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# SAFETY DATA SHEET

pH Down Bloom / Phosphoric acid 59% H<sub>3</sub>PO<sub>4</sub>

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

### 1.1 Product identifier

Product name : Phosphoric acid 59% H<sub>3</sub>PO<sub>4</sub>  
Index number : 015-011-00-6  
EC number : 231-633-2  
REACH Registration number : 01-2119485924-24 Not available.  
CAS number : 7664-38-2  
Product code : PL030L  
Product type : Liquid (Clear viscous liquid. )  
Other means of identification : orthophosphoric acid  
Chemical formula : H<sub>3</sub>PO<sub>4</sub>

### 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. Professional formulation of fertiliser products.

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

Address : Advanced Hydroponics of Holland BV  
Street : Johan Enschedeweg 98  
Number : 1422 DR  
Postal code : Uithoorn  
City : Holland  
Country :  
Telephone number : +31 0297 363 404  
e-mail address of person responsible for this SDS : info@advancedhydro.com

### 1.4 Emergency telephone number

#### National advisory body/Poison Center

Name : Nationaal Vergiftigings Informatie Centrum  
Telephone number : +31 (0) 30 274 88 88 Uitsluitend bestemd om

professionele hulpverleners te informeren bij acute vergiftigingen. (Only intended to inform professionals in acute poisonings.)

Hours of operation : 24h

**Supplier**

Telephone number : +31 (0) 10 44 53 188

Hours of operation : 24 h

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Product definition : Mono-constituent substance

### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification : Met. Corr. 1, H290  
Skin Corr./Irrit. 1B, H314

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

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : C, R34

Human health hazards : Causes burns.

See Section 16 for the full text of the R phrases or H statements declared above.  
See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements : May be corrosive to metals.  
Causes severe skin burns and eye damage.

### Precautionary statements

Prevention : Wear protective gloves and eye protection. Do not breathe gas or vapour.

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.

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

**market and use of certain  
dangerous substances,  
mixtures and articles**

**Special packaging requirements**

Containers to be fitted with  
child-resistant fastenings : Not applicable.  
Tactile warning of danger : Not applicable.

**2.3 Other hazards**

Substance meets the criteria  
for PBT according to  
Regulation (EC) No. 1907/2006,  
Annex XIII : Not applicable.  
Substance meets the criteria  
for vPvB according to  
Regulation (EC) No. 1907/2006,  
Annex XIII : Not applicable.  
Other hazards which do not  
result in classification : None.  
Other hazards which do not  
result in classification : Attacks many metals producing extremely flammable  
hydrogen gas which can form explosive mixtures with air.

## SECTION 3: Composition/information on ingredients

**3.1 Substances** : Mono-constituent substance

Product / ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
phosphoric acid	RRN: 01-2119485924- 24 EC: 231-633-2 CAS : 7664-38-2 Index: 015-011-00-6	>=50 - <65	C; R34	Met. Corr. 1 H290 Skin Corr./Irrit. 1 H314 Eye Dam./Irrit. 1 H318	[A]

Type

[A] Constituent

[B] Impurity

[C] Stabilizing additive

See Section 16 for the full text of the R phrases or H statements declared above.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## SECTION 4: First aid measures

**4.1 Description of first aid measures**

**Eye contact** : Immediately flush eyes with plenty of water for at least 15

minutes, keeping eyelids open. Check for and remove any contact lenses. Get medical attention immediately.

- Inhalation** : Avoid inhalation of vapor, spray or mist. If inhaled, remove to 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 immediately.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

#### **4.2 Most important symptoms and effects, both acute and delayed**

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

- Eye contact** : Causes serious eye damage.
- Inhalation** : Vapor may be irritating to 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** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
Mouth, throat or stomach pains

#### **4.3 Indication of any immediate medical attention and special treatment needed**

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

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None identified.

### 5.2 Special hazards arising from the substance or mixture

**Hazards from the substance or mixture** : 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:  
phosphorus oxides  
Avoid breathing dusts, vapors or fumes from burning materials.  
In case of inhalation of decomposition products in a fire, symptoms may be delayed.

