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SAFETY DATA SHEET

OPTI-P 0-20-0

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

1.1 Product identifier

Product name : OPTI-P 0-20-0
EC number : 266-030-3
REACH Registration number : 01-2119493057-33
CAS number : 65996-95-4
Product code : PL502G
Product type : Solid (Granular solid.)
Other means of identification : Triple superphosphates

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

Identified uses
Professional formulation of fertiliser products. Professional distribution. Professional USE as a laboratory/research chemical. Professional USE as chemical/process nutrient. Professional USE as fertiliser at Farm - loading and spreading. Professional USE as fertiliser in Greenhouse. Professional USE as liquid fertiliser in open field (e.g. Fertigation). Professional USE as fertiliser - maintenance of equipment. Industrial USE to formulate fertilisers product mixtures. Industrial distribution.

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 Norge AS

Address

Street : Drammensveien 131
Postal code : 0277
City : Oslo
Country : Norway

P.O. Box Address

P.O. Box : 343 Skøyen
Postal code : 0213
City : Oslo
Country : Norway

Telephone number : +47 24 15 71 10
 Fax no. : +47 24 15 71 83
 e-mail address of person responsible for this SDS : sds.landbruk@yara.com

1.4 Emergency telephone number

National advisory body/Poison Center

Name : Giftinformasjonen (Poison Center)
 Telephone number : +47 22 59 13 00
 Hours of operation : 24h

Supplier

Telephone number : +47 21 03 44 52
 Hours of operation : (7/24)

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 : Eye Dam./Irrit. 1, H318

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

Classification : 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 : Causes serious eye damage.

Precautionary statements

Prevention : Wear protective gloves and eye protection.
 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.

EU Regulation (EC) No. 1907/2006 (REACH) Annex XVII - Restrictions on the manufacture, placing on the market and use of certain : Not applicable.

dangerous substances,
mixtures and articles

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

SECTION 3: Composition/information on ingredients

3.1 Substances : Mono-constituent substance

Product / ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
Triple superphosphates	RRN: 01-2119493057- 33 EC: 266-030-3 CAS : 65996-95-4	100	Xi; R41	Eye Dam./Irrit. 1 H318	[A]

Type

[A] Constituent
[B] Impurity
[C] Stabilizing additive

See Section 16 for the full text of the R phrases or 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 and hence require reporting in this section.

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 : Flush contaminated skin with plenty of water. Wash contaminated

clothing thoroughly with water before removing it, or wear gloves. Chemical burns must be treated promptly by a physician. Get medical attention immediately.

- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention 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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

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.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : 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** : No specific data.
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None identified.

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 : 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 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 : Not available.

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.
- 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. Bund storage facilities to prevent soil and water pollution in the event of spillage.

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** : If this product contains ingredients with exposure limits,

procedures

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.

DNELs/DMELs

Product / ingredient name	Type	Exposure	Value	Population	Effects
Triple superphosphates	DNEL	Long term Dermal	17,4 mg/kg bw/day	Workers	Systemic
Triple superphosphates	DNEL	Long term Inhalation	3,1 mg/m ³	Workers	Systemic

PNECs

Product / ingredient name	Type	Compartment Detail	Value	Method Detail
Triple superphosphates	PNEC	Fresh water	1,7 mg/l	Assessment Factors
Triple superphosphates	PNEC	Marine water	0,17 mg/l	Assessment Factors
Triple superphosphates	PNEC	Intermittent release.	17 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. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. A washing facility or water for eye and skin cleaning purposes should be present.

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 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 and should be approved by a specialist before handling this product.

- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : 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 (Granular solid.)
- Color** : Pale brown. Gray.
- Odor** : Acrid.
- Odor threshold** : Not determined.
- pH** : 3,6 [Conc. (% w/w): 10 g/l]

- Melting point/freezing point** : Not determined
- Initial boiling point and boiling range** : Decomposes: > 200 °C
- Flash point** : Not determined
- Evaporation rate** : Not determined
- Flammability (solid, gas)** : Non-flammable.

