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

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SAFETY DATA SHEET

YaraVita Zintrac

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

1.1 Product identifier

Product name	:	YaraVita Zintrac
Product code	:	PYP48M
Product type	:	Liquid

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. Formulation by incorporating the product onto or into a matrix. 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 AB

Address

Street	:	Östra Varvsgatan

Number	:	4
Postal code	:	211 75
City	:	Malmö
Country	:	Sweden

P.O. Box Address

P.O. Box	:	BOX 4505
Postal code	:	203 20
City	:	Malmö
Country	:	Sweden
Telephone number	:	0101396000
Fax no.	:	0101396001
e-mail address of person responsible for this SDS	:	yara.kundservice@yara.com

1.4 Emergency telephone number

Section 1. National advisory body/Poison Center

Name	:	Giftinformationscentralen / Swedish Poisons Information Centre
Telephone number	:	112 – begär Giftinformation / 112 – ask for Poison Information
Hours of operation	:	24h

Supplier

Emergency telephone number (with hours of operation)	:	08 5664 2573 (Carechem, 24 h)

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	:	Aquatic Acute 1, H400 Aquatic Chronic 1, H410

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 : Warning

Hazard statements :
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention : P273 Avoid release to the environment.
Response : P391 Collect spillage.

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 3.

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 : None.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
zinc oxide	RRN: 01-2119463881-32 EC: 215-222-5	>= 50 - <= 65	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[1] [2]

	CAS : 1314-13-2 Index: 030-013-00-7			
ethanediol	RRN: 01-2119456816-28 EC: 203-473-3 CAS : 107-21-1 Index: 603-027-00-1	>= 5 - <= 7	Acute Tox. 4, H302 STOT RE 2, H373 (oral)	[1] [2]
pyridine-2-thiol 1-oxide, sodium salt	RRN: 01-2119493385-28 EC: 223-296-5 CAS : 3811-73-2	>= 0,001 - < 0,01	Acute Tox. 4, H302 Acute Tox. 3, H311 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 M-factor: 10 - AQUATIC HAZARD (LONG-TERM), 100 - AQUATIC HAZARD (ACUTE),	[1]

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.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Rinse with plenty of running water. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Avoid inhalation of vapor, spray or mist. If inhaled, remove to fresh air.

Skin contact	:	Wash with soap and water. Get medical attention if irritation develops.
Ingestion	:	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink.
Protection of first-aiders	:	No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

Eye contact	:	No specific data.
Inhalation	:	No specific data.
Skin contact	:	No specific data.
Ingestion	:	No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	:	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments	:	No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Use 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	:	In a fire or if heated, a pressure increase will occur and the container may burst. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
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. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages

into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

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

SECTION 7: Handling and storage

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

7.1 Precautions for safe handling

Not for human or animal consumption.

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. 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.

Seveso Directive - Reporting thresholds

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
E1	100 t	200 t

7.3 Specific end use(s)

Recommendations : Not available.

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
zinc oxide	**Work environment authority Regulation 2018:1 (1996-08-01).** TWA 5 mg/m3 Form: Total dust
ethanediol	**Work environment authority Regulation 2018:1 (2005-10-01). Absorbed through skin..** TWA 25 mg/m3 10 ppm STEL 104 mg/m3 40 ppm

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
zinc oxide	DNEL	Long term Inhalation	5 mg/m³	Workers	Systemic
ethanediol	DNEL	Long term Inhalation	35 mg/m³	Workers	Local
	DNEL	Long term Dermal	106 mg/kg	Workers	Systemic

PNECs

Product/ingredient name	Type	Compartment Detail	Value	Method Detail
zinc oxide	PNEC	Fresh water	20,6 µg/l	Assessment Factors
	PNEC	Salt water	6,1 µg/l	Assessment Factors
	PNEC	Fresh water sediment	235,6 mg/kg	Assessment Factors
	PNEC	Sediment	113 mg/kg	Assessment Factors
	PNEC	Soil	106,8 mg/kg	Assessment Factors
	PNEC	Sewage Treatment Plant	52 µg/l	Assessment Factors
ethanediol	PNEC	Fresh water	10 mg/l	Assessment Factors
	PNEC	Marine water	1 mg/l	Assessment Factors
	PNEC	Sewage Treatment Plant	199,5 mg/l	Assessment Factors
	PNEC	Fresh water sediment	37 mg/kg dwt	Equilibrium Partitioning
	PNEC	Marine water sediment	3,7 mg/kg dwt	Equilibrium Partitioning
	PNEC	Soil	1,53 mg/kg dwt	Equilibrium Partitioning

8.2 Exposure controls

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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.

