

**PHOSPHORIC ACID 75%**

Version 2.0

Print Date 04.03.2023

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Trade name : MS Agricoat Cementex  
Substance name : phosphoric acid  
Index-No. : 015-011-00-6  
CAS-No. : 7664-38-2  
EC-No. : 231-633-2  
EU REACH-Reg. No. : 01-2119485924-24-xxxx

UFI : Q4K9-20JE-W00N-GCNM  
UFI code notified in : Belgium, Germany, Denmark, Estonia, Spain, France, Croatia, Ireland, Iceland, Lithuania, Latvia, Malta, Netherlands, Norway, Poland, Portugal, Sweden

**1.2. Relevant identified uses of the substance or mixture and uses advised against**

Use of the Substance/Mixture : Identified use: See table in front of appendix for a complete overview of identified uses.

Uses advised against : At this moment we have not identified any uses advised against

**1.3. Details of the supplier of the safety data sheet**

Company : Schippers Europe BV  
Smaragdweg 60  
5527 LB Hapert

Telephone : +31(0)497-339 779

**1.4.**

Emergency telephone number : Belgium: Antipoison Center - Brussels TEL: +32(0)70 245 245

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Netherland: National Poisoning Information Center - Bilthoven  
TEL: +31(0) 88 755 8000 (Only for the purpose of informing  
medical personnel in cases of acute intoxications)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No 1272/2008

REGULATION (EC) No 1272/2008			
Hazard class	Hazard category	Target Organs	Hazard statements
Corrosive to metals	Category 1	---	H290
Acute toxicity (Oral)	Category 4	---	H302
Skin corrosion	Sub-category 1B	---	H314
Serious eye damage	Category 1	---	H318



For the full text of the H-Statements mentioned in this Section, see Section 16.

##### Most important adverse effects

Human Health	:	See section 11 for toxicological information.
Physical and chemical hazards	:	See section 9/10 for physicochemical information.
Potential environmental effects	:	See section 12 for environmental information.

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No 1272/2008

Hazard symbols	:	 
Signal word	:	Danger
Hazard statements	:	H290 May be corrosive to metals. H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage.
Precautionary statements	:	
Prevention	:	P280 Wear protective gloves/ protective clothing/

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		eye protection/ face protection.
Response	:	P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor. P305 + P351 + P338 + P310 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/ doctor. P390 Absorb spillage to prevent material damage.

### Hazardous components which must be listed on the label:

- phosphoric acid

### 2.3. Other hazards

The PBT or vPvB criteria of Annex XIII to the REACH Regulation does not apply to inorganic substances.

Ecological information: No information available about endocrine disruption properties for environment.

Toxicological information: No information available about endocrine disruption properties for human health.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Chemical nature : Aqueous solution

Hazardous components	Amount [%]	Classification (REGULATION (EC) No 1272/2008)	
		Hazard class / Hazard category	Hazard statements
<b>phosphoric acid</b>			
Index-No. : 015-011-00-6	>= 74 - <= 76	Met. Corr.1	H290
CAS-No. : 7664-38-2		Acute Tox.4 Oral	H302
EC-No. : 231-633-2		Skin Corr.1B	H314
EU REACH-Reg. No. : 01-2119485924-24-xxxx		Eye Dam.1	H318

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specific concentration limit

Skin Irrit. 2; H315

10 - < 25 %

Eye Irrit. 2; H319

10 - < 25 %

Skin Corr. 1B; H314

>= 25 %

Acute toxicity estimate

Acute oral toxicity: 500 mg/kg

Acute dermal toxicity: 2740

mg/kg

Note B

For the full text of the H-Statements mentioned in this Section, see Section 16.

For the full text of the Notes mentioned in this Section, see Section 16.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

General advice	: Take off all contaminated clothing immediately. If symptoms call a physician.
If inhaled	: In case of accident by inhalation: remove casualty to fresh air and keep at rest. If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately.
In case of skin contact	: Wash off immediately with soap and plenty of water. Call a physician immediately.
In case of eye contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult an eye specialist immediately. Go to an ophthalmic hospital if possible.
If swallowed	: Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician immediately.

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

Symptoms	: See Section 11 for more detailed information on health effects and symptoms.
Effects	: Extremely corrosive and destructive to tissue. If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach. See Section 11 for more detailed information on health effects and symptoms.

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

Treatment	: Treat symptomatically.
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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- |                                |  |
|--------------------------------|--|
| Suitable extinguishing media   | : Water spray, foam, dry powder or CO <sub>2</sub> . |
| Unsuitable extinguishing media | : High volume water jet                              |

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

- |                                      |   |
|--------------------------------------|---|
| Specific hazards during firefighting | : Gives off hydrogen by reaction with metals. Risk of explosion. Decomposes on heating. |
| Hazardous combustion products        | : Oxides of phosphorus, phosphine, The formation of caustic fumes is possible.          |

#### 5.3. Advice for firefighters

- |   |  |
|---|--|
| Special protective equipment for firefighters | : In the event of fire, wear self-contained breathing apparatus. Wear appropriate body protection (full protective suit) |
| Specific extinguishing methods                | : Control smoke with water spray.  |
| Further advice                                | : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.                     |

### SECTION 6: Accidental release measures

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

- |                      |  |
|----------------------|--|
| Personal precautions | : Keep away unprotected persons. Use personal protective equipment. Ensure adequate ventilation. Avoid contact with the skin and the eyes. Do not breathe vapours or spray mist. |
|----------------------|--|

#### 6.2. Environmental precautions

- |                           |  |
|---------------------------|--|
| Environmental precautions | : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases. |
|---------------------------|--|

#### 6.3. Methods and materials for containment and cleaning up

- |   |   |
|---|---|
| Methods and materials for containment and cleaning up | : Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders). Keep in suitable, closed containers for disposal. |
| Further information                                   | : Treat recovered material as described in the section "Disposal considerations".   |

#### 6.4. Reference to other sections

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See Section 1 for emergency contact information.  
See Section 8 for information on personal protective equipment.  
See Section 13 for waste treatment information.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Advice on safe handling : Keep container tightly closed. Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist. Use respirator with appropriate filter if vapours or aerosol are released. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

Hygiene measures : Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Take off all contaminated clothing immediately.

