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		Revised edition no : 2
PHOSPHORIC ACID		Date : 2 / 2 / 2011
		Supersedes : 30 / 4 / 2010
		PRAYPHOS-001

Producer

PRAYON S.A.
Rue Joseph Wauters, 144
B-4480 Engis Belgique-Belgium
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In case of emergency : +32 (0)70 245 245

Synonyms

Orthophosphoric acid
E338
PRAYPHOS (P5, CODEX)

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Chemical name : Orthophosphoric acid
Trade name : PHOSPHORIC ACID
Chemical formula : H₃PO₄
Type of product : Acid
EC number : 231-633-2
Reach registration number : 01-2119485924-24-0021
CAS number : 7664-38-2

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

Use : Substance used as such, in formulation or in formulation of products for : Food additive , Intermediate , Metal treatment , Detergent , Substance of laboratory , Fertilizer , In construction and building products (paint, varnished, coating, ...). , Welding industry ,

1.3. Details of the supplier of the safety data sheet

Company identification : See producer.
e-mail address of the competent person responsible for the Safety Data Sheet : Reachcustomer@prayon.be

1.4. Emergency telephone number (24/24 - 7/7)

Emergency phone number : PRAYON S.A. : Tel. +32 (0)4 273 92 11
In case of emergency (Belgium poison center) : +32 (0)70 245 245
Other countries : see section 16 or
<http://www.who.int/ipcs/poisons/centre/directory/euro/en/>

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

2.1.1 Classification (EC) N° 1272/2008 (CLP/GHS)

Skin corrosion - Category 1B - Danger (CLP : Skin Corr. 1B)
H314 : Causes severe skin burns and eye damage.

2.1.2 Classification 67/548/EEC () : C : Corrosive - R34



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SECTION 2. Hazards identification (continued)

Labelling Regulation EC 1272/2008 (CLP)

• Hazard pictograms



• Signal words

: Danger

Hazards identification (CLP)

H314 : Causes severe skin burns and eye damage.

- Prevention

: P280 : Wear protective gloves, protective clothing, eye protection, face protection.
P234 : Keep only in original container.
P260 : Do not breathe dust, fume, gas, mist, vapours, spray.

- Response

: P305+P351+P338 : IF IN EYES : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301+P330+P331 : IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P310 : Immediately call a POISON CENTER or doctor.
P303+P361+P353 : IF ON SKIN (or hair) : Remove immediately all contaminated clothing. Rinse skin with water/shower.

2.3. Other hazards

Not PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

SECTION 3. Composition/information on ingredients

3.1. Substance

SUBSTANCES INCLUDED IN THE LIST OF DANGEROUS SUBSTANCES (ANNEX VI OF DIRECTIVE N° 1272/2008)

Substance name	Contents	CAS No	EC No	Annex No	Classification
Orthophosphoric acid	: 30 to 85 %	7664-38-2	231-633-2	015-011-00-6	C; R34 Skin Corr. 1B (H314)

SECTION 4. First aid measures

4.1. Description of first aid measures

- Inhalation

: If persistent breathing troubles, immediately seek medical attention. Bring to fresh air.

- Skin contact

: Remove contaminated clothing and shoes.
In case of skin contact, immediately wash with suitable product and rinse with plenty of water (20-30 min).
Wash clothing before re-using.
Seek medical advice

- Eye contact

: With eyelid retractor, rinse thoroughly with water during 20-30 minutes.
Seek medical advice

- Ingestion

: If swallowed, rinse mouth with water (only if the person is conscious).
Do not induce vomiting.
Seek medical advice

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

- Effects and symptoms

: Burns upon contact with the skin.
The vapour causes slight irritations in eyes, throat and skin

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



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SECTION 4. First aid measures (continued)

An endoscope or a stomach wash might be considered but might cause several stomach or oesophagus damage.