### 5.3 Advice for firefighters

**Special precautions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

**Additional information** : Not available.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**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).

### **6.3 Methods and material 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**

**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. 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.

### **7.2 Conditions for safe storage, including any incompatibilities**

**Recommendations** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Store in corrosive resistant container with a resistant inner liner. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled

containers. Use appropriate containment to avoid environmental contamination. Bund storage facilities to prevent soil and water pollution in the event of spillage.

### 7.3 Specific end use(s)

**Recommendations** : Not available.

**Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

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

### 8.1 Control parameters

#### Occupational exposure limits

Product / ingredient name	Exposure limit values
phosphoric acid	<b>Nationale MAC-lijst (2007-01-01)</b> Time Weighted Average (TWA) 1 mg/m <sup>3</sup> <b>Nationale MAC-lijst (2007-01-01)</b> Short Term Exposure Limit (STEL) 2 mg/m <sup>3</sup> <b>EU OEL (2000-06-01)</b> Time Weighted Average (TWA) 1 mg/m <sup>3</sup> <b>EU OEL (2000-06-01)</b> Short Term Exposure Limit (STEL) 2 mg/m <sup>3</sup>

**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
phosphoric acid	DNEL	Long term Inhalation	2,92 mg/m <sup>3</sup>	Workers	Systemic
phosphoric acid	DNEL	Long term Inhalation	0,73 mg/m <sup>3</sup>	Consumers	Systemic

**PNEC Summary** : Not available.

**8.2 Exposure controls**

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

**Individual protection measures**

**Hygiene measures** : 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: face shield Tightly-fitting goggles CEN: EN166

**Skin protection**

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.  
> 8 hours (breakthrough time): butyl rubber, natural rubber (latex), neoprene, nitrile rubber, PVC, Viton

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved. Recommended: Protective clothing

**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 a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: acid gas filter (Type E) self-contained breathing apparatus (SCBA) Filter P2SL (EN 143, 140)

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****Appearance**

**Physical state** : Liquid (Clear viscous liquid.)  
**Color** : Colorless.  
**Odor** : Odorless.  
**Odor threshold** : Not determined.

<b>pH</b>	:	< 3
<b>Melting point/freezing point</b>	:	< -10 °C
<b>Initial boiling point and boiling range</b>	:	135 - 158 °C
<b>Flash point</b>	:	Not determined
<b>Evaporation rate</b>	:	Not determined
<b>Flammability (solid, gas)</b>	:	Non-flammable.
<b>Upper/lower flammability or explosive limits</b>	:	<b>Lower:</b> Not determined <b>Upper:</b> Not determined
<b>Vapor pressure</b>	:	Not determined
<b>Vapor density</b>	:	Not determined
<b>Relative density</b>	:	Not determined
<b>Bulk density</b>	:	Not determined
<b>Density</b>	:	1,42 g/cm <sup>3</sup>
<b>Miscibility with water</b>	:	Miscible in water.
<b>Partition coefficient: n-octanol/water</b>	:	Not determined
<b>Auto-ignition temperature</b>	:	Not determined
<b>Viscosity</b>	:	<b>Dynamic:</b> Not determined <b>Kinematic:</b> Not determined
<b>Explosive properties</b>	:	None.
<b>Oxidizing properties</b>	:	None.

**9.2 Other information**

No additional information.

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	:	May be corrosive to metals. Expert judgment
<b>10.2 Chemical stability</b>	:	The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	:	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	:	No specific data.
<b>10.5 Incompatible materials</b>	:	Reactive or incompatible with the following materials: metals
<b>10.6 Hazardous decomposition products</b>	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

**11.1 Information on toxicological effects**

**Acute toxicity**

Product / ingredient name	Result	Species	Dose	Exposure	References
phosphoric acid	LD50 Oral	Rat	2.600 mg/kg OECD 423	-	IUCLID5

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

#### Irritation/Corrosion

Product / ingredient name	Result	Species	Score	Exposure	Observation	References
phosphoric acid	Skin - Visible necrosis Primary dermal irritation index (PDII)	Rabbit		1 h	72 h	IUCLID5

#### **Conclusion/Summary**

**Skin** : Corrosive to the skin.  
**Eyes** : Corrosive to eyes.  
**Respiratory** : May be irritating to the respiratory system.