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

Requirements for storage areas and containers : Keep in an area equipped with acid resistant flooring. Store in original container. Suitable materials for containers: Polypropylene; polyethylene; Unsuitable materials for containers: Metals

Advice on protection against fire and explosion : The product is not flammable. Normal measures for preventive fire protection. Gives off hydrogen by reaction with metals. Risk of explosion.

Further information on storage conditions : Keep tightly closed in a dry and cool place. Keep in a well-ventilated place. Avoid moisture. Product is hygroscopic.

Advice on common storage : Keep away from food, drink and animal feedingstuffs. Incompatible with bases.

#### 7.3. Specific end use(s)

Specific use(s) : Identified use: See table in front of appendix for a complete overview of identified uses.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

<b>Component:</b>	<b>phosphoric acid</b>	<b>CAS-No. 7664-38-2</b>
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<b>Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)</b>
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DNEL

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Workers, Acute - local effects, Inhalation	:	2 mg/m <sup>3</sup>
DNEL		
Workers, Long-term - local effects, Inhalation	:	1 mg/m <sup>3</sup>
DNEL		
Workers, Long-term - systemic effects, Inhalation	:	10,7 mg/m <sup>3</sup>
DNEL		
Consumers, Long-term - local effects, Inhalation	:	0,36 mg/m <sup>3</sup>
DNEL		
Consumers, Long-term - systemic effects, Inhalation	:	4,57 mg/m <sup>3</sup>
DNEL		
Consumers, Long-term - systemic effects, Skin contact	:	0,1 mg/kg bw/day

### Predicted No Effect Concentration (PNEC)

No PNEC value was derived. :

### Other Occupational Exposure Limit Values

EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended, Time Weighted Average (TWA):  
1 mg/m<sup>3</sup>  
Indicative

EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended, Short Term Exposure Limit (STEL):  
2 mg/m<sup>3</sup>  
Indicative

Belgium. OELs. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1, as amended, Time Weighted Average (TWA):  
1 mg/m<sup>3</sup>

Belgium. OELs. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1, as amended, Short Term Exposure Limit (STEL):  
2 mg/m<sup>3</sup>, (15 minutes)

Netherlands. OELs (binding), as amended, Short Term Exposure Limit (STEL):  
2 mg/m<sup>3</sup>, (15 minutes)

Netherlands. OELs (binding), as amended, Time Weighted Average (TWA):  
1 mg/m<sup>3</sup>

EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended, Time Weighted Average (TWA):  
1 mg/m<sup>3</sup>

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Indicative

EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended, Short Term Exposure Limit (STEL):  
2 mg/m<sup>3</sup>  
Indicative

### 8.2. Exposure controls

#### Appropriate engineering controls

Refer to protective measures listed in sections 7 and 8.

#### Personal protective equipment

##### *Respiratory protection*

Advice : Required, if exposure limit is exceeded (e.g. OEL).  
Respiratory protection complying with EN 141.  
Recommended Filter type:  
Combination filter:B-P2

##### *Hand protection*

Advice : Protective gloves complying with EN 374.  
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.  
Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.  
Protective gloves should be replaced at first signs of wear.

Material : Natural Rubber  
Break through time :  $\geq 8$  h  
Glove thickness : 0,5 mm

Material : polychloroprene  
Break through time :  $\geq 8$  h  
Glove thickness : 0,5 mm

Material : Nitrile rubber  
Break through time :  $\geq 8$  h  
Glove thickness : 0,35 mm

Material : butyl-rubber  
Break through time :  $\geq 8$  h  
Glove thickness : 0,5 mm

Material : Fluorinated rubber  
Break through time :  $\geq 8$  h

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|| Glove thickness : 0,4 mm

|| Material : Polyvinylchloride  
|| Break through time : >= 8 h  
|| Glove thickness : 0,5 mm

### *Eye protection*

|| Advice : Tightly fitting safety goggles  
|| Face-shield

### *Skin and body protection*

|| Advice : Acid resistant protective clothing.

### **Environmental exposure controls**

|| General advice : Do not flush into surface water or sanitary sewer system.  
|| Avoid subsoil penetration.  
|| If the product contaminates rivers and lakes or drains inform respective authorities.  
|| If material reaches soil inform authorities responsible for such cases.

## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

|| Form : liquid  
|| Physical state : liquid  
|| Colour : colourless  
|| Odour : odourless  
|| Odour Threshold : Not applicable  
|| Freezing point/range : -20 °C  
|| 75% solution

|| Boiling point/boiling range : 135 °C  
|| 75% solution

|| Flammability (solid, gas) : Product is a liquid, see section 9.2.

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	Remarks: non-combustible
Upper explosion limit / Upper flammability limit	: Not applicable
Lower explosion limit / Lower flammability limit	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Self-Accelerating decomposition temperature (SADT)	: No data available
pH	: 0 - 1 (20 °C) Concentration: 100 % Method: (calculated)
Viscosity	
Viscosity, dynamic	: 2,0 - 32 mPa.s (30 °C)
Viscosity, kinematic	: No data available
Flow time	: No data available
Solubility(ies)	
Water solubility	: completely miscible
Solubility in other solvents	: No data available
Dissolution Rate	: No data available
Partition coefficient: n-octanol/water	: No data available
Dispersion Stability	: No data available
Vapour pressure	: 0,04 hPa (20 °C) anhydrous substance
Relative density	: No data available
Density	: 1,55 - 1,60 g/cm <sup>3</sup> (20 °C)
Bulk density	: No data available
Relative vapour density	: No data available
Particle characteristics	No data available

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### 9.2 Other information

Explosives	:	Product is not explosive. May release hydrogen by reaction with metals.
Flammability (liquids)	:	non-combustible Remarks: non-combustible
Metal corrosion rate	:	Corrosive to metals
Evaporation rate	:	not determined

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

|| Advice : No decomposition if used as directed.

