

Conforms: GHS (rev 4) (2011)

(This Safety Data Sheet conforms to the requirements of the Hazard Communication Standard (HCS) (29 CFR 1910.1200(g)), revised in 2012.) - United States

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Version : 3.1



SAFETY DATA SHEET

YaraVita Photrel Advance SC

Section 1. Identification

Product identifier : YaraVita Photrel Advance SC.
Product type : liquid
Product code : PYP13M

Uses

Area of application : Professional applications
Material uses : Fertilizers.

Supplier

Supplier's details : Yara North America, Inc.

Address

Street : 100 North Tampa Street, Suite 3200
Postal code : 33602
City : TAMPA
Country : United States

Telephone number : +1 813 222 5700
Fax no. : +1 813 875 5735
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 : The National Poisons Emergency number
Telephone number : 1 800 222 1222

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture. : TOXIC TO REPRODUCTION (Fertility) - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2

GHS label elements

Hazard pictograms



Signal word

: Warning

Hazard statements

: H361 Suspected of damaging fertility or the unborn child.

Precautionary statements

Prevention

: P202 Do not handle until all safety precautions have been read and understood.
P280-d Wear protective gloves/clothing and eye/face protection.

Response

: P308 IF exposed or concerned:
P313-a Get medical attention.

Disposal

: P501 Dispose of contents and container according to local regulations.

Hazards not otherwise classified

: None.

Section 3. Composition/information on ingredients

Substance/mixture

: Mixture

Ingredient name	CAS number	%
Boron calcium oxide (B ₆ Ca ₂ O ₁₁), hydrate (1:5)	12291-65-5	>= 20 - < 25
Ulexite (CaNaH ₁₂ (BO ₃) ₅ .2H ₂ O)	1319-33-1	>= 1 - < 2

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.

Remark

: This product contains Boron (see section 7 and 11).

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 if irritation occurs.

Inhalation

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

- fresh air. Get medical attention if you feel unwell.
- 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. Get medical attention if you feel 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.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
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-flammable.
- Remark** : None.

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).

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

Protective measures

- : Put on appropriate personal protective equipment (see Section 8). Do not handle until all safety precautions have been read and understood. As a precaution, keep exposure as low as possible for pregnant women, children and workers in reproductive age. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. 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. 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.

Specific recommendations to end users

- : Do not generate and inhale liquid fertilizer aerosols.

In addition to overalls, gloves and eye protection, use of efficient respiratory protection (P2/P3 respirators with a tight face seal) during discharge of fertilizer bags and maintenance of equipment is recommended to minimize inhalation exposure and to ensure safe-use during this activity (see section 8).

Risk assessments show safe use during normal spreading of fertilizers containing below 5% of boron by tractor (liquid or granular) and backpack (liquid).

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Ulexite (CaNaH ₁₂ (BO ₃) ₅ .2H ₂ O)	None.
Boron calcium oxide (B ₆ Ca ₂ O ₁₁), hydrate (1:5)	None.

- 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** : Use respiratory protection with more than 94% efficiency (P2, P3 or N95) and a tight face seal, when risk of exposure to dust.

Section 9. Physical and chemical properties

Appearance

Physical state	:	liquid
Color	:	Yellow.
Odor	:	Not determined.
Odor threshold	:	Not determined.
pH	:	10
Melting/freezing point	:	-7 °C (19 °F)
Boiling/condensation point	:	Not determined.
Sublimation temperature	:	Not determined.
Flash point	:	Not determined.
Fire 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.
Relative density	:	1.513
Solubility	:	Not determined.
Partition coefficient: n-octanol/water	:	Not determined.
Auto-ignition temperature	:	Not determined.
Decomposition temperature	:	Not determined.
Viscosity	:	Dynamic: 2,500 - 4,000 mPa.s Kinematic: Not determined.
Explosive properties	:	None.
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	Result	Species	Dose	Exposure	References
Ulexite (CaNaH ₁₂ (BO ₃) ₅ .2H ₂ O)					
	LD50 Dermal	Rabbit	> 5,000 mg/kg	Not applicable.	
Boron calcium oxide (B ₆ Ca ₂ O ₁₁), hydrate (1:5)					
	LD50 Dermal	Rabbit	> 5,000 mg/kg	Not applicable.	

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 : Suspected of damaging fertility. Suspected of damaging the unborn child.

