	:	Not applicable
Evaporation rate	:	Not determined
Flammability (solid, gas)	:	Non-flammable.
Upper/lower flammability or explosive limits	:	**Lower:** Not determined **Upper:** Not determined
Vapor pressure	:	Not determined
Vapor density	:	Not determined
Relative density	:	Not applicable.
Bulk density	:	1,050 - 1,150 kg/m3
Solubility(ies)	:	100 g/l @ 20 °C Easily soluble in the following materials: cold water
Water solubility	:	> 1,000 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
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

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

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Method	Species	Result	Exposure	References
Nitric acid, ammonium calcium salt					
	OECD 423 LD50 Oral	Rat	500 mg/kg	Not applicable.	CSR
	OECD 402 LD50 Dermal	Rat	2,000 - 5,000 mg/kg	Not applicable.	CSR
disodium tetraborate pentahydrate					
	LD50 Oral	Rat	2,000 - 5,000 mg/kg	Not applicable.	IUCLID
	LD50 Dermal	Rabbit	> 5,000 mg/kg	Not applicable.	IUCLID

Conclusion/Summary : Harmful if swallowed.

Acute toxicity estimates

Product/ingredient name	Oral	Dermal	Inhalation (gases)	Inhalation (vapors)	Inhalation (dusts and mists)
No tradename available.	512.3 mg/kg	N/A	N/A	N/A	N/A
Nitric acid, ammonium calcium salt	500 mg/kg	N/A	N/A	N/A	N/A

Irritation/Corrosion

Product/ingredient name	Method	Species	Result	Exposure	References
Nitric acid, ammonium calcium salt					
	OECD 405 Eyes	Rabbit	Damage	24 - 72 h	CSR

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

Sensitization

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

Mutagenicity

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

Carcinogenicity

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

Reproductive toxicity

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

Information on the likely routes of exposure: : Not available.

Potential acute health effects

Inhalation : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : Harmful if swallowed. May cause burns to mouth, throat and stomach.

Skin contact : No known significant effects or critical hazards.

Eye contact : Causes serious eye damage.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : No specific data.

Ingestion : Adverse symptoms may include the following: stomach pains

Skin contact : Adverse symptoms may include the following: irritation, redness

Eye contact : Adverse symptoms may include the following: pain, 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	References
Nitric acid, ammonium calcium salt					
	OECD 407 Sub-acute NOAEL Oral	Rat	> 1,000 mg/kg	28 days	CSR

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.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Method	Species	Result	Exposure	References
Nitric acid, ammonium calcium salt					
	Acute LC50 Fresh water	Fish	447 mg/l	48 h	IUCLID 5
	OECD 202 Acute EC50 Fresh water	Daphnia	> 100 mg/l	48 h	CSR
	OECD 201 Acute LC50 Fresh water	Algae	> 100 mg/l	72 h	IUCLID 5
	OECD 209 Acute EC50 Activated sludge	Activated sludge	> 1,000 mg/l	3 h	CSR
disodium tetraborate pentahydrate					
	Acute LC50 Fresh water	Fish	> 100 mg/l	96 h	IUCLID
	Acute EC50 Fresh water	Daphnia	> 100 mg/l	48 h	IUCLID
	Acute EC50 Fresh water	Algae	> 100 mg/l	72 h	IUCLID

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

12.2 Persistence and degradability

Conclusion/Summary : Readily biodegradable in plants and soils.

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 : This product may move with surface or groundwater flows because its water solubility is: high

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 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

Regulation: ADR/RID	
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	No.
Additional information	

Regulation: ADN	
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	No.
Additional information	
Danger code : Not applicable.	

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	No.
Additional information	

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	No.
Additional information	

Marine pollutant	:	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.

14.7 Transport in bulk according to IMO instruments : Not applicable.

14.8 IMSBC

Bulk cargo shipping name	:	CALCIUM NITRATE FERTILIZER
Class	:	Not applicable.
Group	:	C
Marpol V	:	Non-HME

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 pentahydrate	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 : Applicable, Table 65.

Other EU regulations

Europe inventory	:	All components are listed or exempted.
Industrial emissions (integrated pollution prevention and control) - Air	:	Not listed
Industrial emissions (integrated pollution prevention and control) - Water	:	Not listed

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.

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

Other regulations	:	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. Please see https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/policies/crisis-and-terrorism/explosives/explosives-precursors/docs/list_of_competent_authorities_and_national_contact_points_en.pdf.

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
Acute Tox. 4, H302	Calculation method
Eye Dam. 1, H318	Calculation method

Full text of abbreviated H statements

H302	Harmful if swallowed.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H360	May damage fertility or the unborn child.

Full text of classifications [CLP/GHS]

Acute Tox. 4	ACUTE TOXICITY oral - Category 4
Eye Dam. 1	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Repr. 1B	TOXIC TO REPRODUCTION - Category 1B

Revision comments : The following sections contain new and updated information: 15, Annex.

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Date of previous issue :
Version : 5.0
Prepared by : Yara Chemical Compliance (YCC).

|| 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 : YaraLiva NITRABOR

Exposure Scenario/Safe Use Information : For each hazard resulting in classification relevant Exposure Scenarios are attached.

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

Section 1 — Title

Short title of the exposure scenario	:	Yara - Nitric acid, ammonium calcium salt - Distribution, Formulation
Identified use name	:	Industrial distribution. Industrial USE to formulate fertilisers product mixtures. Industrial USE to formulate chemical product mixtures. Formulation by incorporating the product onto or into a matrix.
Substance supplied to that use in form of	:	As such, In a mixture

List of use descriptors

Process Category	:	PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, ESCOM, PROC13, PROC14, PROC15, PROC19, PROC28
Environmental Release Category	:	ERC02, ERC03
Market sector by type of chemical product	:	PC01, PC04, PC09a, PC11, PC12, PC16, PC20, PC21, PC29, PC35, PC37, PC39, PC 0: Other: K15000, R30 200, H15100, PC 0: Other: UCN P15100, PC 0: Other: UCN K35000, O05990, O40000
Subsequent service life relevant for that use	:	No.