### 10.2. Chemical stability

|| Advice : Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

|| Hazardous reactions : Gives off hydrogen by reaction with metals. Risk of explosion.

### 10.4. Conditions to avoid

|| Conditions to avoid : Heat, flames and sparks.  
|| Thermal decomposition : No data available

### 10.5. Incompatible materials

|| Materials to avoid : Strong oxidizing agents, alkalis, Metals, Bases

### 10.6. Hazardous decomposition products

|| Hazardous decomposition products : Fire may cause evolution of: phosphine, Oxides of phosphorus, Combustion produces caustic fumes.

## SECTION 11: Toxicological information

### 11.1. Information on the hazard classes within the meaning of Regulation (EC) No. 1272/2008

#### Data for the product

#### Acute toxicity

#### Oral

|| Acute toxicity estimate : 657,9 - 675,7 mg/kg ) (Calculation method) Classified based on the calculation method according to CLP regulation.

#### Inhalation

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|| Not classified based on the calculation method according to CLP regulation.

### Dermal

|| Not classified based on the calculation method according to CLP regulation.

### Irritation

### Skin

|| Result : Classified based on the calculation method according to CLP regulation.

### Eyes

|| Result : Classified based on the calculation method according to CLP regulation.

### Sensitisation

|| Result : Not classified based on the calculation method according to CLP regulation.

### CMR effects

### CMR Properties

|| Carcinogenicity : Not classified based on the calculation method according to CLP regulation.  
|| Mutagenicity : Not classified based on the calculation method according to CLP regulation.  
|| Reproductive toxicity : Not classified based on the calculation method according to CLP regulation.

### Specific Target Organ Toxicity

### Single exposure

|| Remarks : Not classified based on the calculation method according to CLP regulation.

### Repeated exposure

|| Remarks : Not classified based on the calculation method according to CLP regulation.

### Other toxic properties

### Repeated dose toxicity

No data available

### Aspiration hazard

|| Not applicable,

**Component:**

**phosphoric acid**

**CAS-No. 7664-38-2**

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### Acute toxicity

#### Oral

No valid data available.

#### Inhalation

No valid data available.

#### Dermal

LD50 : 2740 mg/kg (Rabbit)

### Irritation

#### Skin

Result : corrosive effects (Rabbit; 24 h)

#### Eyes

Result : corrosive effects (Rabbit)

### Sensitisation

Result : No data available

### CMR effects

#### CMR Properties

Carcinogenicity : It is not considered carcinogenic.  
Mutagenicity : In vitro tests did not show mutagenic effects  
Teratogenicity : Did not show teratogenic effects in animal experiments.  
Reproductive toxicity : Animal testing did not show any effects on fertility.

#### Genotoxicity in vitro

Result : negative (Bacterial Reverse Mutation Test; Salmonella typhimurium; with and without metabolic activation) (OECD Test Guideline 471)  
negative (Bacterial Reverse Mutation Test; Escherichia coli; with and without metabolic activation) (OECD Test Guideline 471)  
negative (Chromosome aberration test in vitro; Human lymphocytes; with and without metabolic activation) (OECD Test Guideline 473)

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negative (In vitro gene mutation study in mammalian cells; mouse lymphoma cells; with and without metabolic activation) (OECD Test Guideline 476)

### Teratogenicity

NOAEL :  $\geq 410$  mg/kg bw/day  
Maternal  
NOAEL :  $\geq 410$  mg/kg bw/day  
Develop.  
(Rat, wistar)(Oral; 4.1, 19.0, 88.3, 410.0 mg/kg)(OECD Test Guideline 414)No adverse effectsRead-across (Analogy)

### Reproductive toxicity

NOAEL :  $\geq 500$  mg/kg bw/day  
F1  
(Rat, Sprague-Dawley, male and female)(Oral; 0, 125, 250, 500 mg/kg bw/day)(OECD Test Guideline 422)

### Specific Target Organ Toxicity

#### Single exposure

Remarks : The substance or mixture is not classified as specific target organ toxicant, single exposure.

#### Repeated exposure

Remarks : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### Other toxic properties

#### Repeated dose toxicity

NOAEL : 250 mg/kg bw/day  
(Rat)(Oral; 90-day) (OECD Test Guideline 422)

#### Aspiration hazard

Not applicable,

## 11.2. Information on other hazards

### Data for the product

#### Endocrine disrupting properties

Assessment : No information available about endocrine disruption properties

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**II** for human health.

**Component:** phosphoric acid CAS-No. 7664-38-2

### Endocrine disrupting properties

**II** Assessment : No information available about endocrine disruption properties for human health.

## SECTION 12: Ecological information

### 12.1. Toxicity

**Component:** phosphoric acid CAS-No. 7664-38-2

#### Acute toxicity

##### Fish

LC50 : 3 - 3,25 mg/l (Lepomis macrochirus; 96 h)

#### Toxicity to daphnia and other aquatic invertebrates

EC50 : > 100 mg/l (Daphnia magna (Water flea); 48 h) (static test; OECD Test Guideline 202)

##### algae

NOEC : 100 mg/l (Desmodesmus subspicatus; 72 h) (static test; End point: Growth rate; OECD Test Guideline 201)

EC50 : > 100 mg/l (Desmodesmus subspicatus; 72 h) (static test; End point: Growth rate; OECD Test Guideline 201)

##### Bacteria

**II** EC50 : > 1000 mg/l (activated sludge; 3 h) (OECD Test Guideline 209)

### 12.2. Persistence and degradability

**Component:** phosphoric acid CAS-No. 7664-38-2

#### Persistence and degradability

##### Persistence

Result : (Related to: Water) Inorganic product which is not removable from

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water by biological processes.