SECTION 5. Fire-fighting measures

5.1. Extinguishing media

- Suitable extinguishing media : CO₂, Powder , Foam , Water spray
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

- Hazardous combustion and decomposition products : Not flammable.
Contact with metals produces hydrogen which may form explosive mixtures with air.

5.3. Advice for fire-fighters

- Protection against fire : Wear complete protective anti-acid clothings, gloves and boots. Use an autonomous respiratory protection.
(section 8)
Use water spray/fog for cooling.

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- Personal precautions : Spill should be handled by trained cleaning personnel properly equipped with anti-acid protective clothing, gloves and boots (see section 8).
Keep public away from danger area.

6.2. Environmental precautions

- Environmental precautions : Clean up any spills as soon as possible, using an absorbent material to collect it.
Prevent entry to sewers and waters.
Avoid soil contamination.

6.3. Methods and material for containment and cleaning up

- After spillage and/or leakage : Ventilate area.
Transfer in an appropriate container properly labelled in order to set up a future treatment.
Neutralize with sodium carbonate, calcium carbonate, or lime.
Rinse with plenty of water.

6.4. Reference to other sections

See section 8 and 13 for more information.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

7.1.1 Protective measures

- Handling : Good ventilation of the workplace required.
Follow the exposure limits given on this material safety data sheet.
Use suitable material.
For preference use pumping techniques for unloading and discharging.
Provide an adapted retention system.
Avoid all contact with this substance.
Do not breathe vapour.
Never use water or any aqueous agent into tanks or containers.



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SECTION 7. Handling and storage (continued)

Avoid : Spatters.

In case of dilution, always pour the acid in water and not the contrary.

Do not mix with : incompatible materials (see section 10.5)

7.1.2 Advice on general occupational hygiene

Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work.

When using, do not eat, drink or smoke.

Remove contaminated clothing and shoes.

7.2. Conditions for safe storage, including any incompatibilities

- Storage

: Store in dry, cool, well-ventilated area.

Keep away from alkalis, sulfides, cyanides and metal powders.

Do not store under direct sun light.

Store at room temperature above crystallization point.

Compatible materials :

Stainless steel

High-density polyethylene.

glass

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

15 minutes TLV-STEL [mg/m³] : 2 mg/m³

8 Hour TWA [mg/m³] : 1 mg/m³

Others : Workers

DNEL inhalation long-term exposure - local effects: 2.92 mg/m³

General population:

DNEL inhalation long-term exposure - local effects: 0.73 mg/m³

PNEC : pH approach - Safe pH to be between 6 and 9

8.2. Exposure Control

8.2.1 Engineering measures

: Use in closed process (for example in close loop system).

Good ventilation of the workplace required.

Provide a regular control of the atmosphere

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential contact.

8.2.2 Personal protection

- Eye protection

: Chemical goggles or face shield with safety glasses according EN 166.

- Skin protection

: Wear protective clothing adapted to the risks of acid projection and acidproof (tests of resistance according to EN 368-369).

Wear impervious rubber safety shoes.

- Hand protection

: Use gloves resistant to chemical products corresponding to "EN 374:3". Take advice to gloves' manufacturer .

- Respiratory protection

: Use only in well ventilated areas.

Where excessive aerosol or vapour may result, wear an approved respiratory protection (with filter corresponding to "EN 143").

8.2.3 Environmental exposure control

: For preference use pumping techniques for unloading and discharging.



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SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	: Viscous liquid.
Colour	: Colourless.
Odour	: Acrid.
pH value	: 0
Melting point [°C]	: 30% : -11.8 °C 50% : - 41.9 °C 62.5% : - 85 °C 70% : - 43 °C 85% : + 21.1 °C
Boiling point [°C]	: 30% : 101.8 °C 50% : 108°C 85% : 158°C
Flash point [°C]	: Not flammable.
Crystallization point [°C]	: 75% : - 20 °C 80% : 4 °C 81.5% : 7 °C 85% : 21 °C
Molecular weight	: 98
Density (g/cm ³)	: 30 % : (to 25 °C) 1.1794 g/cm ³ 50% - 85% : (to 25 °C) 1.3334 - 1.6850 g/cm ³
Vapour pressure [hPa]	: Not applicable
Viscosity	: 30% - 85% : (to 30 °C) 2.0 - 32 mPa.s
Solubility in water	: 100%