Number of the ES	:	08014-3/2018-08-06

Section 2 – Exposure controls

Contributing scenario controlling environmental exposure for: All

This product is not classified according to EU legislation., As no environmental hazard was identified, no environmental-related exposure assessment and risk characterization was performed.

Contributing scenario controlling worker exposure for:

Product characteristics	:	Inorganic salt.
Concentration of substance in mixture or article	:	<= 100 %
Physical state	:	Solid. Liquid.
Dust	:	Solid, low dustiness
Frequency and duration of use	:	Use duration (h/d): <= 8
Area of use:	:	Indoor
Ventilation control measures	:	Provide a basic standard of general ventilation (1 to 3 air changes per hour).

Conditions and measures related to personal protection and hygiene

Advice on general occupational hygiene	:	Pay attention to good general hygiene and housekeeping., Wash hands before breaks and after work., Do not eat, drink or smoke when using this product.
Personal protection	:	Wear suitable coveralls to prevent exposure to the skin., Chemical splash goggles or face shield. Wear suitable gloves tested to EN374., breakthrough time: 480 min, Recommended, nitrile, butyl rubber, chloroprene rubber, 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 estimation and reference to its source	:	Not applicable.

Exposure estimation and reference to its source - Workers:		
Exposure assessment (human):	:	Qualitative approach used to conclude safe use.
Exposure estimation and reference to its source	:	Oral exposure is not expected to occur. Inhalation exposure is considered to be not relevant. See Section 8 in SDS, DNEL.

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

Environment	:	Not applicable.
Health	:	Comply with the safety instructions., Risk management measures are based on qualitative risk characterisation.

Abbreviations and acronyms

Process Category	:	PROC01 - Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions 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) ESCOM - Synthesis PROC13 - Treatment of articles by dipping and pouring PROC14 - Tabletting, compression, extrusion, pelletization, granulation PROC15 - Use as laboratory reagent PROC19 - Manual activities involving hand contact PROC28 - Manual maintenance (cleaning and repair) of machinery
Environmental Release Category	:	ERC02 - Formulation into mixture ERC03 - Formulation into solid matrix
Market sector by type of chemical product	:	PC01 - Adhesives, sealants PC04 - Anti-freeze and de-icing products PC09a - Coatings and paints, thinners, paint removers PC11 - Explosives PC12 - Fertilizers PC16 - Heat transfer fluids PC20 - Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents PC21 - Laboratory chemicals PC29 - Pharmaceuticals PC35 - Washing and cleaning products PC37 - Water treatment chemicals PC39 - Cosmetics, personal care products PC 0: Other: K15000 - Coagulation agents R30 200 - Raw materials for production of glass and ceramics H15100 - Curing Agents - Concrete hardeners PC 0: Other: UCN P15100 - Accelerators PC 0: Other: UCN K35000 - Construction materials (building materials) O05990 - Drilling chemicals - Other drilling chemicals O40000 - Oxidizing agent.

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

Section 1 — Title

Short title of the exposure scenario	:	Yara - Nitric acid, ammonium calcium salt - 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	:	As such, In a mixture

List of use descriptors

Process Category	:	PROC05, PROC08a, PROC08b, PROC09, PROC11, PROC13, PROC15, PROC19, PROC26
Environmental Release Category	:	ERC08b, ERC08e
Market sector by type of chemical product	:	PC12
Sector of end use	:	SU01, SU10
Subsequent service life relevant for that use	:	No.

Number of the ES	:	08017-3/2018-08-06

Section 2 — Exposure controls

Contributing scenario controlling environmental exposure for: All

This product is not classified according to EU legislation., As no environmental hazard was identified, no environmental-related exposure assessment and risk characterization was performed.

Contributing scenario controlling worker exposure for:

Product characteristics	:	Inorganic salt.
Concentration of substance in mixture or article	:	<= 100 %
Physical state	:	Solid. Liquid.
Dust	:	Solid, low dustiness
Frequency and duration of use	:	Use duration (h/d): <= 8
Area of use:	:	Indoor, Outdoor
Ventilation control measures	:	Provide a basic standard of general ventilation (1 to 3 air changes per hour)., No special ventilation requirements.

Conditions and measures related to personal protection and hygiene

Advice on general occupational hygiene	:	Pay attention to good general hygiene and housekeeping., Wash hands and face before breaks and immediately after handling the product., Do not eat, drink or smoke when using this product.
Personal protection	:	Wear suitable coveralls to prevent exposure to the skin., Chemical splash goggles or face shield., Wear suitable gloves tested to EN374., butyl rubber, chloroprene rubber, nitrile, 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 - Workers:

Exposure assessment (human):	:	Qualitative approach used to conclude safe use.
Exposure estimation and reference to its source	:	Oral exposure is not expected to occur. Inhalation exposure is considered to be not relevant. See Section 8 in SDS, DNEL.

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

Environment	:	Not applicable.
Health	:	Comply with the safety instructions., Risk management measures are based on qualitative risk characterisation.

Abbreviations and acronyms

Process Category	:	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) PROC11 - Non industrial spraying PROC13 - Treatment of articles by dipping and pouring PROC15 - Use as laboratory reagent PROC19 - Manual activities involving hand contact PROC26 - Handling of solid inorganic substances at ambient temperature
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
Sector of end use	:	SU01 - Agriculture, forestry, fishery SU10 - Formulation [mixing] of preparations and/or re-packaging (excluding alloys)