### Biodegradability

Result : The methods for determining the biological degradability are not applicable to inorganic substances.

### 12.3. Bioaccumulative potential

<b>Component:</b>	<b>phosphoric acid</b>	<b>CAS-No. 7664-38-2</b>
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### Bioaccumulation

Result : Not relevant

### 12.4. Mobility in soil

<b>Component:</b>	<b>phosphoric acid</b>	<b>CAS-No. 7664-38-2</b>
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### Mobility

Water : The product is water soluble.

Air : Low volatile liquid

### 12.5. Results of PBT and vPvB assessment

#### Data for the product

#### Results of PBT and vPvB assessment

|| Result : The PBT or vPvB criteria of Annex XIII to the REACH Regulation does not apply to inorganic substances.

<b>Component:</b>	<b>phosphoric acid</b>	<b>CAS-No. 7664-38-2</b>
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#### Results of PBT and vPvB assessment

Result : The PBT or vPvB criteria of Annex XIII to the REACH Regulation does not apply to inorganic substances.

### 12.6. Endocrine disrupting properties

#### Data for the product

|| Endocrine disrupting potential : No information available about endocrine disruption properties for environment.

<b>Component:</b>	<b>phosphoric acid</b>	<b>CAS-No. 7664-38-2</b>
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|| Endocrine disrupting potential : No information available about endocrine disruption properties for environment.

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II

### 12.7. Other adverse effects

<b>Component:</b>	<b>phosphoric acid</b>	<b>CAS-No. 7664-38-2</b>
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#### Additional ecological information

Result : Harmful effects to aquatic organisms also due to pH-shift.  
Solutions with low pH-value must be neutralized before discharge.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product	: Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services. This product shall be disposed of or recovered in compliance with Directive 2008/98/EC on waste as lastly amended.
Contaminated packaging	: Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning. If recycling is not practicable, dispose of in compliance with local regulations.
European Waste Catalogue Number	: No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

## SECTION 14: Transport information

### 14.1. UN number or ID number

II 1805

### 14.2. UN proper shipping name

ADR	: PHOSPHORIC ACID, SOLUTION
RID	: PHOSPHORIC ACID, SOLUTION
IMDG	: PHOSPHORIC ACID SOLUTION

### 14.3. Transport hazard class(es)

ADR-Class (Labels; Classification Code; Hazard Identification Number; Tunnel restriction code)	: 8 8; C1; 80; (E)
RID-Class (Labels; Classification Code; Hazard Identification Number)	: 8

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IMDG-Class (Labels; EmS)	8; C1; 80 : 8 8; F-A, S-B
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### 14.4. Packaging group

ADR	: III
RID	: III
IMDG	: III

### 14.5. Environmental hazards

Environmentally hazardous according to ADR	: no
Environmentally hazardous according to RID	: no
Marine Pollutant according to IMDG-Code	: no

### 14.6. Special precautions for user

Not applicable.

### 14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### Data for the product

EU. Regulation EC No. 689/2008 : ; The substance/mixture does not fall under this legislation.

EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC) : Point Nos.: , 3; Listed  
Point Nos.: , 75; Listed

EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, Annex I : ; The substance/mixture does not fall under this legislation.

**Component:** phosphoric acid **CAS-No. 7664-38-2**

EU. Chemicals Subject to PIC Procedure: : ; The substance/mixture does not fall under this legislation.

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Regulation 649/2012/EU  
on export and import of  
dangerous chemicals, as  
amended

EU. REACH, Annex XVII, : Point Nos.: , 3; Listed  
Marketing and Use  
Restrictions (Regulation  
1907/2006/EC)

|| Point Nos.: , 75; Listed

EU. Regulation No : EC Number: , 231-633-2; Listed  
1451/2007 [Biocides],  
Annex I, OJ (L 325)

EU. Directive : ; The substance/mixture does not fall under this legislation.  
2012/18/EU (SEVESO  
III) on major accident  
hazards involving  
dangerous substances,  
Annex I

### Notification status phosphoric acid:

Regulatory List	Notification	Notification number
AICS	YES	
DSL	YES	
EINECS	YES	231-633-2
ENCS (JP)	YES	(1)-422
IECSC	YES	
INSQ	YES	
ISHL (JP)	YES	(1)-422
KECI (KR)	YES	KE-27427
NZIOC	YES	HSR001545
NZIOC	YES	HSR001571
ONT INV	YES	
PICCS (PH)	YES	
TCSI	YES	
TH INV	YES	2809.20
TH INV	YES	55-1-05959
TSCA	YES	
VN INVL	YES	

### 15.2. Chemical safety assessment

|| A Chemical Safety Assessment has been carried out for this substance.

