Phosphoric acid

79606-6X500ML

Version 2.1 Revision Date 21.07.2026 Supersedes 1

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

1.1. Product identifier

Product name	:	Phosphoric acid
SDS-number	:	000000020139
Type of product	:	Mixture
Remarks	:	SDS according to Art. 31 of Regulation (EC) 1907/2006.

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

Use of the Substance/Mixture	:	Laboratory chemicals
Uses advised against	:	none

1.3. Details of the supplier of the safety data sheet

Company	:	Honeywell Specialty Chemicals Seelze GmbH Wunstorfer Straße 40 30926 Seelze Germany	Solstice Advanced Materials US, Inc. 115 Tabor Road Morris Plains, NJ 07950-2546 USA
Telephone	:	(49) 5137-999 0	
For further information, please contact:	:	SafetyDataSheet@solstice.com	

1.4. Emergency telephone number

Emergency telephone number	:	+1-703-527-3887 (ChemTrec-Transport) +1 303-739-1378 (Medical)
	:	Poison Control Center: United Kingdom: (+44) 844 892 0111

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Corrosive to metals Category 1
H290 May be corrosive to metals.
Acute toxicity Category 4 - Oral
H302 Harmful if swallowed.
Skin corrosion Sub-category 1B
H314 Causes severe skin burns and eye damage.
Serious eye damage Category 1
H318 Causes serious eye damage.

2.2. Label elements

REGULATION (EC) No 1272/2008

Hazard pictograms :



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 :	P234	Keep only in original packaging.
	P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
	P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
	P302 + P352	IF ON SKIN: Wash with plenty of water.
	P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P308 + P313	IF exposed or concerned: Get medical advice/ attention.

Hazardous components which must be listed on the label : Orthophosphoric acid

2.3. Other hazards

The product is hygroscopic. This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. Product does not contain substances that are persistent, mobile, and toxic (PMT/vPvM) at levels of 0.1 % or higher.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical name	CAS-No. Index-No. EC-No.	Classification 1272/2008	Concentration	Remarks
Orthophosphoric acid	7664-38-2 015-011-00-6 231-633-2	Met. Corr. 1; H290 Acute Tox. 4; H302; Oral Skin Corr. 1B; H314 Eye Dam. 1; H318	>= 70 % - < 90 %	Eye Irrit. 2; H319:10 - < 25 % Skin Irrit. 2; H315:10 - < 25 % Skin Corr. 1B; H314:>= 25 % Eye Irrit. 2; H319:10 - < 25 % Skin Corr. 1B; H314:>= 25 % Skin Irrit. 2; H315:10 - < 25 %

Remaining components of this product are non-hazardous and/or are present at concentrations below reportable limits.

Occupational Exposure Limit(s), if available, are listed in Section 8.
For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice:

First aider needs to protect himself. Immediately take off contaminated clothing and rinse body with plenty of water.

Inhalation:
Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician immediately.

Skin contact:
Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician immediately.

Eye contact:
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.

Ingestion:
Rinse mouth with water. Drink 1 or 2 glasses of water. Do NOT induce vomiting. Call a physician immediately.

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

No data available

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

Treat symptomatically.

See Section 11 for more detailed information on health effects and symptoms. :

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:
Water spray
Foam
Carbon dioxide (CO2)
Dry powder

Extinguishing media which shall not be used for safety reasons:
High volume water jet

5.2. Special hazards arising from the substance or mixture

Contact with metals liberates hydrogen gas.
In case of fire hazardous decomposition products may be produced such as:
Oxides of phosphorus

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protective equipment. Immediately evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Do not breathe vapours or spray mist. Do not get in eyes, on skin, or on clothing.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Discharge into the environment must be avoided. Do not flush into surface water or sanitary sewer system. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

6.3. Methods and materials for containment and cleaning up

Ventilate the area.

With acids neutralization takes place under development of heat.
Neutralise with the following product(s):
lime
soda ash
Soak up with inert absorbent material.
Sweep up and shovel into suitable containers for disposal.

6.4. Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling:
Provide sufficient air exchange and/or exhaust in work rooms. Use only acid resistant equipment.

Advice on protection against fire and explosion:
Normal measures for preventive fire protection.

