

Conforms: GHS (rev 3)(2009)

(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** : 1.0



# SAFETY DATA SHEET

**YaraVita Solatrel**

## Section 1. Identification

**Product name** : YaraVita Solatrel  
**Product type** : Liquid  
**Product code** : PYPAQM

### 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 and labelling have been performed following the guidelines and recommendation of GHS and the intended use.**

**Classification of the substance or mixture** : CORROSIVE TO METALS - Category 1  
SKIN CORROSION/IRRITATION - Category 1  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

**GHS label elements****Hazard pictograms****Signal word**

: Danger

**Hazard statements**

: May be corrosive to metals.  
 Causes severe skin burns and eye damage.  
 May cause damage to organs <or state all organs affected, if known> through prolonged or repeated exposure <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.

**Precautionary statements****Prevention**

: Do not breathe gas or vapour. Wear protective gloves/clothing and eye/face 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.  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

**Storage**

: Keep only in original container.

**Hazards not otherwise classified**

: None.

**Section 3. Composition/information on ingredients****Substance/mixture**

: Mixture

Product / ingredient name	CAS number	%
Phosphoric acid	CAS: 7664-38-2	>=15 - <20
Phosphoric acid, calcium salt (2:1)	CAS: 7758-23-8	>=3 - <5
Nitric acid, manganese(2+) salt (2:1)	CAS: 10377-66-9	>=2 - <3
Phosphoric acid, zinc salt (2:1)	CAS: 13598-37-3	>=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.**

**Section 4. First aid measures****Description of necessary first aid measures****Eye contact**

: Immediately flush eyes with plenty of water for at least 15 minutes, keeping eyelids open. Check for and remove any contact lenses. Get medical attention immediately.

**Inhalation**

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

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- fresh air. Get medical attention immediately. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Chemical burns must be treated promptly by a physician.
- 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** : Causes serious eye damage.
- Inhalation** : Vapor is strongly irritating to the eyes and respiratory system.
- Skin contact** : Causes severe burns.
- 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** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Ingestion** : May cause burns to mouth, throat and stomach.

### **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.
- Specific treatments** : No specific treatment.
- 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.

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.

<b>Specific hazards arising from the chemical</b>	:	In a fire or if heated, a pressure increase will occur and the container may burst. Reacts violently with water. Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air. Acidic. In a fire, decomposition may produce toxic gases/fumes.
<b>Hazardous thermal decomposition products</b>	:	Decomposition products may include the following materials: phosphorus oxides halogenated compounds metal oxide/oxides Avoid breathing dusts, vapors or fumes from burning materials. In case of inhalation of decomposition products in a fire, symptoms may be delayed.
<b>Special protective actions for fire-fighters</b>	:	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.
<b>Special protective equipment for fire-fighters</b>	:	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
<b>Remark</b>	:	Non-flammable.
<b>Remark</b>	:	None.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	:	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. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	:	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".
<b>Environmental precautions</b>	:	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 material for containment and cleaning up

<b>Small spill</b>	:	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. Absorb spillage to prevent material damage. Dispose of via a licensed waste disposal contractor.
<b>Large spill</b>	:	Stop leak if without risk. Move containers from spill area. Absorb spillage to prevent material damage. 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). The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. 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 get in eyes or on skin or clothing. Do not breathe vapor or mist. 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. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container. Spillages should be cleaned up promptly to avoid damage to surrounding materials.

#### 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 in corrosive resistant container with a resistant inner liner. Store locked up. Separate from alkalis. 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
Phosphoric acid	<b>OSHA PEL 1989 (1989-03-01)</b> PEL: Permissible Exposure Level 1 mg/m <sup>3</sup> <b>OSHA PEL 1989 (1989-03-01)</b> Short Term Exposure Limit (STEL) 3

