



SAFETY DATA SHEET

YaraLiva CALCINIT

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

1.1 Product identifier

Product name : YaraLiva CALCINIT
EC number : 239-289-5
REACH Registration number : 01-2119493947-16
CAS number : 15245-12-2
Product code : PA34IP
Product type : solid (Prills)
Other means of identification : nitric acid, ammonium calcium salt

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

Identified uses
Industrial distribution of substance. Professional formulation of fertiliser products. Professional USE of substance as fertiliser at Farm - loading and spreading (includes soil conditioning). Consumer USE of fertilisers. Industrial USE of substance to formulate fertilisers product mixtures. Professional USE of substance as fertiliser in Greenhouse (e.g. Fertigation, includes pH control of fertiliser solution with acid). Professional USE of substance as liquid fertiliser in open field (e.g. Fertigation). Professional USE of substance 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 : yara.uk.hesq@yara.com

1.4 Emergency telephone number

National advisory body/Poison : Not available.

Center**Supplier**

Telephone number : National Chemical Emergency Centre
+44 (0) 1865 407333

Hours of operation : 24h

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture**

Product definition : Mono-constituent substance

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


Classification : Acute Tox.4, H302
Eye Dam./Irrit.1, H318

Classification according to Directive 67/548/EEC [DSD]

Classification : Xn, R22
Xi, R41

See Section 16 for the full text of the R phrases or 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 : Harmful if swallowed.
Causes serious eye damage.

Precautionary statements

Prevention : Wear protective gloves and eye protection. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response :
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

Storage : Not applicable.
Disposal : Not applicable.

Supplemental label elements : Not applicable.

Special packaging requirements

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

Tactile warning of danger : Not applicable.

2.3 Other hazards

Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII : No.

Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : No.

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

SECTION 3: Composition/information on ingredients

Substance/mixture : Mono-constituent substance

Product / ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
nitric acid, ammonium calcium salt	RRN: 01- 2119493947-16 EC: 239-289-5 CAS : 15245-12-2	100	Xn; R22 Xi; R41	Acute Tox. 4 H302 Eye Dam./Irrit. 1 H318	[1]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] PBT-substance

[4] vPvB-substance

See Section 16 for the full text of the R phrases or H statements declared above.

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

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water for at least 15 minutes, keeping eyelids open. Get medical attention immediately.
- Inhalation** : Avoid breathing dust. If inhaled, remove to fresh air.
- Skin contact** : Avoid prolonged or repeated contact with skin. After handling, always wash hands thoroughly with soap and water. Get medical attention if irritation develops.
- Ingestion** : Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.
- 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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- 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.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : Harmful if swallowed. May cause burns to mouth, throat and stomach.

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:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : 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 thermal decomposition products : These products are
nitrogen oxides
metal oxide/oxides

Remark : Non-flammable substance.

5.3 Advice for firefighters

Special precautions 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.

Additional information : None.

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.

For emergency responders : If specialised 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. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Material free from contamination can be used for its original purpose.

Large spill : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Material free from contamination can be used for its original purpose.

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

Protective measures : Put on appropriate personal protective equipment (see Section 8). 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. Product forms slippery surface when combined with water.

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

Recommendations : 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. Separate from reducing agents and combustible materials. Keep away from acids or bases. Keep away from: organic materials, oil and grease.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

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).

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

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 European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Derived effect levels

Product / ingredient name	Type	Exposure	Value	Population	Effects
nitric acid, ammonium calcium salt	DNEL	Long term Dermal	13.9 mg/kg bw/day	Workers	Systemic
nitric acid,	DNEL	Long term	24.5 mg/m ³	Workers	Systemic

ammonium calcium salt		Inhalation			
nitric acid, ammonium calcium salt	DNEL	Long term Dermal	8.33 mg/kg bw/day	Consumers	Systemic
nitric acid, ammonium calcium salt	DNEL	Long term Inhalation	6.3 mg/m ³	Consumers	Systemic
nitric acid, ammonium calcium salt	DNEL	Long term Oral	8.33 mg/kg bw/day	Consumers	Systemic

Predicted effect concentrations

Product / ingredient name	Type	Compartment Detail	Value	Method Detail
nitric acid, ammonium calcium salt	PNEC	Fresh water	0.45 mg/l	Assessment Factors
nitric acid, ammonium calcium salt	PNEC	Marine	0.045 mg/l	Assessment Factors
nitric acid, ammonium calcium salt	PNEC	Intermittent release.	4.5 mg/l	Assessment Factors
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 : 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.