- Upper/lower flammability or explosive limits** : **Lower:** Not determined
Upper: Not determined
- Vapor pressure** : 0,000084 hPa @ 20 °C

- Vapor density** : Not determined
- Relative density** : 2,09 @ 20 °C

- Bulk density** : Not determined
- Density** : 2,09 g/cm³
- Solubility(ies)** : 1 - 100 g/l
Partially soluble in the following materials:
cold water

- 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** : 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** : Decomposes on heating.
- 10.5 Incompatible materials** : May react or be incompatible with alkalis.
Remark : Urea
- 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
Triple superphosphates					
	LD50 Oral	Rat	> 2.000 mg/kg 425 Acute Oral Toxicity: Up-and-Down Procedure	-	IUCLID 5
	LC50 Inhalation	Rat	> 5 mg/l OECD 403	4 h	IUCLID 5
	LD50 Dermal	Rat	> 5.000 mg/kg OECD 402	-	IUCLID 5

Conclusion/Summary : Not toxic.

Irritation/Corrosion

Product / ingredient name	Result	Species	Score	Exposure	Observation	References
Triple superphosphates	Eyes - Severe irritant OECD 405	Rabbit			-	IUCLID 5

Conclusion/Summary

- Skin** : May cause skin irritation.
- Eyes** : Corrosive to eyes.
- Respiratory** : No data available for this end-point, hence this classification is not considered to be applicable.

Sensitization

Product / ingredient	Route of exposure	Species	Result	References
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name				
Triple superphosphates	Skin	Mouse	Not sensitizing 429 Skin Sensitization: Local Lymph Node Assay	IUCLID 5

Conclusion/Summary_

Skin : Not determined.
Respiratory : Not determined.

Mutagenicity

Product / ingredient name	Test	Experiment	Result	References
Triple superphosphates	OECD 471	In vitro; Bacteria	Negative	IUCLID 5

Conclusion/Summary : No mutagenic effect.

Carcinogenicity

Conclusion/Summary : No carcinogenic effect.

Reproductive toxicity

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

Teratogenicity

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

Information on the likely routes of exposure : No known significant effects or critical hazards.

Potential acute health effects

Inhalation : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.
Ingestion : 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 : No specific data.
Skin contact : No specific data.
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
Triple superphosphates	Sub-chronic NOAEL Oral	Rat	250 mg/kg OECD 422	90 days	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.

SECTION 12: Ecological information

12.1 Toxicity

Product / ingredient name	Result	Species	Exposure	References
Triple superphosphates	Acute LC50 1.790 mg/l	Aquatic invertebrates. Water flea	72 h	IUCLID 5
	Acute EC50 > 87,6 mg/l OECD 201	Aquatic plants - Algae	72 h	IUCLID 5
	Acute EC50 > 100 mg/l Fresh water OECD 209	Micro-organism - Activated sludge	3 h	IUCLID 5

Conclusion/Summary : Practically non-toxic to aquatic organisms.

12.2 Persistence and degradability

Conclusion/Summary : Readily biodegradable in plants and soils. The product does not show any bioaccumulation phenomena.

Product / ingredient name	Aquatic half-life	Photolysis	Biodegradability	References
Triple superphosphates			Not relevant for inorganic substances.	

12.3 Bioaccumulative potential

Conclusion/Summary : This product is not expected to bioaccumulate through food chains in the environment.

12.4 Mobility in soil

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

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : No.

vPvB : 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 : The classification of the product may meet the criteria for a hazardous waste.

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.

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	
14.3 Transport hazard class(es)	
14.4 Packing group	
14.5 Environmental hazards	No.
14.6 Additional information	

Regulation: ADN	
14.1 UN number	Not regulated.
14.2 UN proper shipping name	
14.3 Transport hazard class(es)	
14.4 Packing group	
14.5 Environmental hazards	No.
14.6 Additional information	
<u>Marine pollutant</u>	: No.
<u>Danger code</u>	: Not applicable.

Regulation: IMDG	
14.1 UN number	Not regulated.
14.2 UN proper shipping name	
14.3 Transport hazard class(es)	
14.4 Packing group	
14.5 Environmental hazards	No.
14.6 Additional information	
<u>Marine pollutant</u>	: No.