Skin protection

Hand protection	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. For general applications, we recommend gloves with a thickness typically greater than 0.35 mm. It should be emphasized that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material.
Body protection	:	Personal protective equipment for the body should be selected based on the task being performed and the risks involved.
Other skin protection	:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	:	In case of inadequate ventilation wear respiratory protection.
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	:	Liquid (Suspension)
Color	:	White.,
Odor	:	Odorless.
Odor threshold	:	Not determined.
pH	:	9 [Conc.: 1.000 g/l]

Melting point/freezing point	:	-7 °C
Initial boiling point and boiling range	:	100 °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	:	Not determined
Vapor density	:	Not determined
Relative density	:	Not applicable.
Bulk density	:	Not applicable.
Density	:	1,734 g/cm3
Solubility(ies)	:	Not applicable.
Miscibility with water	:	Miscible in water.
Partition coefficient: n-octanol/water	:	Not determined
Auto-ignition temperature	:	Not determined
Viscosity	:	**Dynamic:** 1.500 - 2.500 mPa.s **Kinematic:** Not determined
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	:	Urea reacts with calcium hypochlorite or sodium hypochlorite to form the explosive nitrogen trichloride.

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
zinc oxide					
	LD50 Oral	Rat	> 5.000 mg/kg	Not applicable.	IUCLID 5
	LC50 Inhalation Dusts and mists	Rat	> 5,7 mg/l	4 h	IUCLID 5
	OECD 402 LD50 Dermal	Rat	> 5.000 mg/kg	Not applicable.	ECHA
ethanediol					
	LD50 Oral	Rat	7.712 mg/kg	Not applicable.	ECHA
pyridine-2-thiol 1-oxide, sodium salt					
	OECD 401 LD50 Oral	Rat	1.208 mg/kg	Not applicable.	ECHA
	LC50 Inhalation Dusts and mists	Rat	1,08 mg/l	4 h	ECHA
	LD50 Dermal	Rabbit	720 mg/kg	Not applicable.	SDS

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

Acute toxicity estimates

Product/ingredient name	Oral	Dermal	Inhalation (gases)	Inhalation (vapors)	Inhalation (dusts and mists)
YaraVita Zintrac	8.672,1 mg/kg	N/A	N/A	N/A	N/A
ethanediol	500 mg/kg	N/A	N/A	N/A	N/A
pyridine-2-thiol 1-oxide, sodium salt	1.208 mg/kg	720 mg/kg	N/A	N/A	1,08 mg/l

Irritation/Corrosion

Product/ingredient name	Method	Species	Result	Exposure	References
pyridine-2-thiol 1-oxide, sodium salt					

	Eyes	Rabbit	Irritant		ECHA
	OECD 404 Skin	Rabbit	Irritant		ECHA

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

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
ethanediol	Category 2	oral	-

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

Potential acute health effects

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

Ingestion : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Eye contact : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : No specific data.

Ingestion : No specific data.
Skin contact : No specific data.
Eye contact : No specific data.

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

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

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
zinc oxide					
	Acute NOEC Fresh water	Fish.	0,026 - 0,075 mg/l	720 h	IUCLID 5
	Acute LC50 Fresh water	Crustaceans	0,14 mg/l	24 h	IUCLID 5
	Acute EC50 Fresh water	Water flea	1 - 10 mg/l	48 h	IUCLID 5
	OECD 201 Acute IC50 Fresh water	Algae	0,136 mg/l	72 h	IUCLID
ethanediol					
	Acute LC50 Fresh water	Fish	> 72.860 mg/l	96 h	ECHA

pyridine-2-thiol 1-oxide, sodium salt					
	OECD 203 Acute LC50 Fresh water	Fish	0,0066 mg/l	96 h	ECHA
	Acute EC50 Fresh water	Daphnia	0,022 mg/l	48 h	ECHA
	Acute EC50 Fresh water	Algae	0,46 mg/l	96 h	ECHA

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

12.2 Persistence and degradability

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

12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
ethanediol	-1,36	Not applicable.	low

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

12.4 Mobility in soil

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

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

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

12.6 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 : Unused product can be spread on field according to current recommendations or be treated as hazardous waste.

Hazardous waste : Yes.