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

Body protection : Additional body garments should be used (e.g. sleevelets, apron, disposable suit etc.), based on the task being performed.

- Other skin protection** : Under normal conditions of handling and use, no additional skin protection measures should be necessary.
- Respiratory protection** : In case of inadequate ventilation wear respiratory protection. Recommended: Filter P2 (EN 143)
- 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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : solid (Prills)
- Color** : White.
- Odor** : Odorless.
- Odor threshold** : Not determined.
- pH** : 5 - 7 [Conc.: 110 g/l]
- Melting point/freezing point** : 400 °C
- Initial boiling point and boiling range** : Not determined.
- Flash point** : Not determined.
- Evaporation rate** : Not determined.
- Flammability (solid, gas)** : Not determined.
- Burning time** : Not determined.
- Burning rate** : Not determined.
- Upper/lower flammability or explosive limits** : Lower: Not determined.
Upper: Not determined.
- Vapor pressure** : Not determined.
- Vapor density** : Not determined.
- Relative density** : 2.05
- Solubility(ies)** : Easily soluble in the following materials:
cold water
- Quantitative Solubility in Water** : > 100 g/l
- Partition coefficient: n-octanol/water** : Not determined.
- Auto-ignition temperature** : Not determined.
- Viscosity** : Dynamic: Not determined.
Kinematic: Not determined.
- Explosive properties** : None.
- 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** : Stable under recommended storage and handling conditions (see section 7).
- 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. Keep away from heat, sparks and flame. Store away from direct sunlight.
- 10.5 Incompatible materials** : acids
alkalis
combustible materials
reducing materials
organic materials
- 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	Result	Species	Dose	Exposure	References
nitric acid, ammonium calcium salt					
	LD50 Oral	Rat	> 300 mg/kg	-	IUCLID 5
	LD50 Dermal	Rat	> 2,000 mg/kg	-	IUCLID 5

Conclusion/Summary : Harmful if swallowed.

Irritation/Corrosion

Product / ingredient name	Result	Species	Score	Exposure	Observation	References
nitric acid, ammonium calcium salt	Eyes - Severe irritant	Rabbit		24 - 72 h	21 d	IUCLID 5

Conclusion/Summary

- Skin** : Non-irritating to the skin.
- Eyes** : Causes serious eye damage.
- Respiratory** : Non-irritating to the respiratory system.

Sensitization**Conclusion/Summary**

- Skin** : Not sensitizing
Respiratory : Not determined.

Mutagenicity

- Conclusion/Summary** : No mutagenic effect.

Carcinogenicity

- Conclusion/Summary** : No carcinogenic effect.

Teratogenicity

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

Reproductive toxicity

Product / ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure	References
nitric acid, ammonium calcium salt	Negative	Negative	Negative	Rat	Oral: 1500 mg/kg	53 days	IUCLID 5

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

blistering may occur

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

Potential delayed effects : None identified.

Long term exposure

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

Potential delayed effects : None identified.

Potential chronic health effects

Product / ingredient name	Result	Species	Dose	Exposure	References
nitric acid, ammonium calcium salt	Sub-acute NOAEL Oral	Rat	> 1000 mg/kg	28days	IUCLID 5

Conclusion/Summary : Not toxic.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Toxicokinetics

Absorption : Rapidly absorbed.

Distribution :
Enters the systemic circulation without passing through liver tissues.

Metabolism : Rapidly metabolized.
Metabolized to the following:
Ca²⁺
NH₄⁺
NO₃⁻

Elimination : Excreted via the urine.
The chemical and its metabolites are fully excreted and do not accumulate within the body.

SECTION 12: Ecological information

12.1 Toxicity

Product / ingredient name	Result	Species	Exposure	References
Nitric acid, ammonium calcium salt				
	Acute LC50 447 mg/l Fresh water	Fish	48 h	IUCLID 5
	Acute EC50 > 100 mg/l Fresh water	Daphnia	48 h	IUCLID 5
	Acute LC50 > 100 mg/l Fresh water	Aquatic plants	72 h	IUCLID 5

Conclusion/Summary : The product does not show any bioaccumulation phenomena. The product is not expected to harm the environment when used properly according to directions.