Hygiene measures:
When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product. Keep working clothes separately. Remove and wash contaminated clothing before re-use. Do not breathe vapours or spray mist. Do not get in eyes, on skin, or on clothing.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions:
Store in original container. Keep container tightly closed in a dry and well-ventilated place. Protect from extreme heat and cold. Do not leave vessels/containers open Avoid product residues in/on containers.

7.3. Specific end use(s)

no additional data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits:

Components	Basis / Value type	Value / Form of exposure	Exceeding Factor	Remarks
Orthophosphoric acid	EH40 WEL			Listed
Orthophosphoric acid	EH40 WEL TWA	1 mg/m3		
Orthophosphoric acid	EU ELV STEL	2 mg/m3		Indicative
Orthophosphoric acid	EU ELV TWA	1 mg/m3		Indicative
Orthophosphoric acid	EU SCOELS STEL	2 mg/m3 0,5 ppm Vapour	15 minutes	
Orthophosphoric acid	EU SCOELS TWA	1 mg/m3 0,2 ppm Vapour	8 hours	
Orthophosphoric acid	EH40 WEL STEL	2 mg/m3	15 minutes	

EH40 WEL - UK. EH40 Workplace Exposure Limits (WELs), as amended

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EH40 WEL - UK. EH40 Workplace Exposure Limits (WELs), as amended
TWA - Time weighted average
EU ELV - 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
STEL - Short term exposure limit

DNEL/ PNEC-Values

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
Orthophosphoric acid	Workers / Long-term systemic		70 mg/m3	Inhalation	

	effects				
Orthophosphoric acid	Workers / Long-term local effects		1 mg/m3	Inhalation	
Orthophosphoric acid	Consumers / Long-term systemic effects		4,57 mg/m3	Inhalation	
Orthophosphoric acid	Consumers / Long-term local effects		0,36 mg/m3	Inhalation	
Orthophosphoric acid	Consumers / Long-term systemic effects		0,1mg/kg bw/d	Skin contact	

No PNEC data available.

8.2. Exposure controls

Occupational exposure controls

The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.

Engineering measures
Use with local exhaust ventilation.
acid resisting floor
Emergency sprinkling nozzle

Personal protective equipment
Respiratory protection:
P2
In the case of vapour formation use a respirator with an approved filter.
Recommended Filter type:
Particulates type

Hand protection:
Glove material: Natural Latex
Break through time: > 480 min

Glove thickness: 0,6 mm
Lapren®706
Gloves must be inspected prior to use.
Replace when worn.
Remarks:Supplementary note: The specifications are based on information and tests from similar substances by analogy.
Due to varying conditions (e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.
Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer reccomends to use the chemical protective glove in practice not longer than 50% of the recomended permeation time.
Manufacturer´s directions for use should be observed because of great diversity of types .
Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

Eye protection:
Safety goggles

Skin and body protection:
Complete suit protecting against chemicals
Wear suitable protective equipment.

Environmental exposure controls

Handle in accordance with local environmental regulations and good industrial practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

(a) Physical state	:	liquid
(b) Colour	:	colourless
(c) Odour	:	odourless
(d) Melting point/freezing point	:	ca. 21 °C
(e) Boiling point/boiling range	:	158 °C at 1.013 hPa

(f) Flammability	:	Not applicable
(g) Lower and upper explosion limit	:	Lower explosion limit Not applicable
	:	Upper explosion limit Not applicable
(h) Flash point	:	Not applicable
(i) Auto-ignition temperature	:	Not applicable
(j) Decomposition temperature	:	300 °C Decomposition temperature
(k) pH	:	1,0 at 20 °C
(l) Viscosity, kinematic	:	No data available
(m) Solubility(ies)	:	Water solubility: completely miscible
(n) Partition coefficient: n-octanol/water	:	No data available
(o) Vapour pressure	:	16 hPa at 50 °C
		2 hPa at 20 °C
(p) Density and / or relative density	:	ca. 1,71 g/cm3 at 20 °C
(q) Bulk density	:	Not applicable
(q) Relative vapour density	:	No data available
(r) Particle characteristics	:	No data available

9.2 Other Information

Polymer characteristics : No data available

The product is hygroscopic.
Corrosive to metals : Corrosive to metals

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

ca.300 °C
Decomposition temperature

10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.
Corrosive in contact with metals

10.4. Conditions to avoid

Protect from atmospheric moisture and water.