Regulation: IATA	
14.1 UN number	Not regulated.
14.2 UN proper shipping name	
14.3 Transport hazard class(es)	
14.4 Packing group	
14.5 Environmental hazards	No.
14.6 Additional information	
<u>Marine pollutant</u>	No.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable.

14.8 IMSBC

Bulk cargo shipping name : Triple superphosphate
Class : Not applicable.
Group : C

SECTION 15: Regulatory information

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

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

Annex XIV - List of substances subject to authorization
Substances of very high concern:

Other EU regulations

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

Seveso II Directive

This product is not controlled under the Seveso II Directive.

National regulations

- Notes** : To our knowledge no other country or state specific regulations are applicable.
- 15.2 Chemical Safety Assessment** : This product contains substances for which Chemical Safety Assessments are still required.

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
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number
 PBT = Persistent, Bioaccumulative and Toxic
 vPvB = Very Persistent and Very Bioaccumulative
 bw = Body weight

- Key literature references and sources for data** : EU REACH 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.
 IHS, 4777 Levy Street, St Laurent, Quebec HAR 2P9, Canada.
 Regulation (EC) No 1272/2008 Annex VI.

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

Classification	Justification
Eye Dam./Irrit. 1, H318	Calculation method

- Full text of abbreviated H statements** : H318 Causes serious eye damage.
- Full text of classifications [CLP/GHS]** : **Eye Dam./Irrit. 1, H318:** SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
- Full text of abbreviated R phrases** : R41- Risk of serious damage to eyes.
- Full text of classifications [DSD/DPD]** : Xi - Irritant

Revision comments : See Section 1 for supplier contact information.
Date of printing : 04.11.2014
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Version : 1.0
Prepared by : Yara Product Classifications & Regulations.

|| 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:**

Identification of the substance or mixture

Product definition : Mono-constituent substance

Product name : OPTI-P 0-20-0



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

Section 1: — Title

Short title of the exposure scenario : Yara - Triple superphosphates - Professional

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 for dilution or suspension of liquid or solid fertilizers.
Professional USE as liquid fertiliser in open field (e.g. Fertigation).
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 : PROC02, PROC08a, PROC08b, PROC09, PROC13, PROC19
Environmental Release Category : ERC08b, ERC08d, ERC08e
Market sector by type of chemical product : PC12, PC20
Sector of end use : SU22

Number of the ES : YESWTSP003

Section 2: — Exposure controls

Contributing exposure scenario controlling environmental exposure for: All

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

Contributing exposure scenario controlling worker exposure for: All

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently)., Liquids > 25 %

Physical state : Solid.
Liquid.

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 : 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	: Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.
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 measures	: Only use product in a well-ventilated area., Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan., 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., Wear eye or face protection.
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 exposures., 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 breathing dust or mist., Avoid contact with skin and eyes., Wear eye/face protection., Wear suitable coveralls to prevent exposure to the skin., 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., See Section 8 for information on appropriate personal protective equipment.

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** : See Section 8 in SDS, PNEC.

Exposure estimation and reference to its source - Workers:

- Exposure assessment (human):** : Contributing Scenario : **All**
Qualitative approach used to conclude safe use.
- Exposure estimation** : Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.
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.
- Health** : Refer to special instructions/safety data sheet.

Abbreviations and acronyms

- Process Category** : PROC02 - Use in closed, continuous process with occasional controlled exposure
PROC08a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
PROC08b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC09 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
PROC13 - Treatment of articles by dipping and pouring
PROC19 - Hand-mixing with intimate contact and only PPE available
- Environmental Release Category** : ERC08b - Wide dispersive indoor use of reactive substances in open systems
ERC08d - Wide dispersive outdoor use of processing aids in open systems
ERC08e - Wide dispersive outdoor use of reactive substances in open systems
- Market sector by type of chemical product** : PC12 - Fertilizers
PC20 - Products such as ph-regulators, flocculants, precipitants, neutralization agents
- Sector of end use** : SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)



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

Section 1: — Title

Short title of the exposure scenario : Yara - Triple superphosphates - Industrial

Identified use name : Industrial USE to formulate fertilisers product mixtures.
Industrial USE to formulate chemical product mixtures.