#### Sensitization

#### **Conclusion/Summary\_**

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

#### Mutagenicity

**Conclusion/Summary** : No mutagenic effect.

#### Carcinogenicity

**Conclusion/Summary** : No carcinogenic effect.

#### Reproductive toxicity

Product / ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure	References
phosphoric acid	-	Negative	-	Rat	Oral : > 500 mg/kg bw/day OECD 422	54 days	IUCLID5
	Negative	-	Negative	Rat	Oral : > 410 mg/kg bw/day OECD 414	10 days	IUCLID5
	Negative	-	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.

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

**Potential acute health effects**

**Inhalation** : Vapor may be irritating to eyes and respiratory system.

**Ingestion** : May cause burns to mouth, throat and stomach.

**Skin contact** : Causes severe burns.

**Eye contact** : Causes serious eye damage.

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

**Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing

**Ingestion** : Adverse symptoms may include the following:  
Mouth, throat or stomach pains

**Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur

**Eye contact** : Adverse symptoms may include the following: pain  
watering redness

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

**Short term exposure**

**Potential immediate effects** : Adverse health effects are considered unlikely, when the product is used according to directions.

**Potential delayed effects** : None identified.

**Long term exposure**

**Potential immediate effects** : Adverse health effects are considered unlikely, when the product is used according to directions.

**Potential delayed effects** : None identified.

**Potential chronic health effects**

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

**Conclusion/Summary** : Not toxic.

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

## SECTION 12: Ecological information

### 12.1 Toxicity

Product / ingredient name	Result	Species	Exposure	References
phosphoric acid				
	Acute EC50 > 100 mg/l Fresh water OECD 202	Aquatic invertebrates. Daphnia	48 h	IUCLID5
	Acute EC50 > 100 mg/l Fresh water OECD 201	Aquatic plants - Algae	72 h	IUCLID5

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

### 12.2 Persistence and degradability

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

### 12.3 Bioaccumulative potential

**Conclusion/Summary** : Bioaccumulative potential : Not reported

### 12.4 Mobility in soil

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

**Mobility** : This product may move with surface or groundwater flows because its water solubility is:

### 12.5 Results of PBT and vPvB assessment

**PBT** : Not applicable.

**vPvB** : Not applicable.

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

## SECTION 13: Disposal considerations

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

### 13.1 Waste treatment methods

#### **Product**

**Methods of disposal** : The generation of waste should be avoided or minimized wherever possible. 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.

**Hazardous waste** : Yes.

**European waste catalogue (EWC)**

Waste code	Waste designation
06 01 04*	phosphoric and phosphorous acid

**Packaging**

**Methods of disposal** : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

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

**SECTION 14: Transport information**

**Regulation: ADR/RID**

14.1 UN number	1805
14.2 UN proper shipping name	PHOSPHORIC ACID, SOLUTION
14.3 Transport hazard class(es)	8 
14.4 Packing group	III
14.5 Environmental hazards	No.
14.6 Additional information	
<u>Hazard identification number</u>	: 80
<u>Tunnel code</u>	: (E)

**Regulation: ADN**

14.1 UN number	1805
14.2 UN proper shipping name	PHOSPHORIC ACID, SOLUTION
14.3 Transport hazard class(es)	8 
14.4 Packing group	III
14.5 Environmental hazards	No.
14.6 Additional information	
<u>Danger code</u>	: Not applicable.

**Regulation: IMDG**

14.1 UN number	1805
14.2 UN proper shipping name	PHOSPHORIC ACID SOLUTION

14.3 Transport hazard class(es)	8 
14.4 Packing group	III
14.5 Environmental hazards	No.
14.6 Additional information	
<u>Marine pollutant</u>	:
<u>IMDG Code Segregation group</u>	: SG01
<u>Emergency schedules (EmS)</u>	: F-A, S-B

Regulation: IATA	
14.1 UN number	1805
14.2 UN proper shipping name	PHOSPHORIC ACID, SOLUTION
14.3 Transport hazard class(es)	8 
14.4 Packing group	III
14.5 Environmental hazards	No.
14.6 Additional information	
<u>Marine pollutant</u>	No.