12.2 Persistence and degradability

Conclusion/Summary : Readily biodegradable in plants and soils.

12.3 Bioaccumulative potential

Product / ingredient name	LogPow	BCF	Potential	References
Nitric acid, ammonium calcium salt	< 0	-		

12.4 Mobility in soil

Soil/water partition coefficient (KOC) : < 1

Mobility : This product may move with surface or groundwater flows because its water solubility is: > 100 g/l

12.5 Results of PBT and vPvB assessment

PBT : P: No.
B: No.
T: No.

vPvB : vP: No.
vB: No.

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. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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.

Hazardous waste : Yes.

European waste catalogue (EWC)

Waste code	Waste designation
06 03 14	solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13

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/ADNR	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name				
14.3 Transport hazard class(es)				

14.4 Packing group					
14.5. Environmental hazards		No.	No.	No.	No.
14.6 Additional information	Hazard identification number / HI/Kemler number				
	Limited quantity				
	Special provisions				
	Tunnel code				
	Emergency schedules				
	Marine pollutant	No.	No.	No.	No.
	Passenger and Cargo Aircraft				Quantity limitation: Packaging instructions:
	Cargo Aircraft Only				Quantity limitation: Packaging instructions:
	Remarks				

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

14.8 IMSBC

: Not applicable.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Europe inventory : All components are listed or exempted.
Integrated pollution prevention and control list (IPPC) - Air : Not listed
Integrated pollution prevention : Not listed

and control list (IPPC) - Water
Hazardous incident ordinance

Remark : Not applicable.
National regulations

15.2 Chemical Safety : Complete.
Assessment

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
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
bw = Body weight

Key literature references and sources for data : EU REACH IUCLID5 CSR
Regulation (EC) No 1272/2008 Annex VI
National Institute for Occupational Safety and Health, U.S.
Dept. of Health, Education, and Welfare, Reports and
Memoranda Registry of Toxic Effects of Chemical
Substances
Atrion International Inc. 4777 Levy Street, St Laurent,
Quebec HAR 2P9, Canada

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

Classification	Justification
Acute Tox. 4, H302 Eye Dam./Irrit. 1, H318	On basis of test data On basis of test data

Full text of abbreviated H statements : H302 Harmful if swallowed.
H318 Causes serious eye damage.

Full text of classifications [CLP/GHS] : Acute Tox.4 ACUTE TOXICITY ORAL Category 4
Eye Dam./Irrit.1 SERIOUS EYE DAMAGE/ EYE IRRITATION Category 1

Full text of abbreviated R phrases : R22- Harmful if swallowed.
R41- Risk of serious damage to eyes.

Full text of classifications [DSD/DPD] : Xn - Harmful
Xi - Irritant

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Version : 1.
Prepared by : Yara Product Classifications & Regulations.

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:**

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : YaraLiva CALCINIT



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.

List of use descriptors

Identified use name :

- Professional USE of substance as fertiliser in Greenhouse (e.g. Fertigation, includes pH control of fertiliser solution with acid).
- Professional USE of substance as liquid fertiliser in open field (e.g. Fertigation).
- Professional USE of substance as fertiliser at Farm - loading and spreading (includes soil conditioning).
- Professional formulation of fertiliser products.
- Professional USE of substance as fertiliser - maintenance of equipment.
- Industrial USE of substance to formulate fertilisers product mixtures.
- Industrial distribution of substance.

Process Category : PROC11, PROC13, PROC19, PROC26

Substance supplied to that use in form of : As such

Sector of end use : SU01, SU10, SU22

Subsequent service life relevant for that use : No.

Environmental Release Category : ERC05, ERC08b, ERC08e

Market sector by type of chemical product : PC12

Article category related to subsequent service life : Not applicable.