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### SECTION 16: Other information

#### II

#### Full text of H-Statements referred to under sections 2 and 3.

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

#### Full text of the Notes referred to under section 3.

Note B	Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: "nitric acid ...%". In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.
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#### Abbreviations and Acronyms

<b>AU AIICL</b>	Australia. Industrial Chemicals Act (AIIC) List
<b>BCF</b>	bioconcentration factor
<b>BOD</b>	biochemical oxygen demand
<b>CAS</b>	Chemical Abstracts Service
<b>CLP</b>	Classification, Labelling and Packaging
<b>CMR</b>	carcinogenic, mutagenic or toxic to reproduction
<b>COD</b>	chemical oxygen demand
<b>DNEL</b>	derived no-effect level
<b>DSL</b>	Canada. Environmental Protection Act, Domestic Substances List
<b>EINECS</b>	European Inventory of Existing Commercial Chemical Substances
<b>ELINCS</b>	European List of Notified Chemical Substances
<b>ENCS (JP)</b>	Japan. Kashin-Hou Law List
<b>GHS</b>	Globally Harmonized System of Classification and Labelling of Chemicals
<b>IECSC</b>	China. Inventory of Existing Chemical Substances
<b>INSQ</b>	Mexico. National Inventory of Chemical Substances
<b>ISHL (JP)</b>	Japan. Inventory of Industrial Safety & Health
<b>KECI (KR)</b>	Korea. Existing Chemicals Inventory
<b>LC50</b>	median lethal concentration
<b>LOAEC</b>	lowest observed adverse effect concentration
<b>LOAEL</b>	lowest observed adverse effect level
<b>LOEL</b>	lowest observed effect level

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<b>NDSL</b>	Canada. Environmental Protection Act. Non-Domestic Substances List
<b>NLP</b>	no-longer polymer
<b>NOAEC</b>	no observed adverse effect concentration
<b>NOAEL</b>	no observed adverse effect level
<b>NOEC</b>	no observed effect concentration
<b>NOEL</b>	no observed effect level
<b>NZIOC</b>	New Zealand. Inventory of Chemicals
<b>OECD</b>	Organisation for Economic Cooperation and Development
<b>OEL</b>	occupational exposure limit
<b>ONT INV</b>	Canada. Ontario Inventory List
<b>PBT</b>	persistent, bioaccumulative and toxic
<b>PHARM (JP)</b>	Japan. Pharmacopoeia Listing
<b>PICCS (PH)</b>	Philippines. Inventory of Chemicals and Chemical Substances
<b>PNEC</b>	predicted no-effect concentration
<b>REACH Auth. No.:</b>	REACH Authorisation Number
<b>REACH AuthAppC. No.</b>	REACH Authorisation Application Consultation Number
<b>STOT</b>	specific target organ toxicity
<b>SVHC</b>	substance of very high concern
<b>TCSI</b>	Taiwan. Existing Chemicals Inventory
<b>TH INV</b>	Thailand. Existing Chemicals Inventory from FDA
<b>TSCA</b>	US. Toxic Substances Control Act
<b>UVCB</b>	substance of unknown or variable composition, complex reaction products or biological materials
<b>VN INVL</b>	Vietnam. National Chemical Inventory
<b>vPvB</b>	very persistent and very bioaccumulative

### Further information

- Key literature references and sources for data : Supplier information and data from the "Database of registered substances" of the European Chemicals Agency (ECHA) were used to create this safety data sheet.
- Methods used for product classification : The classification for human health, physical and chemical hazards and environmental hazards were derived from a combination of calculation methods and if available test data.
- Hints for trainings : The workers have to be trained regularly on the safe handling of the products based on the information provided in the Safety Data Sheet and the local conditions of the workplace. National regulations for the training of workers in the handling of hazardous materials must be adhered to.

Other information : The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and

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|| Indicates updated section.

|| does not constitute a legal relationship.

The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

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No.	Short title	Main User Group (SU)	Sector of Use (SU)	Product Category (PC)	Process Category (PROC)	Environmental Release Category (ERC)	Article Category (AC)	Specified
1	Manufacture of substance	3	8, 9	NA	1, 2, 3, 4, 8b, 9, 15	1	NA	ES1433
2	Industrial use	3	8, 9, 10, 15, 16, 17	0, 1, 7, 9a, 9b, 13, 14, 19, 20, 21, 23, 24, 25, 26, 32, 34, 35, 37, 39	1, 2, 3, 4, 5, 7, 8a, 8b, 9, 10, 13, 14, 15, 19, 22, 23	2, 3, 4, 6a, 6b, 6d	NA	ES1460
3	Professional use	22	1, 19	9a, 9b, 12, 14, 15, 31, 35, 37, 38	5, 8a, 8b, 9, 10, 11, 13, 15, 19, 25	8a, 8b, 8c, 8e	NA	ES1470
4	Consumer use	21	NA	0, 12, 28, 31, 35, 38, 39	NA	8a, 8b, 8e, 10a, 11a	NA	ES1513

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**1. Short title of Exposure Scenario 1: Manufacture of substance**

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	SU8: Manufacture of bulk, large scale chemicals (including petroleum products) SU9: Manufacture of fine chemicals
Process categories	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC15: Use as laboratory reagent
Environmental Release Categories	ERC1: Manufacture of substances

**2.1 Contributing scenario controlling environmental exposure for: ERC1**

Product characteristics	Concentration of the Substance in Mixture/Article	Aqueous solutions contain more than 25% up to 100% of solid form
Amount used	The daily and annual amount/emission per site is not considered to be the main determinant for environmental exposure	
Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site	Air	Acid release is negligible, due to its low vapour pressure
	Water	The production of acid can potentially result in aquatic emissions and locally increase the phosphate concentration while decreasing the pH in the aquatic environment, The pH of industrial effluents is normally measured frequently and can be neutralized easily, Wastewater should be reused or discharged to the industrial wastewater and further neutralized if needed
	Soil	Infiltration, partial neutralization, dispersion, dilution
	Sediment	There will be no absorption on particulate matter or surfaces
	Procedural and/or control technologies are required to minimize emissions and the resulting exposure during cleaning and maintenance procedures Acid is not expected to be found in the solid waste nor to reach the air compartment, due to its low vapor pressure and high water solubility Due to its high water solubility and low vapor pressure, acid is mainly found in soil and water compartments There, acid progressively dissociates affecting the pH of the receiving compartment Bioaccumulation is not expected.	