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Proper shipping name : Phosphoric acid  
 Ship type : 3  
 Pollution category : Z

**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  
Substances of very high concern:

Other EU regulations

Europe inventory : All components are listed or exempted.

Seveso II Directive

This product is not controlled under the Seveso II Directive.

National regulations

Water Discharge Policy (ABM) : Slightly harmful to aquatic organisms., Abatement effort:, B

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

**15.2 Chemical Safety Assessment** : Complete.

## SECTION 16: Other information

**Abbreviations and acronyms** :

- ATE = Acute Toxicity Estimate
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- DNEL = Derived No Effect Level
- DMEL = Derived Minimal Effect Level
- EUH statement = CLP-specific Hazard statement
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number
- PBT = Persistent, Bioaccumulative and Toxic
- vPvB = Very Persistent and Very Bioaccumulative
- bw = Body weight

**Key literature references and sources for data** :

- EU REACH IUCLID5 CSR.
- National Institute for Occupational Safety and Health, U.S. Dept. of Health, Education, and Welfare, Reports and Memoranda Registry of Toxic Effects of Chemical Substances.
- IHS, 4777 Levy Street, St Laurent, Quebec HAR 2P9, Canada. Regulation (EC) No 1272/2008 Annex VI.

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

Classification	Justification
Met. Corr. 1, H290 Skin Corr./Irrit. 1B, H314	Calculation method Calculation method

**Full text of abbreviated H statements** :

- H290 May be corrosive to metals.
- H314 Causes severe skin burns and eye damage.

**Full text of classifications [CLP/GHS]** :

- Met. Corr. 1, H290:** CORROSIVE TO METALS - Category 1
- Skin Corr./Irrit. 1B, H314:** SKIN CORROSION/IRRITATION - Category 1B

**Full text of abbreviated R phrases** :

- R34- Causes burns.

**Full text of classifications [DSD/DPD]** :

- C - Corrosive

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**Version** : 1.0

**Prepared by** : Yara Product Classifications & Regulations.

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

### Notice to reader

To the best of our knowledge, the information provided in this Safety Data Sheet is accurate as at the date of its issue. The information it contains is being given for safety guidance purposes and relates only to the specific material and uses described in it. This information does not necessarily apply to that material when combined with other material(s) or when used otherwise than as described herein, since all materials may represent unknown hazards and should be used with caution. Final determination of the suitability of any material is the sole responsibility of the user.



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

**Identification of the substance or mixture**

- Product definition** : Mono-constituent substance
- Product name** : Phosphoric acid 59% H<sub>3</sub>PO<sub>4</sub>  
pH Down Bloom    0,5 ltr = 740 gm<sup>2</sup>
- Exposure Scenario information** : Update of exposure scenarios



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

### Section 1 – Title

**Short title of the exposure scenario** : Yara - orthophosphoric acid - Distribution, Formulation

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

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

#### List of use descriptors

**Process Category** : PROC01, PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC14, PROC15

**Environmental Release Category** : ERC02, ERC03

**Subsequent service life relevant for that use** : No.

**Number of the ES** : 02826-1/2014-01-28

### Section 2 – Exposure controls

#### Contributing exposure scenario controlling environmental exposure for:

**Product Characteristics** : Liquid.  
aqueous preparations  
solid or semi-solid preparations

**Concentration of substance in mixture or article** : 5 - 100 %

**Conditions and measures related to municipal sewage treatment plant** : Neutralisation is normally necessary before waste water is discharged into water treatment plants.