9.2. Other information

Miscible with water

SECTION 10. Stability and reactivity

10.1. Reactivity	: Reacts with strong bases. Contact with metals may release flammable hydrogen.
10.2. Chemical stability	: Stable under normal conditions of handling and storage.
10.3. Possibility of hazardous reactions	: Contact with sulfides and cyanides liberates toxic gas.
10.4. Conditions to avoid	: High temperatures. . Light (daylight).
10.5. Incompatible materials	: Alkali , Caustic products. No noble metals.
10.6. Hazardous decomposition products	: May liberate toxic gases.

SECTION 11. Toxicological information

11.1. Information on toxicological effects

Absorption	: The primary health effect of orthophosphoric acid is corrosion due to a pH shift. Therefore, absorption is not a relevant parameter for the effects assessment.
Acute toxicity - Inhalation	: No reliable data (corrosive substance - no systemic toxicity following acute inhalation exposure)



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SECTION 11. Toxicological information (continued)

- Dermal : No reliable data
- Ingestion : LD50 on female rats similar to OECD 423 2600 mg/kg bw
- Skin and eye corrosion/irritation : Classified as a skin corrosive substance category 1B (concentration greater or equal to 25 %) and as an eye irritant according to the CLP Regulation annex VI, table 3.1.
- Respiratory or skin sensitisation : Not relevant.
Corrosive products.
- Carcinogenicity : No data available.
- Mutagenicity : Orthophosphoric acid was found to be negative in in-vitro testing :
 - AMES (OECD 471) in Salmonella typhimurium strains TA1535, TA1537, TA98, TA100 and Escherichia coli strain WP2uvrA
 - In vitro mammalian chromosome aberration test (OECD 473) in Chinese Hamster Lung (CHL/IU) cell line
 - Mammalian cell gene mutation assay (mouse lymphoma assay -OECD476) in L5178Y TK+:-3.7.2c mouse lymphoma cell line with and without metabolic activation
- Toxic for reproduction
- Fertility : No adverse were seen on reproduction/developmental according to OECD 422 (oral gavage on rats) on orthophosphoric up to a dose - NOAEL of 500 mg/kg bw/day
- Development : The administration of up to a dose - NOAEL of 410 mg/kg (body weight) of monosodium phosphate to pregnant rats for 10 consecutive days had no clearly discernible effect on nidation or on maternal or foetal survival.

SECTION 12. Ecological information

- 12.1. Toxicity
 - Fishes : Median lethal pH (96h) 3-3.25 for Lepomis macrochirus (no guideline followed)
 - Aquatic plants : EC50 (72h) : > 100 mg/L test mat. (nominal) based on : growth rate (OECD 201 - Desmodesmus subspicatus (algae))
NOEC (72 h) : 100 mg/L test mat. (nominal) based on : growth rate (OECD 201 - Desmodesmus subspicatus (algae))
 - Aquatic invertebrates : EC50 (48h): > 100 mg/l test mat. (nominal) based on: immobilization (OECD 202 - Daphnia magna)
- 12.2. Persistence - degradability : Not relevant.
- 12.3. Bioaccumulative potential : Not relevant.
- 12.4. Mobility in soil : No data available.
- 12.5. Results of PBT and vPvB assessment : Not PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.
- 12.6. Other adverse effects : None.

SECTION 13. Disposal considerations

13.1. Waste treatment methods

- Disposal : Neutralize with sodium carbonate, calcium carbonate, or lime.
Comply with local regulations for disposal.
- Packaging : When totally empty, containers are recyclable like any other packing.
Storage containers must be free of contamination before use.
Dispose in a safe manner in accordance with local/national regulations.
- Waste codes : See the european waste catalogue.