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Conditions and measures related to sewage treatment plant

The pH of wastewater released from manufacturing sites should be between 6 and 9.

Conditions and measures related to external treatment of waste for disposal

Waste treatment

Acid dissociates and will be neutralized before reaching WWTP

Disposal methods

The neutralised liquid can be spilled in accordance to regulatory norm

**2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8b, PROC9, PROC15**

Product characteristics

Concentration of the Substance in Mixture/Article

Aqueous solutions contain more than 25% up to 100% of solid form

Physical Form (at time of use)

liquid, solid

Frequency and duration of use

Frequency of use

220 days/year

Frequency of use

8 hours/day

Technical conditions and measures to control dispersion from source towards the worker

Use closed systems or covering of open containers (e.g. screens)  
 Transport over pipes, technical barrel filling/emptying of barrel with automatic systems (suction pumps etc.)  
 Use of pliers, grip arms with long handles with manual use to avoid direct contact and exposure by splashes (no working over one's head)  
 Store in cool, dry, clean, well ventilate areas away from alkaline products and metals  
 Do not store under direct sun light  
 Do not pile up the containers  
 Do not store at temperatures close to freezing point.  
 Compatible materials: stainless steel 316-L; high density polyethylene; glass

Organisational measures to prevent /limit releases, dispersion and exposure

Workers in the risky process/areas identified should be trained a) to avoid to work without respiratory protection and b) to understand the corrosive properties and, especially, the respiratory inhalation effects and c) to follow the safety procedures instructed by the employer.  
 The employer has also to ascertain that the required PPE is available  
 Effective control measures are in place to prevent dermal exposure

Conditions and measures related to personal protection, hygiene and health evaluation

Wear chemically resistant gloves.  
 Wear eye glasses with side protection according to EN 166.  
 Wear acid-resistant protective clothing.  
 Wear rubber boots.  
 Material: chloroprene gloves or equivalent  
 Protective clothing and gloves are mandatory when handling corrosive substances

**3. Exposure estimation and reference to its source**

**Environment**

Qualitative approach used to conclude safe use.

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**Workers**

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Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
Relevant for all PROCs	liquid	Inhalation worker exposure	0,375mg/m <sup>3</sup>	0,375
PROC4	solid	Inhalation worker exposure	0,5mg/m <sup>3</sup>	0,5
PROC1, PROC2, PROC3, PROC8b, PROC9, PROC15	solid	Inhalation worker exposure	0,01mg/m <sup>3</sup>	0,01

Good industrial hygiene practice has to be followed if oral exposure is not expected for workers. As reported in the CLP Regulation No 1272/2008 Annex VI Table 3.1, the substance is corrosive above the 25% concentration limit Repeated daily dermal exposure to product is considered negligible

**4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**

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.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Environment

Estimated exposures are not expected to exceed PNEC when the identified Risk Management Measures / Operational Conditions are adopted, as indicated in Section 2

**Additional good practice advice beyond the REACH Chemical Safety Assessment**

Local exhaust ventilation is not required but good practice.

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**1. Short title of Exposure Scenario 2: Industrial use**

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	SU8: Manufacture of bulk, large scale chemicals (including petroleum products) SU9: Manufacture of fine chemicals SU 10: Formulation [mixing] of preparations and/ or re-packaging (excluding alloys) SU15: Manufacture of fabricated metal products, except machinery and equipment SU16: Manufacture of computer, electronic and optical products, electrical equipment SU17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment
Chemical product category	PC0: Other products: PC1: Adhesives, sealants PC7: Base metals and alloys PC9a: Coatings and paints, thinners, paint removers PC9b: Fillers, putties, plasters, modelling clay PC13: Fuels PC14: Metal surface treatment products, including galvanic and electroplating products PC19: Intermediate PC20: Products such as ph-regulators, flocculants, precipitants, neutralization agents PC21: Laboratory chemicals PC23: Leather tanning, dye, finishing, impregnation and care products PC24: Lubricants, greases, release products PC25: Metal working fluids PC26: Paper and board dye, finishing and impregnation products: including bleaches and other processing aids PC32: Polymer preparations and compounds PC34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids PC35: Washing and cleaning products (including solvent based products) PC37: Water treatment chemicals PC39: Cosmetics, personal care products
Process categories	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC7: Industrial spraying PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

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PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  
 PROC10: Roller application or brushing  
 PROC13: Treatment of articles by dipping and pouring  
 PROC14: Production of preparations or articles by tableting, compression, extrusion, pelettisation  
 PROC15: Use as laboratory reagent  
 PROC19: Hand-mixing with intimate contact and only PPE available  
 PROC22: Potentially closed processing operations with minerals/metals at elevated temperature; industrial setting  
 PROC23: Open processing and transfer operations with minerals/metals at elevated temperature

Environmental Release Categories

ERC2: Formulation of preparations  
 ERC3: Formulation in materials  
 ERC4: Industrial use of processing aids in processes and products, not becoming part of articles  
 ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)  
 ERC6b: Industrial use of reactive processing aids  
 ERC6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

**2.1 Contributing scenario controlling environmental exposure for: ERC2, ERC3, ERC4, ERC6a, ERC6b, ERC6d**

Product characteristics	Concentration of the Substance in Mixture/Article	Aqueous solutions contain more than 25% up to 100% of solid form
Amount used	The daily and annual amount/emission per site is not considered to be the main determinant for environmental exposure	
Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site	Air	Acid release is negligible, due to its low vapour pressure
	Water	The production of acid can potentially result in aquatic emissions and locally increase the phosphate concentration while decreasing the pH in the aquatic environment, The pH of industrial effluents is normally measured frequently and can be neutralized easily, Wastewater should be reused or discharged to the industrial wastewater and further neutralized if needed
	Soil	Infiltration, partial neutralization, dispersion, dilution
	Sediment	There will be no absorption on particulate matter or surfaces
	Procedural and/or control technologies are required to minimize emissions and the resulting exposure during cleaning and maintenance procedures Acid is not expected to be found in the solid waste nor to reach the air compartment, due to its low vapor pressure and high water solubility Due to its high water solubility and low vapor pressure, acid is mainly found in	