10.5. Incompatible materials

Metals
Powdered metals
Gives off hydrogen by reaction with metals.
Strong bases

10.6. Hazardous decomposition products

In case of fire hazardous decomposition products may be produced such as:
Oxides of phosphorus

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

(a) Acute toxicity

Acute oral toxicity:
Acute toxicity estimate
Value: 500 - 2.000 mg/kg
Conclusive and supporting classification (Ref: REACH Dossier - ECHA disseminated data)

Acute dermal toxicity:
No data available

Acute inhalation toxicity:
No data available

Acute toxicity (other routes of administration):
No data available

(b) Skin corrosion/irritation:
Result: Causes severe burns.

(c) Serious eye damage/eye irritation:
Classification: Risk of serious damage to eyes.

(d) Respiratory or skin sensitisation:
Classification: non-sensitizing

(e) Germ cell mutagenicity:
Test Method: Ames test
Result: negative

(f) Carcinogenicity:
Species: not specified
Note: No data available

(g) Reproductive toxicity:
Remarks: No data available

(h) STOT-single exposure:
No data available

(i) STOT - repeated exposure:
Note: No data available

(j) Aspiration hazard:
No data available

11.2. Information on other hazards

Endocrine disrupting properties
No data available

Other information:
No data available

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish:
No data available

Toxicity to aquatic plants:
EC50
Species: Desmodesmus subspicatus (green algae)
Value: > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to Microorganisms:
EC50
Species: activated sludge
Value: 250 mg/l

Toxicity to aquatic invertebrates:
Immobilization
Species: Daphnia magna (Water flea)
Value: > 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

12.2. Persistence and degradability

Biodegradability:

The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Does not bioaccumulate.

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Product does not contain substances that are persistent, mobile, and toxic (PMT/vPvM) at levels of 0.1 % or higher.

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6. Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7. Other adverse effects

Do not flush into surface water or sanitary sewer system.
Neutralisation will reduce ecotoxic effects.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product:
Dispose according to legal requirements.

Packaging:
Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

Further information:
Provisions relating to waste:

EC Directive 2006/12/EC; 2008/98/EEC
Regulation No. 1013/2006
For personal protection see section 8.

SECTION 14: Transport information

14.1 UN number or ID number
ADR/RID:1805 IMDG:1805 IATA:1805

14.2 UN proper shipping name
ADR/RID:PHOSPHORIC ACID, SOLUTION
IMDG:PHOSPHORIC ACID SOLUTION
IATA:Phosphoric acid, solution

14.3 Transport hazard class(es)
ADR/RID:8 IMDG: 8 IATA: 8

14.4 Packaging group
ADR/RID:III IMDG: III IATA: III

14.5 Environmental hazards
ADR/RID:no Marine pollutant: no

14.6 Special precautions for user
IMDG Code segregation group (SGG1) – ACIDS,

14.7 Maritime transport in bulk according to IMO instruments
No data available

SECTION 15: Regulatory information

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

Basis	Value	Remarks
Directive 2012/18/EC		Not applicable
Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of ≥ 0.1 % (w/w).

Other inventory information

USA. List of Active Substances on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory, as amended
All substances listed as active on the TSCA inventory

Australian Inventory of Industrial Chemicals
All components are listed on the inventory, regulatory obligations/restrictions apply

Canada. Domestic Substances List (DSL), as amended
All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List
On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI)
On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS)
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)
On the inventory, or in compliance with the inventory

Thailand. Existing Chemicals Inventory from FDA (TECI List)
On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory (TCSI)
On the inventory, or in compliance with the inventory

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Text of H-statements referred to under heading 3

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

Further information

All directives and regulations refer to amended versions.
Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

Abbreviations:
EC European Community
CAS Chemical Abstracts Service
DNEL Derived no effect level
PNEC Predicted no effect level
vPvB Very persistent and very biaccumulative substance
PBT Persistent, bioaccmulative und toxic substance

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