	<p>mg/m<sup>3</sup></p> <p><b>OSHA PEL (1993-06-30)</b> PEL: Permissible Exposure Level 1 mg/m<sup>3</sup></p> <p><b>NIOSH REL (1994-06-01)</b> Time Weighted Average (TWA) 1 mg/m<sup>3</sup></p> <p><b>NIOSH REL (1994-06-01)</b> Short Term Exposure Limit (STEL) 3 mg/m<sup>3</sup></p> <p><b>ACGIH TLV (1994-09-01)</b> TLV-TWA: Threshold Limit Value - Time weighted average PEL: Permissible Exposure Level 1 mg/m<sup>3</sup></p> <p><b>ACGIH TLV (1994-09-01)</b> TLV-STEL: Threshold Limit Value - Short Time Exposure Level 3 mg/m<sup>3</sup></p>
Nitric acid, manganese(2+) salt (2:1)	<p><b>OSHA PEL (1993-06-30)</b> Exposure limit value-ceiling concentration 5 mg/m<sup>3</sup> (expressed as Mn)</p> <p><b>NIOSH REL (1994-06-01)</b> Time Weighted Average (TWA) 1 mg/m<sup>3</sup> (expressed as Mn) Form: Fume</p> <p><b>NIOSH REL (1994-06-01)</b> Short Term Exposure Limit (STEL) 3 mg/m<sup>3</sup> (expressed as Mn) Form: Fume</p> <p><b>OSHA PEL 1989 (1989-03-01)</b> Exposure limit value-ceiling concentration 5 mg/m<sup>3</sup> (expressed as Mn)</p> <p><b>ACGIH TLV (2013-06-14)</b> TLV-TWA: Threshold Limit Value - Time weighted average PEL: Permissible Exposure Level 0.02 mg/m<sup>3</sup> (expressed as Mn) Form: Respirable fraction</p> <p><b>NIOSH REL (2005-09-30)</b></p> <p><b>ACGIH TLV (2013-06-14)</b> TLV-TWA: Threshold Limit Value - Time weighted average PEL: Permissible Exposure Level 0.1 mg/m<sup>3</sup> (expressed as Mn) Form: Inhalable fraction</p>

**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.

**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 If inhalation hazards exist, a full-face respirator may be required instead.

**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.

**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: acid gas filter (Type E)
- Personal protective equipment (Pictograms)** :

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid
- Color** : Red.
- Odor** : Not determined.
- Odor threshold** : Not determined.
- pH** : 1.8
- Melting/freezing point** : < 0 °C (32.00 °F)
- Boiling/condensation point** : Not determined.
- Sublimation temperature** : Not determined.
- Flash point** : Not determined.
- Evaporation rate** : Not determined.
- Flammability** : Non-flammable.
- Lower and upper explosive (flammable) limits** : **Lower:** Not determined.  
**Upper:** Not determined.
- Vapor pressure** : Not determined.
- Relative density** : 1.470
- Solubility** : Not determined.
- Partition coefficient: n-octanol/water** : Not determined.
- Auto-ignition temperature** : Not determined.
- Decomposition temperature** : Not determined.
- Viscosity** : **Dynamic:** < 100 mPa.s
- : **Kinematic:** Not determined.
- Explosive properties** : None.
- Oxidizing properties** : None.

## Section 10. Stability and reactivity

- Reactivity** : May be corrosive to metals. Expert judgment May be corrosive to metals. Expert judgment
- 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** : Attacks many metals producing extremely flammable

hydrogen gas which can form explosive mixtures with air.  
 Reactive or incompatible with the following materials:  
 alkalis  
 metals

**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
Phosphoric acid					
	LD50 Oral	Rat	2,600 mg/kg OECD 423	Not applicable.	IUCLID5
Phosphoric acid, calcium salt (2:1)					
	LD50 Oral	Rat	3,986 mg/kg	Not applicable.	NTIS** OTS0571950
	LD50 Dermal	Rabbit	> 2,000 mg/kg	Not applicable.	NTIS** OTS0571950
Nitric acid, manganese(2+) salt (2:1)					
	LD50 Oral	Rat - Female	> 300 mg/kg	Not applicable.	IUCLID 5
Phosphoric acid, zinc salt (2:1)					
	LD50 Oral	Rat	1,990 mg/kg	Not applicable.	TOVEFN (2),35,1995

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

#### Irritation/Corrosion

Product / ingredient name	Result	Species	Score	Exposure	Observation	References
Phosphoric acid, calcium salt (2:1)	Eyes - Severe irritant OECD 405	Rabbit	Not applicable.		Not applicable.	
Nitric acid, manganese(2+) salt (2:1)	Skin - Severe irritant OECD 404	Rabbit	Not applicable.		Not applicable.	

#### **Conclusion/Summary**

- Skin** : Corrosive to the skin.
- Eyes** : Causes serious eye damage.
- Respiratory** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.