European waste catalogue (EWC)

Waste code	Waste designation

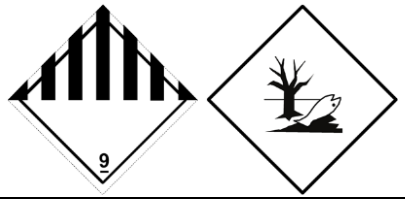
06 03 13*	solid salts and solutions containing heavy metals

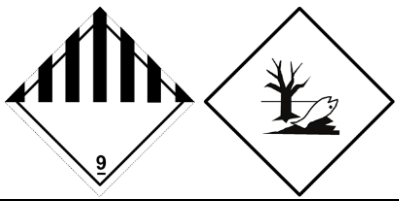
Packaging

Methods of disposal : The collection of empty package is done through SVEP-retur, www.svepretur.se

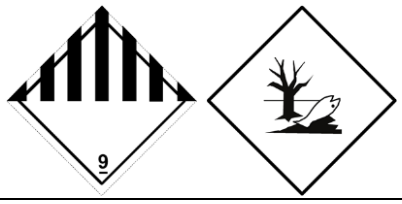
Special precautions : This material and its container must be disposed of in a safe way.
Care should be taken when handling emptied containers that have not been cleaned or rinsed out.
Empty containers or liners may retain some product residues.
Avoid dispersal of spilled material and runoff and contact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

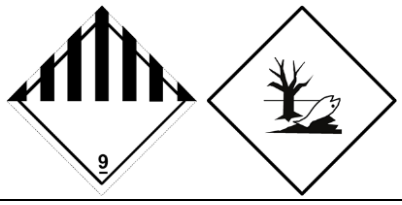
SECTION 14: Transport information

Regulation: ADR/RID	
14.1 UN number	3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (zinc oxide,)
14.3 Transport hazard class(es)	9 
14.4 Packing group	III
14.5 Environmental hazards	Yes.
Additional information	
Hazard identification number : 90	

Regulation: ADN	
14.1 UN number	3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (zinc oxide,)
14.3 Transport hazard class(es)	9 
14.4 Packing group	III

14.5 Environmental hazards	Yes.
Additional information	
Danger code : N1	

Regulation: IMDG	
14.1 UN number	3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (zinc oxide,)
14.3 Transport hazard class(es)	9 
14.4 Packing group	III
14.5 Environmental hazards	Yes.
Additional information	
Emergency schedules (EmS) : F-A, S-F	

Regulation: IATA	
14.1 UN number	3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (zinc oxide,)
14.3 Transport hazard class(es)	9 
14.4 Packing group	III
14.5 Environmental hazards	Yes.
Additional information	
Marine pollutant : Yes.	

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 available.

14.8 IMSBC : Not applicable.

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

None of the components are listed.

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 3.

Other EU regulations

Europe inventory : Not determined.

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 controlled under the Seveso Directive.

Danger criteria

Category
E1

National regulations

Biocidal products regulation : Not applicable.

Flammable liquid class (SRVFS 2005:10) : Not available.

Flammable liquid class (SRVFS 2005:10) : Not available.

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

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
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
Aquatic Acute 1, H400	Calculation method
Aquatic Chronic 1, H410	Calculation method

Full text of abbreviated H statements

H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Acute Tox. 4	ACUTE TOXICITY oral - Category 4
Acute Tox. 3	ACUTE TOXICITY dermal - Category 3
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Eye Irrit. 2	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Acute Tox. 4	ACUTE TOXICITY inhalation - Category 4
STOT RE 2 (oral)	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (oral) - Category 2
Aquatic Acute 1	AQUATIC HAZARD (ACUTE) - Category 1
Aquatic Chronic 1	AQUATIC HAZARD (LONG-TERM) - Category 1

Revision comments : The following sections contain new and updated information: 3, 11, 12.

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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 : YaraVita Zintrac

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 - zinc oxide - Distribution, Formulation
Identified use name	:	Industrial distribution. Industrial USE to formulate chemical product mixtures. Industrial USE to formulate fertilisers product mixtures. Formulation by incorporating the product onto or into a matrix.
Substance supplied to that use in form of	:	In a mixture

List of use descriptors

Environmental Release Category	:	ERC02, ERC03
Market sector by type of chemical product	:	PC12
Sector of end use	:	SU03
Subsequent service life relevant for that use	:	No.

Number of the ES	:	05203-1/2016-03-30

Section 2 – Exposure controls

Contributing scenario controlling environmental exposure for:

Product characteristics	:	Solid Liquid.
Concentration of substance in mixture or article	:	> 25 %
Amounts used	:	Annual site tonnage < 5000
Frequency and duration of use	:	Continuous release
Environment factors not influenced by risk management	:	Flow rate of receiving surface water (m3/d): 18.000 Local freshwater dilution factor10 Local marine water dilution factor 100
Other conditions affecting environmental exposure	:	Indoor use Residues which cannot be recycled are disposed off as chemical waste.
Technical conditions and measures at process level (source) to prevent release	:	Formulation activity is assumed to be a predominantly enclosed process. Dust capturing and removal techniques are applied on work areas with potential dust generation. Use appropriate containment to avoid environmental contamination.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	:	Specific measures are required.
Risk management measures - Air	:	Treat air emission to provide a typical removal efficiency of, > 90%, Fabric filter, Wet scrubber - particle removal
Risk management	:	Typical on-site wastewater treatment technology provides

measures - Water		removal efficiency of, > 90%, Chemical precipitation or sedimentation or filtration or electrolysis or reverse osmosis or ion exchange
Organizational measures to prevent/limit release from site	:	Activities should only be executed by trained/authorized personnel., Regular inspection/maintenance to prevent fugitive releases/leakage., Regular cleaning of work areas, equipment and floors., Procedures for process control should be implemented to minimise release/exposure.