Substance supplied to that use in form of : As such, In a mixture

List of use descriptors

Process Category : PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC13, PROC14, PROC15

Environmental Release Category : ERC02, ERC05

Market sector by type of chemical product : PC12

Sector of end use : SU01, SU03, SU10

Subsequent service life relevant for that use : No.

<p>Number of the ES</p> <p>Industry Association</p> <p>Processes and activities covered by the exposure scenario</p>	<p>: YESWTSP002</p> <p>: Not applicable.</p> <p>: 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 Use of the substance within laboratory settings within enclosed or contained systems, including incidental exposures during material transfers and equipment cleaning. 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. Covers the use of the substance for the treatment of water at industrial facilities in open and closed systems. Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities. Covers the use as a component of cleaning products including transfer from storage, pouring/unloading from drums or containers. Exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand), related equipment cleaning and maintenance.</p>
<p>Additional information</p>	<p>: Not applicable.</p>

Section 2: — Exposure controls

Contributing exposure scenario controlling environmental exposure for: All

Product Characteristics	: Solid
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100% (unless stated differently)., aqueous preparations
Frequency and duration of use	: 8 h (full shift). Covers frequency up to: daily, weekly, monthly, yearly use.
Other operational conditions of use affecting environmental exposure	: Not applicable.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	: Air emission controls are not applicable as there is no direct release to air., Soil emission controls are not applicable as there is no direct release to soil.
Risk management measures - Air	: Not applicable.
Risk management measures - Water	: Dispose of waste in accordance with environmental legislation.
Organisational measures to prevent/limit release from site	: Prevent leaks and prevent soil/water pollution caused by leaks., Prevent entry into sewers, basements or confined areas. Dike if necessary.
Conditions and measures related to municipal sewage treatment plant	: Risk from exposure via the aquatic environment is driven by effluent releases to freshwater.
Conditions and measures related to external recovery of waste	: Not applicable.
Suitable recovery operations	: Not applicable.

Contributing exposure scenario controlling worker exposure for: All

Product Characteristics	: Acidic corrosive material
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100% (unless stated differently)., In liquid preparations > 25 %
Physical state	: Solid. Liquid.
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	: Not applicable.
Other operational	: Not applicable.

conditions affecting worker exposure

- Area of use:** : Indoor/Outdoor use.
- Technical conditions and measures at process level (source) to prevent release** : Observe the usage/storage instructions.
- 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 exposures., 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** : Wear eye/face protection., Face shield., Splash goggles., Use safety eyewear designed to protect against splash of liquids., CEN: EN166, Wear suitable gloves (tested to EN374), coverall and eye protection., See Section 8 of the safety data sheet (personal protective equipment).

Section 3: — Exposure estimation and reference to its source**Exposure estimation and reference to its source - Environment: All**

- Exposure assessment (environment):** : Qualitative approach used to conclude safe use.
- Exposure estimation** : Not applicable.

Exposure estimation and reference to its source - Workers:

- Exposure assessment (human):** : Contributing Scenario : **All**
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., No additional risk management measures required.
- Health** : Risk Management Measures, In accordance with, Classification and labeling according to Regulation (EC) 1272/2008 (CLP)

Abbreviations and acronyms

- Process Category** : PROC02 - Use in closed, continuous process with occasional

controlled exposure
 PROC03 - Use in closed batch process (synthesis or formulation)
 PROC04 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC05 - Mixing or blending in batch processes for formulation of preparations* and articles (multistage and/or significant contact)
 PROC08a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
 PROC08b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC09 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
 PROC13 - Treatment of articles by dipping and pouring
 PROC14 - Production of preparations* or articles by tableting, compression, extrusion, pelletisation
 PROC15 - Use as laboratory reagent

Environmental Release Category	:	ERC02 - Formulation of preparations* ERC05 - Industrial use resulting in inclusion into or onto a matrix
Market sector by type of chemical product	:	PC12 - Fertilizers
Article category related to subsequent service life	:	- Not applicable.
Sector of end use	:	SU01 - Agriculture, forestry, fishery SU03 - Industrial uses: Uses of substances as such or in preparations* at industrial sites SU10 - Formulation [mixing] of preparations and/or re-packaging (excluding alloys)