**Sensitization****Conclusion/Summary**

- Skin** : No data available for this end-point, hence this classification is not considered to be applicable.
- Respiratory** : No data available for this end-point, hence this classification is not considered to be applicable.

**Mutagenicity**

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

**Carcinogenicity****Classification**

Product / ingredient name	OSHA	IARC	NTP
Nitric acid, manganese(2+) salt (2:1)		2A	

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

**Reproductive toxicity**

Product / ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure	References
Phosphoric acid	Not applicable.	Negative	Not applicable.	Rat	Oral: > 500 mg/kg bw/day OECD 422	54 days	IUCLID5
Phosphoric acid	Negative	Not applicable	Negative	Rat	Oral: > 410 mg/kg bw/day OECD 414	10 days	IUCLID5
Phosphoric acid	Negative	Not applicable	Negative	Mouse	Oral: > 370 mg/kg bw/day OECD 414	10 days	IUCLID5

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

**Teratogenicity**

- 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
Nitric acid, manganese(2+) salt (2:1)			

#### **Aspiration hazard**

No known significant effects or critical hazards.

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

#### **Potential acute health effects**

- Eye contact** : Causes serious eye damage.
- Inhalation** : Vapor is strongly irritating to the eyes and respiratory system.
- Skin contact** : Causes severe burns.
- Ingestion** : May cause burns to mouth, throat and stomach.

#### **Symptoms related to the physical, chemical and toxicological characteristics**

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Ingestion** : May cause burns to mouth, throat and stomach.

#### **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**

Product / ingredient name	Result	Species	Dose	Exposure	References
Phosphoric acid	NOAEL Oral	Rat	250 mg/kg OECD 422	54days	IUCLID5

**Conclusion/Summary** : May cause damage to organs through prolonged or repeated exposure if inhaled or swallowed.

- General** : May cause damage to organs <or state all organs affected, if known> through prolonged or repeated exposure <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
- 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.

**Over-exposure signs/symptoms**

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Ingestion** : May cause burns to mouth, throat and stomach.

**Numerical measures of toxicity****Acute toxicity estimates**

Route	ATE value
Oral	7,379.3 mg/kg

**Section 12. Ecological information****Toxicity**

Product / ingredient name	Result	Species	Exposure	References
	Acute EC50 > 100 mg/l Fresh water OECD 202	Aquatic invertebrates.	48 h	IUCLID5
	Acute EC50 > 100 mg/l Fresh water OECD 201	Aquatic plants	72 h	IUCLID5
Nitric acid, manganese(2+) salt (2:1)				
	Acute LC50 49.9 mg/l Marine water	Fish - Labeo boga	96 h	IUCLID 5

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

**Persistence/degradability**

Product / ingredient name	Aquatic half-life	Photolysis	Biodegradability
Phosphoric acid, calcium salt (2:1)			
	Not applicable.	Not applicable.	Not relevant for inorganic substances.
Phosphoric acid, zinc salt (2:1)			

	Not applicable.	Not applicable.	Not relevant for inorganic substances.
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**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.

#### **United States - RCRA Acute hazardous waste "P" List:**


Not listed


#### **United States - RCRA Toxic hazardous waste "U" List:**


Not listed


## **Section 14. Transport information**

<b>Regulation: UN Class</b>	
<b>14.1 UN number</b>	3264
<b>14.2 UN proper shipping name</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Phosphoric acid, )
<b>14.3 Transport hazard class(es)</b>	8


	
14.4 Packing group	III
14.5 Environmental hazards	No.
<b>Additional information</b> <u>Environmental hazards</u> : No.	

<b>Regulation: IMDG</b>	
14.1 UN number	3264
14.2 UN proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Phosphoric acid, )
14.3 Transport hazard class(es)	8 
14.4 Packing group	III
14.5 Environmental hazards	
<b>Additional information</b> <u>Marine pollutant</u> : <u>IMDG Code Segregation group</u> : SG01 <u>Emergency schedules (EmS)</u> : F-A, S-B	

<b>Regulation: IATA</b>	
14.1 UN number	3264
14.2 UN proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Phosphoric acid, )
14.3 Transport hazard class(es)	8 
14.4 Packing group	III
14.5 Environmental hazards	
<b>Additional information</b>	

<b>Regulation: DOT Classification</b>	
14.1 UN number	3264
14.2 UN proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. ( )
14.3 Transport hazard class(es)	8 

14.4 Packing group	III
14.5 Environmental hazards	No.
<b>Additional information</b>	
<u>Marine pollutant</u>	:

<b>Regulation: TDG Class</b>	
14.1 UN number	3264
14.2 UN proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. ()
14.3 Transport hazard class(es)	8 
14.4 Packing group	III
14.5 Environmental hazards	No.
<b>Additional information</b>	
<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 73/78 and the IBC Code** : Not available.