**Suitable waste treatment** : pH adjustment

#### Contributing exposure scenario controlling worker exposure for:

**Product Characteristics** : Acidic corrosive material

**Concentration of substance in mixture or article** : 5 - 100 %

**Physical state** : Solid.  
Melt  
Liquid.  
Aqueous solution

**Dust** : Solid, low dustiness

<b>Frequency and duration of use</b>	:	Unless otherwise stated Use duration (h/d): > 4
<b>Area of use:</b>	:	Indoor
<b>Ventilation control measures</b>	:	Contributing Scenario: <b>PROC07</b> Local exhaust ventilation should be provided. Treatment effectiveness > 95 % Solid, ; Local exhaust ventilation should be provided. Treatment effectiveness > 82 %  Contributing Scenario: <b>PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC14, PROC15</b> No special ventilation requirements.
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>		
<b>Personal protection</b>	:	Causes severe skin burns and eye damage., Wear protective gloves/clothing and eye/face protection., See Section 8 of the safety data sheet (personal protective equipment).
<b>Respiratory protection</b>	:	Contributing Scenario: <b>PROC07</b> > 25 %; Wear appropriate respiratory protection., Treatment effectiveness > 75 %, 5-25 %; No personal respiratory protective equipment normally required. Solid., ; No personal respiratory protective equipment normally required.  Contributing Scenario: <b>PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC14, PROC15</b> No personal respiratory protective equipment normally required.

### Section 3 — Exposure estimation and reference to its source

**Website:** : Workers.; MEASE, <http://www.ebrc.de/mease.html>

<b>Exposure estimation and reference to its source - Environment: All</b>	
<b>Exposure assessment (environment):</b>	: Qualitative approach used to conclude safe use.
<b>Exposure estimation</b>	: Not determined.

<b>Exposure estimation and reference to its source - Workers:</b>	
<b>Exposure assessment (human):</b>	: The MEASE tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation</b>	: See Section 8 in SDS, DNEL. Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

### Section 4 — Guidance to Downstream User to evaluate if he works inside the boundaries set by the ES

<b>Environment</b>	: Not applicable.
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**Health** : 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., For scaling, see, MEASE

### Abbreviations and acronyms

**Process Category** : PROC01 - Use in closed process, no likelihood of exposure  
PROC02 - Use in closed, continuous process with occasional controlled exposure  
PROC03 - Use in closed batch process (synthesis or formulation)  
PROC04 - Use in batch and other process (synthesis) where opportunity for exposure arises  
PROC05 - Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)  
PROC07 - Spraying in industrial settings and applications  
PROC08a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities  
PROC08b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  
PROC09 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  
PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation  
PROC15 - Use a laboratory reagent

**Environmental Release Category** : ERC02 - Formulation of preparations  
ERC03 - Formulation in materials



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

### Section 1 – Title

**Short title of the exposure scenario** : Yara - orthophosphoric acid - Professional, Fertilizer.

**Identified use name** : Professional formulation of fertiliser products.  
Professional USE as fertiliser in Greenhouse.  
Professional USE as liquid fertiliser in open field (e.g. Fertigation).  
Professional USE as fertiliser - maintenance of equipment.

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

#### List of use descriptors

**Process Category** : PROC08a, PROC08b, PROC09, PROC11, PROC13, PROC19  
**Environmental Release Category** : ERC08b, ERC08e  
**Market sector by type of chemical product** : PC12  
**Sector of end use** : SU01  
**Subsequent service life relevant for that use** : No.

**Number of the ES** : 02878-1/2014-02-25

### Section 2 – Exposure controls

#### Contributing exposure scenario controlling environmental exposure for:

**Product Characteristics** : Liquid.  
aqueous preparations  
solid or semi-solid preparations

**Concentration of substance in mixture or article** : 5 - 100 %

**Conditions and measures related to municipal sewage treatment plant** : Neutralisation is normally necessary before waste water is discharged into water treatment plants.

**Suitable waste treatment** : pH adjustment

#### Contributing exposure scenario controlling worker exposure for:

**Product Characteristics** : Acidic corrosive material

**Concentration of substance in mixture or article** : Contributing Scenario: **PROC08a, PROC08b, PROC09, PROC19**  
In solid preparations, In aqueous preparations  
5 - 100 %