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SECTION 14. Transport information

14.1 - ADR/RID/ADN/IMO-IMDG/IATA

- UN No. : 1805
- Shipping name : Orthophosphoric acid
- Class : 8
- Packing group : III
Tunnel code : E : Passage forbidden through tunnels of category E. III Code tunnel : (E)
- Labelling ADR
 : C : Corrosive
Transport hazard symbol : 8
- H.I. nr : 80
- IMDG-Marine pollution : No.

SECTION 15. Regulatory information

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

- Authorisations : Not required.
- Restrictions on use : None.
- E.U. : Not a Seveso substance
Not an ozone depleting substance.
Not a persistent organic pollutant.
- WGK classification : 1 (Germany)

15.2. Chemical Safety Assessment

A Chemical Safety Assessment has been carried out.

SECTION 16. Other information

- 16.1. Indication of changes : Total revision according to Reach regulations
- 16.2. Abbreviations and acronyms :
 - ADN : European Agreement concerning international carriage of Dangerous goods by Inland waterways
 - ADR: European Agreement concerning international carriage of Dangerous goods by Road
 - Bw : body weight
 - CAS: Chemical Abstracts Service
 - CLP : Classification, labelling, packaging
 - DNEL: Derivative No effect Level
 - EC: European Community
 - ELV : Emission limit values
 - EN: European Norm
 - EUH: European Hazard Statement
 - EWC : European Waste catalogue
 - ICAO: International Civil Aviation Organization
 - IMDG: International Maritime Dangerous Goods
 - IATA: International Air Transport Association
 - LC50: Median lethal concentration
 - LD50 : Median lethal dose
 - NOAEL : No-observed-adverse-effect-level
 - PBT: Persistent, bioaccumulative, Toxic
 - PNEC: Predicted No effect Concentration



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SECTION 16. Other information (continued)

RID : Regulations concerning the international carriage of dangerous goods by rail
STEL: Short Term Exposure Limit
TWA : Time weighted average
vPvB: Very persistent,

16.3 Sources of key data used

: Reach dossier

16.4. Risk Phrases (R - H)

: R34 : Causes burns.

H314 : Causes severe skin burns and eye damage.

16.5. Training advice

: None.

16.6. Further information

: Emergency numbers

- Austria (Vienna) : +431 406 43 43
- Bulgaria (Sofia) : +359 2 9154 409
- Croatia (Zagreb) : +385 1 234 8342
- Cyprus (Nicosia) : 1401
- Czech Republic (Praha) : +42 2 2491 9293 ou +42 2 2491 5402
- Denmark (Copenhagen) : +45 82 12 12 12
- Estonia (Tallin) : 16662
- Finland (Helsinki) : +358 9 471 977
- France (Paris) : 01 40 05 48 48
- Germany (Berlin) : 49 30 19240
- Greece (Athens) : (0030) 2107793777
- Hungary (Budapest): +36 80 20 11 99
- Iceland (Reykjavik) : +354 525 111 354 543 2222
- Ireland (Dublin): +353 1 8379964
- Italy (Roma) : +39 06 305 4343
- Latvia (Riga) : +371 704 2468
- Lithuania (Vilnius) : +370 2 36 20 52, +370 2 36 20 92
- The Netherlands : +31 10 232 2200
- Norway (Oslo) : +47 22 59 13 00
- Poland (Krakow) : 48 (12) 411 99 99
- Portugal (Lisbon) : 808 250 143
- Romania (Bucarest) : +40 06 282 2121 ou +40 06 183 2121
- Slovakia (Bratislava) : + 421 2 5477 4166
- Slovenia (Ljubljana) : + 386 41 650 500
- Spain (Madrid) : 91 562 04 20
- Sweden (Stockholm) : 112
- Switzerland (Zurich) : 145
- Turkey (Ankara) : 0 800 314 7900
- United Kingdom (London) : +44 (0) 20 7188 0100

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