## Section 15. Regulatory information

### United States

**HCS Classification** : Toxic material  
Irritating material

**U.S. Federal regulations** : **United States - EPA Clean water act (CWA) section 307 - Priority pollutants:** Listed Phosphoric acid, zinc salt (2:1)  
**United States - EPA Clean water act (CWA) section 311 - Hazardous substances:** Listed Phosphoric acid  
**United States - EPA Clean air act (CAA) section 112 - Accidental release prevention - Flammable substances:** Not listed  
**United States - EPA Clean air act (CAA) section 112 - Accidental release prevention - Toxic substances:** Not listed  
**United States - Department of commerce - Precursor chemical:** Not listed

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

**(HAPs)**

<b>Clean Air Act Section 602 Class I Substances</b>	:	Not listed
<b>Clean Air Act Section 602 Class II Substances</b>	:	Not listed
<b>DEA List I Chemicals (Precursor Chemicals)</b>	:	Not listed
<b>DEA List II Chemicals (Essential Chemicals)</b>	:	Not listed

**SARA 302/304**

Not applicable.

**SARA 304 RQ** : Not applicable.

**SARA 311/312**

**Classification** : Reactive  
Immediate (acute) health hazard  
Delayed (chronic) health hazard

**SARA 313**

		<b><u>Product name</u></b>	<b><u>CAS number</u></b>	<b><u>Concentration</u></b>
<b>Form R - Reporting requirements</b>	:	Nitric acid, manganese(2+) salt (2:1)	10377-66-9	2 - 3
		Phosphoric acid, zinc salt (2:1)	13598-37-3	1 - 2
<b>Supplier notification</b>	:	Nitric acid, manganese(2+) salt (2:1)	10377-66-9	2 - 3
		Phosphoric acid, zinc salt (2:1)	13598-37-3	1 - 2

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

**State regulations**

<b>Massachusetts</b>	:	The following components are listed: Phosphoric acid
<b>New York</b>	:	The following components are listed: Phosphoric acid
<b>New Jersey</b>	:	The following components are listed: Phosphoric acid Phosphoric acid, zinc salt (2:1)
<b>Pennsylvania</b>	:	The following components are listed: Phosphoric acid Nitric acid, manganese(2+) salt (2:1) Phosphoric acid, zinc salt (2:1)

**California Prop. 65**

This product contains a chemical (or chemicals) known to the State of California to cause cancer and birth defects or other reproductive harm.

**International lists**

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

**Japan inventory:** All components are listed or exempted.

**China inventory (IECSC):** All components are listed or exempted.

**Australia inventory (AICS):** All components are listed or exempted.

**Canada inventory (DSL and NDSL):** All components are listed or exempted.

**United States inventory (TSCA 8b):** All components are listed or exempted.

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

**Section 16. Other information****Hazardous Material Information System (U.S.A.)**

Health	*	2
Flammability		0
Physical hazards		0

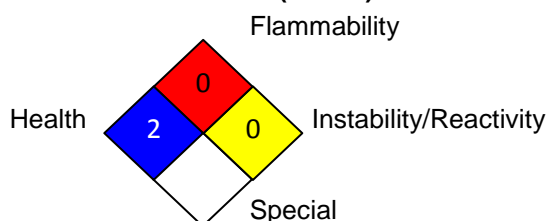
**Caution:** HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

**Chronic toxicity:**

- : No data available.

\* : Carcinogen, Target organs, Reproductive effects, Sensitizer to lungs

**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.

**Key to abbreviations**

- : ADN/ADNR = 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 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 NOHSC - National Occupational Health and Safety Commission  
 RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
 SUSDP - Standard for the Uniform Scheduling of Drugs and Poisons  
 UN = United Nations

## References

- : 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.

## History

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**Prepared by** : Yara Chemical Compliance (YCC).

|| 1) 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.**