	Contributing Scenario: <b>PROC11, PROC13</b> In solid preparations > 25 %
	Contributing Scenario: <b>PROC11, PROC13</b> In aqueous preparations 5 - 25 %
<b>Physical state</b>	: Solid. Melt Liquid. Aqueous solution
<b>Dust</b>	: Solid, low dustiness
<b>Frequency and duration of use</b>	: Unless otherwise stated Use duration (h/d): > 4
	Contributing Scenario : <b>PROC11</b> Outdoor Use duration (h/d): 6
<b>Area of use:</b>	: Indoor/Outdoor use
<b>Ventilation control measures</b>	: Contributing Scenario: <b>PROC11</b> Local exhaust ventilation should be provided. Treatment effectiveness > 77 % Solid, Local exhaust ventilation should be provided. Treatment effectiveness > 72 %
	Contributing Scenario: <b>PROC08a</b> Local exhaust ventilation should be provided. Treatment effectiveness > 90 % Solid, or, Liquid, 5-25 %; No special ventilation requirements.
	Contributing Scenario: <b>PROC08b</b> Local exhaust ventilation should be provided. Treatment effectiveness > 97 % Solid, or, Liquid, 5-25 %; No special ventilation requirements.
	Contributing Scenario: <b>PROC09</b> Local exhaust ventilation should be provided. Treatment effectiveness > 90 % Solid, or, Liquid, 5-25 %; No special ventilation requirements.
	Contributing Scenario: <b>PROC13, PROC19</b> No special ventilation requirements.
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Personal protection</b>	: Causes severe skin burns and eye damage., Wear protective gloves/clothing and eye/face protection., See Section 8 of the safety data sheet (personal protective equipment).
<b>Respiratory protection</b>	: Contributing Scenario: <b>PROC11</b> Liquid, Indoor use, Wear appropriate respiratory protection., Treatment effectiveness > 75 %, Solid., or, Outdoor use, No personal respiratory protective equipment normally required.

**Contributing Scenario: PROC08a**

Liquid, > 25 %; Wear appropriate respiratory protection., Indoor use, Treatment effectiveness > 95 %, Outdoor use, Treatment effectiveness > 75 %, Solid., or, 5-25 %; No personal respiratory protective equipment normally required.

**Contributing Scenario: PROC08b**

Liquid, > 25 %; Wear appropriate respiratory protection., Indoor use, Treatment effectiveness > 75 %, Outdoor use, Treatment effectiveness > 97 %, Solid., or, 5-25 %; No personal respiratory protective equipment normally required.

**Contributing Scenario: PROC09**

Liquid, > 25 %; Wear appropriate respiratory protection., Indoor use, Treatment effectiveness > 80 %, Outdoor use, Treatment effectiveness > 97 %, Solid., or, 5-25 %; No personal respiratory protective equipment normally required.

**Contributing Scenario: PROC13, PROC19**

No personal respiratory protective equipment normally required.

**Section 3 — Exposure estimation and reference to its source**

**Website:** : Workers.; MEASE, <http://www.ebrc.de/mease.html>

**Exposure estimation and reference to its source - Environment:**

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

**Exposure estimation and reference to its source - Workers:**

**Exposure assessment (human):** : The MEASE tool has been used to estimate workplace exposures unless otherwise indicated.

**Contributing Scenario : PROC08a**

Outdoor use  
 liquid  
 > 25 %;  
 Advanced REACH tool (ART).

**Contributing Scenario : PROC11**

Outdoor use  
 Used UK POEM model.

**Exposure estimation** : See Section 8 in SDS, DNEL.  
 Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

**Section 4 — Guidance to Downstream User to evaluate if he works inside the boundaries set by the ES**

**Environment** : Not applicable.

<b>Health</b>	: 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., For scaling, see, MEASE, or, Advanced REACH tool (ART).
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### Abbreviations and acronyms

<b>Process Category</b>	: PROC08a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC08b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC09 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC11 - Spraying outside industrial settings and/or applications PROC13 - Treatment of articles by dipping and pouring PROC19 - Hand-mixing with intimate contact and only PPE available
<b>Environmental Release Category</b>	: ERC08b - Wide dispersive indoor use of reactive substances in open systems ERC08e - Wide dispersive outdoor use of reactive substances in open systems
<b>Market sector by type of chemical product</b>	: PC12 - Fertilizers
<b>Sector of end use</b>	: SU01 - Agriculture, forestry, fishery