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	soil and water compartments There, acid progressively dissociates affecting the pH of the receiving compartment Bioaccumulation is not expected.
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Conditions and measures related to sewage treatment plant	The pH of wastewater released from manufacturing sites should be between 6 and 9.
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Conditions and measures related to external treatment of waste for disposal	Waste treatment	Acid dissociates and will be neutralized before reaching WWTP
	Disposal methods	The neutralised liquid can be spilled in accordance to regulatory norm

**2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15, PROC19, PROC22, PROC23**

Product characteristics	Concentration of the Substance in Mixture/Article	Aqueous solutions contain more than 25% up to 100% of solid form
	Physical Form (at time of use)	liquid, solid

Frequency and duration of use	Frequency of use	220 days/year
	The maximum duration considered for this exposure scenario is a working shift of above 4h/day (worst case assumption)	
	Frequency of use	8 hours/day

Technical conditions and measures to control dispersion from source towards the worker	Use closed systems or covering of open containers (e.g. screens) Transport over pipes, technical barrel filling/emptying of barrel with automatic systems (suction pumps etc.) Use of pliers, grip arms with long handles with manual use to avoid direct contact and exposure by splashes (no working over one's head) Store in cool, dry, clean, well ventilate areas away from alkaline products and metals Do not store under direct sun light Do not pile up the containers Do not store at temperatures close to freezing point. Compatible materials: stainless steel 316-L; high density polyethylene; glass
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Organisational measures to prevent /limit releases, dispersion and exposure	Workers in the risky process/areas identified should be trained a) to avoid to work without respiratory protection and b) to understand the corrosive properties and, especially, the respiratory inhalation effects and c) to follow the safety procedures instructed by the employer. The employer has also to ascertain that the required PPE is available Effective control measures are in place to prevent dermal exposure
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Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves. Wear eye glasses with side protection according to EN 166. Wear acid-resistant protective clothing. Wear rubber boots. Material: chloroprene gloves or equivalent Protective clothing and gloves are mandatory when handling corrosive
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substances

**3. Exposure estimation and reference to its source**

**Environment**

Qualitative approach used to conclude safe use.

**Workers**

ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
Relevant for all PROCs	liquid	Inhalation worker exposure	0,375mg/m <sup>3</sup>	0,375
PROC1, PROC2, PROC3, PROC8b, PROC9, PROC15	solid	Inhalation worker exposure	0,01mg/m <sup>3</sup>	0,01
PROC4, PROC5	solid	Inhalation worker exposure	0,5mg/m <sup>3</sup>	0,5

Good industrial hygiene practice has to be followed if oral exposure is not expected for workers. As reported in the CLP Regulation No 1272/2008 Annex VI Table 3.1, the substance is corrosive above the 25% concentration limit Repeated daily dermal exposure to product is considered negligible

**4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**

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.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

**Health**

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

**Environment**

Estimated exposures are not expected to exceed PNEC when the identified Risk Management Measures / Operational Conditions are adopted, as indicated in Section 2

**Additional good practice advice beyond the REACH Chemical Safety Assessment**

Local exhaust ventilation is not required but good practice.

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**1. Short title of Exposure Scenario 3: Professional use**

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sectors of end-use	SU1: Agriculture, forestry, fishery SU19: Building and construction work
Chemical product category	PC9a: Coatings and paints, thinners, paint removers PC9b: Fillers, putties, plasters, modelling clay PC12: Lawn and garden preparations, including fertilizers (- Fertilizers) PC14: Metal surface treatment products, including galvanic and electroplating products PC15: Non-metal-surface treatment products PC31: Polishes and wax blends PC35: Washing and cleaning products (including solvent based products) PC37: Water treatment chemicals PC38: Welding and soldering products (with flux coatings or flux cores), flux products
Process categories	PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC10: Roller application or brushing PROC11: Non industrial spraying PROC13: Treatment of articles by dipping and pouring PROC15: Use as laboratory reagent PROC19: Hand-mixing with intimate contact and only PPE available PROC25: Other hot work operations with metals
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8b: Wide dispersive indoor use of reactive substances in open systems ERC8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC8e: Wide dispersive outdoor use of reactive substances in open systems

**2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8b, ERC8c, ERC8e**

Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations more than 25%
Amount used	The daily and annual amount/emission per site is not considered to be the main determinant for environmental exposure	
Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and	Air	Acid release is negligible, due to its low vapour pressure
	Water	The production of acid can potentially result in aquatic emissions and locally increase the phosphate concentration while decreasing the pH in

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releases to soil  
Organizational measures to prevent/limit release from the site

	the aquatic environment, The pH of industrial effluents is normally measured frequently and can be neutralized easily, It is required that the flow of release to municipal wastewater or to surface water do not cause significant in pH changes, Wastewater should be reused or discharged to the industrial wastewater and further neutralized if needed, Different rules apply to professional users regarding control of their effluents
Soil	Infiltration, partial neutralization, dispersion, dilution, For release to soil for fertilizer uses, the pH will be naturally neutralized by the medium before reaching the groundwater
Sediment	There will be no absorption on particulate matter or surfaces
Procedural and/or control technologies are required to minimize emissions and the resulting exposure during cleaning and maintenance procedures Acid is not expected to be found in the solid waste nor to reach the air compartment, due to its low vapor pressure and high water solubility Due to its high water solubility and low vapor pressure, acid is mainly found in soil and water compartments There, acid progressively dissociates affecting the pH of the receiving compartment Bioaccumulation is not expected.	