Contributing scenario controlling worker exposure for:

As no toxicological hazard was identified, no human-related (worker/consumer) exposure assessment and risk characterization was performed.

Section 3 — Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment:

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

Contributing scenario	Annual site tonnage	Release rate	Protection target	Exposure estimate (PEC)	RCR	Remark
ERC02, ERC03	5000		Water	3,4 µg/l	0,16	[1]
ERC02, ERC03	5000		Sediment	45 mg/kg dwt	0,19	[1]
ERC02, ERC03	5000		Soil	41 mg/kg dwt	0,39	[1]
ERC02, ERC03	5000		Sewage treatment	0 mg/l	0	[1]

			plant			

[1] Calculated as Zn

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

Environment	:	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures., Measure or calculate local exposure to assess risk. See tools on www.reach-zinc.eu/
Health	:	Not applicable.

Abbreviations and acronyms

Environmental Release Category	:	ERC02 - Formulation into mixture ERC03 - Formulation into solid matrix
Market sector by type of chemical product	:	PC12 - Fertilizers
Sector of end use	:	SU03 - Industrial uses

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

Section 1 — Title

Short title of the exposure scenario	:	Yara - zinc oxide - Professional, Fertilizer.

Identified use name	:	Professional formulation of fertiliser products. Professional USE as fertiliser at Farm - loading and spreading. Professional USE as fertiliser in Greenhouse. Professional USE as liquid fertiliser in open field. Professional USE as fertiliser - maintenance of equipment.
Substance supplied to that use in form of	:	In a mixture

List of use descriptors

Environmental Release Category	:	ERC08b
Market sector by type of chemical product	:	PC12
Sector of end use	:	SU01, SU10, SU22
Subsequent service life relevant for that use	:	No.

Number of the ES	:	05240-1/2016-04-05

Section 2 — Exposure controls

Contributing scenario controlling environmental exposure for:

Product characteristics	:	Solid Liquid.
Concentration of substance in mixture or article	:	< 40 %
Amounts used	:	Annual site tonnage 100

Frequency and duration of use	:	Continuous release
Environment factors not influenced by risk management	:	Flow rate of receiving surface water (m3/d): 18.000 Local freshwater dilution factor10 Local marine water dilution factor 100
Other conditions affecting environmental exposure	:	Indoor use Residues which cannot be recycled are disposed off as chemical waste.
Technical conditions and measures at process level (source) to prevent release	:	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. Use appropriate containment to avoid environmental contamination.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	:	> 100 tonnes/year: Specific measures are required.
Risk management measures - Air	:	Treat air emission to provide a typical removal efficiency of, > 90%, Fabric filter, Wet scrubber - particle removal
Risk management measures - Water	:	Typical on-site wastewater treatment technology provides removal efficiency of, > 90%, Chemical precipitation or sedimentation or filtration or electrolysis or reverse osmosis or ion exchange
Organizational measures to prevent/limit release from site	:	Activities should only be executed by trained/authorized personnel., Regular inspection/maintenance to prevent fugitive releases/leakage., Regular cleaning of work areas, equipment and floors., Procedures for process control should be implemented to minimise release/exposure.

Contributing scenario controlling worker exposure for:

As no toxicological hazard was identified, no human-related (worker/consumer) exposure assessment and risk characterization was performed.

Section 3 — Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment:

Exposure assessment (environment): : EUSES

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

Predicted exposures are not expected to exceed the PNEC when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Contributing scenario	Annual site tonnage	Release rate	Protection target	Exposure estimate (PEC)	RCR	Remark
ERC08b	100	0,02 %	Water	5,1 µg/l	0,25	[1], [2], [3]
ERC08b	100	0,02 %	Sediment	231 mg/kg dwt	0,98	[1], [2], [3]
ERC08b	100	0,02 %	Soil	41 mg/kg dwt	0,39	[1], [2], [3]
ERC08b	100	0,02 %	Sewage treatment plant	0,046 mg/l	0,435	[1], [2], [3]

[1] Calculated as Zn

[2] PECs include the regional PEC

[3] Release factor to water

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

Environment : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.,

		Measure or calculate local exposure to assess risk. See tools on www.reach-zinc.eu/
Health	:	Not applicable.

Abbreviations and acronyms

Environmental Release Category	:	ERC08b - Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
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) SU22 - Professional uses