Based on: GHS (rev 6) (2015).
Hazardous Products Regulations (HPR)
- Canada

Date of issue/ Date of revision	:	10/07/2020
Date of previous issue	:	05/22/2017
Version	:	3.0

SAFETY DATA SHEET

YaraVita Zintrac

Section 1. Identification

Product identifier	:	YaraVita Zintrac
Product type	:	Liquid (Suspension)
Product code	:	PYP48M

Uses

Area of application	:	Professional applications
Material uses	:	Fertilizers.

Supplier

Supplier's details	:	Yara Canada Inc.

Address

Street	:	1874 Scarth Street
Number	:	Ste 1800
Postal code	:	S4P 4B3
City	:	Regina
Country	:	Canada
Telephone number	:	+1 306 525 7600
Fax no.	:	+1 306 525 2942
e-mail address of person responsible for this SDS	:	yna-hesq@yara.com
Emergency telephone number (with hours of operation)	:	US: Chemtrec 24-hours Emergency Response: 1-800-424-9300 Canada: 24 Hour Emergency service, Canutec 613-996-6666

National advisory body/Poison Center

Name	:	Poisons and Drug Information Service
Telephone number	:	+1 403 944 1414, (800) 332 1414 (Alberta only)

Section 2. Hazards identification

Classification of the substance or mixture.	:	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 1

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements :

H373	May cause damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention	:	P260	Do not breathe gas or vapour.
		P273	Avoid release to the environment.
Response	:	P314-a	Get medical attention if you feel unwell.
		P391	Collect spillage.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	CAS number	% (w/w)
Zinc oxide (ZnO)	1314-13-2	>= 50- <65
1,2-Ethanediol	107-21-1	>= 5- <7

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

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.
Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Rinse with plenty of running water. Check for and remove any contact lenses. Get medical attention following exposure or if feeling unwell.

Inhalation : Avoid inhalation of vapor, spray or mist. If inhaled, remove to fresh air. Get medical attention following exposure or if feeling unwell.

Skin contact : Wash with soap and water. Continue to rinse for at least 10 minutes. Get medical attention if irritation develops. Get medical attention following exposure or if feeling unwell.

Ingestion : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Get medical attention following exposure or if feeling unwell.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	:	No known significant effects or critical hazards.
Inhalation	:	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Skin contact	:	No known significant effects or critical hazards.
Ingestion	:	No known significant effects or critical hazards.

Over-exposure signs/symptoms

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

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	:	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments	:	No specific treatment.
Protection of first-aiders	:	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	:	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	:	None identified.
Specific hazards arising from the chemical	:	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 thermal decomposition 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.
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.
Remark	:	Non-explosive.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. 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".

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.

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 (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Not for human or animal consumption.

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

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

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Bund storage facilities to prevent soil and water pollution in the event of spillage.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Zinc oxide (ZnO)	**CA Alberta Provincial (2009-07-01)** TWA 2 mg/m3 Form: Respirable STEL 10 mg/m3 Form: Respirable **CA British Columbia Provincial (2004-08-01)** TWA 2 mg/m3 Form: Respirable STEL 10 mg/m3 Form: Respirable **CA Ontario Provincial (2015-06-29)** TWA 2 mg/m3 Form: Respirable fraction. STEL 10 mg/m3 Form: Respirable fraction. **CA Quebec Provincial (2000-01-12)** TWA 5 mg/m3 Form: Fume STEL 10 mg/m3 Form: Fume **CA Saskatchewan Provincial (2007-08-10)** TWA 2 mg/m3 Form: respirable dust and fume STEL 10 mg/m3 Form: respirable dust and fume
1,2-Ethanediol	**CA Alberta Provincial (2009-07-01)** CEIL 100 mg/m3 **CA British Columbia Provincial (2004-08-01)** TWA 10 mg/m3 Form: only particles STEL 20 mg/m3 Form: only particles **CA British Columbia Provincial (2010-09-01)** CEIL 100 mg/m3 Form: Aerosol CEIL 50 ppm Form: Vapor **CA Ontario Provincial (2015-06-29)** CEIL 100 mg/m3 Form: Fibers longer than 5 um; diameter less than 3 um; aspect ratio greater than 5:1 as determined by the membrane filter method at 400-450X magnification (4-mm objective) phase contrast illumination. **CA Quebec Provincial (2000-01-12)** STEL 127 mg/m3 50 ppm Form: VAP_MIST **CA Saskatchewan Provincial (2007-08-10)** CEIL 100 mg/m3 Form: Aerosol

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of

environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : A washing facility or water for eye and skin cleaning purposes should be present. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reusing.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

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.

Personal protective equipment (Pictograms) :

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid [Suspension]

Color : White.,

Odor : Odorless.

Odor threshold : Not relevant/applicable due to nature of the product.

pH : 9 [Conc.: 100 g/l] @ 20 °C (68 °F)

Melting/freezing point : -7 °C

Boiling/condensation point : 100 °C (212 °F)

Sublimation temperature : Not determined.

Flash point : Not determined.

Evaporation rate : Not determined.