Conditions and measures related to external treatment of waste for disposal

Waste treatment	Acid dissociates and will be neutralized before reaching WWTP
Disposal methods	The neutralised liquid can be spilled in accordance to regulatory norm, The residue of the containers or the used container itself should be disposed in accordance with local requirements

**2.2 Contributing scenario controlling worker exposure for: PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC15, PROC19, PROC25**

Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations more than 25%
	Physical Form (at time of use)	liquid, solid
Amount used	This substance is used during the production phase of various cleaning products, although often the amount in the end products is limited due to its reactivity, The amount used per worker varies from activity to activity	
Frequency and duration of use	Frequency of use	220 days/year
	The maximum duration considered for this exposure scenario is a working shift of above 4h/day (worst case assumption)	
	Frequency of use	8 hours/day

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Organisational measures to prevent /limit releases, dispersion and exposure

Because the substance is corrosive, the risk management measures for human health should focus on the prevention of direct contact with the substance

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection and gloves.  
Wear suitable coveralls to prevent exposure to the skin.

**3. Exposure estimation and reference to its source**

**Environment**

Qualitative approach used to conclude safe use.

**Workers**

ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
Relevant for all PROCs	liquid	Inhalation worker exposure	0,375mg/m <sup>3</sup>	0,375

Good industrial hygiene practice has to be followed if oral exposure is not expected for workers. As reported in the CLP Regulation No 1272/2008 Annex VI Table 3.1, the substance is corrosive above the 25% concentration limit Repeated daily dermal exposure to product is considered negligible

**4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**

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.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Environment

Estimated exposures are not expected to exceed PNEC when the identified Risk Management Measures / Operational Conditions are adopted, as indicated in Section 2

**Additional good practice advice beyond the REACH Chemical Safety Assessment**

Local exhaust ventilation is not required but good practice.

Since automated, closed systems and local exhaust ventilation may be less feasible to implement for professional settings, product related design measures should be taken (low concentration for example) as well as good practices that prevent direct eye/skin contact with the substance and prevent formation of aerosols and splashes are more important along with the personal protective equipment measures

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**1. Short title of Exposure Scenario 4: Consumer use**

Main User Groups	SU 21: Consumer uses: Private households (= general public = consumers)
Chemical product category	PC0: Other products: PC12: Lawn and garden preparations, including fertilizers (- Fertilizers) PC28: Perfumes, fragrances PC31: Polishes and wax blends PC35: Washing and cleaning products (including solvent based products) PC38: Welding and soldering products (with flux coatings or flux cores), flux products PC39: Cosmetics, personal care products
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8b: Wide dispersive indoor use of reactive substances in open systems ERC8e: Wide dispersive outdoor use of reactive substances in open systems ERC10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC11a: Wide dispersive indoor use of long-life articles and materials with low release

**2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8b, ERC8e, ERC10a, ERC11a**

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 25 %.
Conditions and measures related to sewage treatment plant	Type of Sewage Treatment Plant	Municipal sewage treatment plant, Chemical/biological
Conditions and measures related to external treatment of waste for disposal	Waste treatment	Batteries should be recycled as much as possible (e.g. by returning to a public recycling facility).
	Disposal methods	Contaminated packaging material will contain negligible amounts of substance, It will be disposed as domestic/ municipal waste, The substance is not expected to cause a significant pH effect to the environment when incinerated or land filled

**2.2 Contributing scenario controlling consumer exposure for: PC0, PC12, PC28, PC31, PC35, PC38, PC39**

Product characteristics	Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 25 %.
	Physical Form (at time of use)	liquid
Amount used	Amount used per event	0,110 kg
	The substance is employed as electrolyte in batteries, Furthermore the amounts of the product used in these mixtures will interact with other ingredients in acid-base reactions and thus only residues of the substance will remain as such in the final product	

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Frequency and duration of use	Frequency of use	1 Times per day
	Frequency of use	20 minutes/event
	Frequency of use	360 days/year
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	It is required to use resistant labelling-package to avoid its auto-damage and loss of the label integrity, under normal use and storage of the product. The lack of quality of the package provokes the physical loss of information on hazards and use instructions.
	Consumer Measures	Keep out of the reach of children.
	Consumer Measures	Wear suitable gloves.
	Recommended:	
	Consumer Measures	If splashes are likely to occur:

**3. Exposure estimation and reference to its source**

**Environment**

There is no environmental release as batteries are sealed articles with a long service life Consumer uses relate to already diluted products which will further be neutralized quickly in the sewer, well before reaching a WWTP or surface water. Qualitative approach used to conclude safe use.

**Consumers**

ConsExpo 4.1

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
relevant for all PCs	---	Consumer inhalation exposure	0,442mg/m <sup>3</sup>	0,6

Given that batteries are sealed articles and that acid involved in their maintenance is not intended for direct release<(>,<)> exposure to and emission from acid in these life-cycle stages should be negligible and therefore an exposure assessment is not considered deemed Although accidental exposure to the substance at a concentration higher than 10% is normally excluded from an EU chemical safety assessment and accidental exposure is not considered in the present assessment, several risk management measures for consumers are included in the dossier There is no environmental release as batteries are sealed articles with a long service life

**4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**

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.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Environment

*SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006*

**Phosphoric acid...%**

Version 1.1

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Estimated exposures are not expected to exceed PNEC when the identified Risk Management Measures / Operational Conditions are adopted, as indicated in Section 2  
For scaling see: <http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp>  
Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

## DISTRIBUTOR COMPANY INFORMATION

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