Environmental contributing scenarios : All - ERC05, ERC08b, ERC08e

Health Contributing scenarios : All - PROC11, PROC13, PROC19, PROC26,

<p>Number of the ES : YESWNAAC003F</p> <p>Processes and activities covered by the exposure scenario :</p>	<p>Agricultural industry Professional applications Formulation of the substance and its mixtures in batch or continuous operations within closed or contained systems, including incidental exposures during storage, materials transfers, mixing, maintenance, sampling and associated laboratory activities</p> <p>Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tableting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance</p>
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and associated laboratory activities. Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities. Use of the substance within laboratory settings within enclosed or contained systems, including incidental exposures during material transfers and equipment cleaning.

Additional information : Not applicable.

Section 2 – Exposure controls

Contributing exposure scenario controlling environmental exposure for: All

Not applicable., This product is not classified according to EU legislation., No exposure assessment presented for the environment.

Contributing exposure scenario controlling worker exposure for: All

Product Characteristics	:	Inorganic salt.
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100% (unless stated differently).
Physical state	:	Solid., Granulate, Liquid., Melt, Prills
Dust	:	Solid, low dustiness.
Frequency and duration of use	:	Covers daily exposures up to 8 hours (unless stated differently)., Covers frequency up to: daily, weekly, monthly, yearly use.
Human factors not influenced by risk management	:	Contributing Scenario: Not applicable.
Other operational conditions affecting worker exposure	:	Not applicable.
Area of use:	:	Indoor/Outdoor use.
Technical conditions and measures at process level (source) to prevent release	:	Observe the usage/storage instructions.
Technical conditions and measures to control dispersion from source towards the worker	:	Automate activity where possible., Ensure control measures are regularly inspected and maintained.
Engineering controls	:	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings., Only allow access to authorised persons.
Ventilation control	:	Only use product in a well-ventilated area., Provide a good

measures	standard of general ventilation (not less than 3 to 5 air changes per hour)., Ensure the ventilation system is regularly maintained and tested.
Product substance-related measures	: Store in a dry place., Store in a closed container., Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10)., Store in accordance with all local, regional, national and international regulations.
Product safety-related measures	: Avoid contact with eyes.
Organisational measures to prevent/limit releases, dispersion and exposure	: Only allow access to authorised staff., Extraction:., Use appropriate containment to avoid environmental contamination., If necessary:., Use complete process isolation technology., Automate activity where possible., Ensure operatives are trained to minimise exposure., No action shall be taken involving any personal risk or without suitable training., Ensure control measures are regularly inspected and maintained.
Conditions and measures related to personal protection, hygiene and health evaluation	
Personal protection	: Avoid contact with skin and eyes., Avoid breathing dust or mist., Wear eye/face protection., Wear apron or coverall if there is a risk of exposure to splashes., See Section 8 of the safety data sheet (personal protective equipment).
Respiratory protection	: No personal respiratory protective equipment normally required., If ventilation is inadequate, use respirator that will protect against dust/mist., The information on personal protective equipment is valid for handling both individual components, as well as for the processed mixture.

Section 3 – Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: All	
Exposure assessment (environment):	: Qualitative approach used to conclude safe use.
Exposure estimation	: Exposures are low and do not exceed limit values. See Section 8 in SDS, PNEC.

Exposure estimation and reference to its source - Workers: All	
Exposure assessment (human):	: Qualitative approach used to conclude safe use.
Exposure estimation	: Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. See section 8 in SDS, DNEL.

Section 4 – Guidance to Downstream User to evaluate if 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., Used in excess quantities the product can cause eutrophication in water.
Health	:	Refer to special instructions/safety data sheet., Comply with the safety instructions., Risk management measures (RMM), In accordance with, Classification and labeling according to Regulation (EC) 1272/2008 (CLP)

Abbreviations and acronyms

Process Category	:	PROC11 - Non industrial spraying PROC13 - Treatment of articles by dipping and pouring PROC19 - Hand-mixing with intimate contact and only PPE available PROC26 - Handling of solid inorganic substances at ambient temperature
Sector of end use	:	SU01 - Agriculture, forestry, fishery SU10 - Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental Release Category	:	ERC05 - Industrial use resulting in inclusion into or onto a matrix ERC08b - Wide dispersive indoor use of reactive substances in open systems ERC08e - Wide dispersive outdoor use of reactive substances in open systems
Market sector by type of chemical product	:	PC12 - Fertilizers