Specific target organ toxicity (single exposure)

No known significant effects or critical hazards.

Specific target organ toxicity (repeated exposure)

No known significant effects or critical hazards.

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 : Suspected of damaging fertility.
Developmental effects : Suspected of damaging the unborn child.
Effects on or via lactation : No known significant effects or critical hazards.
Other effects : 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.

Numerical measures of toxicity**Acute toxicity estimates**

Not available.

Section 12. Ecological information**Toxicity**

Product/ingredient name	Result	Species	Exposure	References
Ulexite (CaNaH ₁₂ (BO ₃) ₅ .2H ₂ O)				
	Acute EC ₅₀ > 100 mg/l Fresh water	Daphnia	48 h	
Boron calcium oxide (B ₆ Ca ₂ O ₁₁), hydrate (1:5)				
	Acute EC ₅₀ > 100 mg/l Fresh water	Daphnia	48 h	

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

Persistence and degradability

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

Bioaccumulative potential

- 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	Not regulated.
14.2 UN proper shipping name	Not applicable.
14.3 Transport hazard class(es)	Not applicable.
14.4 Packing group	Not applicable.
14.5 Environmental hazards	No.
Additional information <u>Environmental hazards</u> : No.	

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

Regulation: IATA	
14.1 UN number	Not regulated.
14.2 UN proper shipping name	Not applicable.
14.3 Transport hazard class(es)	Not applicable.
14.4 Packing group	Not applicable.

14.5 Environmental hazards	No.
Additional information <u>Marine pollutant</u>	: No.

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

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

14.6 Special precautions for user : Transport within user's premises: Ensure that persons transporting the product know what to do in the event of an accident or spillage.

IMSBC : Not applicable.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

United States

U.S. Federal regulations : TSCA 8(a) CDR Exempt/Partial exemption: Not determined
United States - EPA Clean water act (CWA) section 311 - Hazardous substances: Sodium hydroxide (Na(OH)); Ammonia;

Clean Air Act Section 112(b) Hazardous Air Pollutants : Listed

(HAPs)

Clean Air Act Section 602 : Not listed

Class I Substances

Clean Air Act Section 602 : Not listed

Class II Substances

DEA List I Chemicals : Not listed

(Precursor Chemicals)

DEA List II Chemicals : Not listed

(Essential Chemicals)**SARA 302/304****Composition/information on ingredients**

Name	%	EHS	SARA 302/304
Ammonia	>= 0.001 - < 0.01	Yes.	SARA 302 TPQ: 500 lb(s) SARA 304 RQ: 100 lb(s)

SARA 304 RQ : 10000000 lbs

SARA 311/312

Classification : Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	Classification
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SARA 313**Form R - Reporting requirements**

Product name	CAS number	%
Carbonic acid, manganese(2+) salt (1:1)	598-62-9	>= 10 - < 12.5

Supplier notification

Product name	CAS number	%
Carbonic acid, manganese(2+) salt (1:1)	598-62-9	>= 10 - < 12.5

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

New Jersey : None of the components are listed.

Pennsylvania : The following components are listed:
Carbonic acid, manganese(2+) salt (1:1)

California Prop. 65

⚠ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

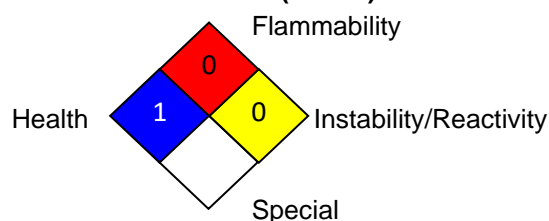
Inventory list

New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.

Canada inventory: All components are listed or exempted.

EC INVENTORY (EINECS/ELINCS): All components are listed or exempted.

Canada: All components are listed or exempted.

Section 16. Other information**National Fire Protection Association (U.S.A.)**

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
TOXIC TO REPRODUCTION (Fertility) - Category 2	Calculation method
TOXIC TO REPRODUCTION (Unborn child) - Category 2	Calculation method

History

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Prepared by : Yara Chemical Compliance (YCC).

Key to abbreviations

- : ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- 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)
- UN = United Nations

Key data sources

- : 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.
- Sphera Solutions Inc., 4777 Levy Street, St Laurent, Quebec HAR 2P9, Canada.

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

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.