Flammability (solid, gas) : Non-flammable.

Lower and upper explosive (flammable) limits	:	**Lower:** Not determined. **Upper:** Not determined.
Vapor pressure	:	Not determined.
Bulk density	:	Not applicable.
Density	:	1.734 g/cm3
Relative density	:	Not applicable.
Solubility	:	Not applicable.
Solubility in water	:	Not relevant/applicable due to nature of the product.
Miscibility with water	:	Miscible in water.
Partition coefficient: n-octanol/water	:	Not determined.
Auto-ignition temperature	:	Not determined.
Decomposition temperature	:	Not determined.
Viscosity	:	**Dynamic:** 1,500 - 2,500 mPa.s **Kinematic:** Not determined
Explosive properties	:	Non-explosive.
Oxidizing properties	:	None

Section 10. Stability and reactivity

Reactivity	:	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	:	The product is stable.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	Avoid contamination by any source including metals, dust and organic materials.
Incompatible materials	:	Urea reacts with calcium hypochlorite or sodium hypochlorite to form the explosive nitrogen trichloride.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Method	Species	Result	Exposure	References
Zinc oxide (ZnO)					
	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
1,2-Ethanediol					
	LD50 Oral	Rat	7,712 mg/kg	Not applicable.	ECHA

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

Irritation/Corrosion

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 (single exposure)

No known significant effects or critical hazards.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
1,2-Ethanediol	Category 2	oral	Not determined

Aspiration hazard

No known significant effects or critical hazards.

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

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

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

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

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

Long term exposure

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

Potential chronic health effects

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 : May cause damage to organs through prolonged or repeated exposure.

Over-exposure signs/symptoms

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

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	8,672.1 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Method	Species	Result	Exposure	References
Zinc oxide (ZnO)					
	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	Algae	0.136 mg/l	72 h	IUCLID

	Fresh water				
1,2-Ethanediol					
	Acute LC50 Fresh water	Fish	> 72,860 mg/l	96 h	ECHA

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

Persistence and degradability

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

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
1,2-Ethanediol	-1.36	Not applicable.	low

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

Mobility in soil

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

Mobility : Not available.

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

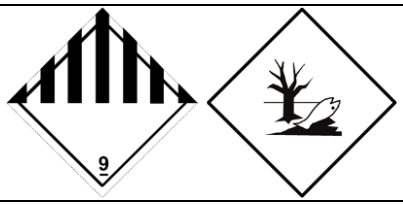
Section 13. Disposal considerations

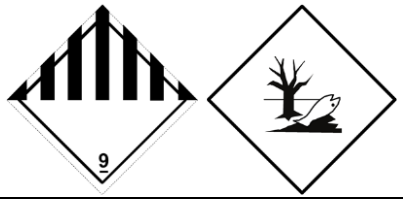
Product

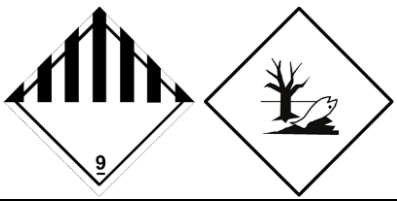
Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

Regulation: UN Class	
14.1 UN number	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 **Environmental hazards** : Yes.	

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 **Marine pollutant** : Yes. **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.	

Regulation: DOT Classification	
14.1 UN number	Not Applicable.
14.2 UN proper shipping name	(zinc oxide,)
14.3 Transport hazard class(es)	
14.4 Packing group	
14.5 Environmental hazards	

Additional information

Regulation: TDG Class	
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

Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.43-2.45 (Class 9), 2.7 (Marine pollutant mark)

Environmental hazards : 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.

IMSBC : Not applicable.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

Canadian lists

Canadian NPRI : The following components are listed: Zinc oxide (ZnO)
1,2-Ethanediol

CEPA Toxic substances : None of the components are listed.

Inventory list

New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Canada inventory: All components are listed or exempted.
United States inventory (TSCA 8b): All components are listed or exempted.
Canada: All components are listed or exempted.

Section 16. Other information

Key to abbreviations : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of

Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
bw = Body weight
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
SUSMP - Standard Uniform Schedule of Medicine and Poisons
SGG = Segregation Group
UN = United Nations

Procedure used to derive the classification

Classification	Justification
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method
AQUATIC HAZARD (ACUTE) - Category 1	Calculation method
AQUATIC HAZARD (LONG-TERM) - Category 1	Calculation method

Key data sources : EU REACH ECHA/IUCLID5 CSR.
National Institute for Occupational Safety and Health, U.S. Dept. of Health, Education, and Welfare, Reports and Memoranda Registry of Toxic Effects of Chemical Substances.
Sphera Solutions Inc., 4777 Levy Street, St Laurent, Quebec HAR 2P9, Canada.

History

Date of printing : 10/26/2020
Date of issue/Date of revision : 10/07/2020
Date of previous issue : 05/22/2017
Revision comments : The following sections contain new and updated information: 3, 9.
Version : 3.0
Prepared by : Yara Chemical Compliance (YCC).

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

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