

Phosphorous acid solution

04115-1L

Version 1.2

Revision Date 17.12.2022

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

1.1. Product identifier

Product name : Phosphorous acid solution
SDS-number : 000000022416
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	Honeywell International, Inc. 115 Tabor Road Morris Plains, NJ 07950-2546 USA
Telephone	: (49) 5137-999 0	
For further information, please contact:	: PMTEU Product Stewardship: SafetyDataSheet@Honeywell.com	

1.4. Emergency telephone number

Emergency telephone number : +1-703-527-3887 (ChemTrec-Transport)
+1-303-389-1414 (Medical)
Country based Poison Control Center : see chapter 15.1

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Phosphorous acid solution

04115-1L

Version 1.2

Revision Date 17.12.2022

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 Category 1A
H314 Causes severe skin burns and eye damage.

2.2. Label elements

REGULATION (EC) No 1272/2008

Hazard pictograms

:



Signal word

:

Danger

Hazard statements

:

H290
H302
H314

May be corrosive to metals.
Harmful if swallowed.
Causes severe skin burns and eye damage.

Precautionary statements

:

P234
P260

P280

P284
P301 + P330 + P331

P302 + P352
P304 + P340

P305 + P351 + P338

P308 + P313

Keep only in original container.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Wear protective gloves/protective clothing/eye protection/face protection.
Wear respiratory protection.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN: Wash with plenty of water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/ attention.

Phosphorous acid solution

04115-1L

Version 1.2

Revision Date 17.12.2022

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

2.3. Other hazards

Extremely corrosive and destructive to tissue. None of the substances currently listed in Annex XIV of the REACH regulation 1907/2006/EC or in the SVHC Candidate List are known to be incorporated in this product in quantities ≥ 0.1 % w/w.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Chemical name	CAS-No. Index-No. REACH Registration Number EC-No.	Classification 1272/2008	Concentration	Remarks
phosphonic acid	13598-36-2 015-157-00-0 237-066-7	Acute Tox. 4; H302; Oral Skin Corr. 1A; H314 Eye Dam. 1; H318	≥ 50 % - ≤ 100 %	

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. Move out of dangerous area. Take off all contaminated clothing immediately.

Inhalation:

Phosphorous acid solution

04115-1L

Version 1.2

Revision Date 17.12.2022

Move to fresh air. If not breathing, give 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. Call a physician immediately.

Eye contact:

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Protect unharmed eye. Call a physician immediately.

Ingestion:

Do NOT induce vomiting. When swallowed, allow water to be drunk. Never give anything by mouth to an unconscious person. 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

No data available

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:

Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Fire may cause evolution of:
Phosphorus oxides (eg Phosphorus pentoxide)

Phosphorous acid solution

04115-1L

Version 1.2

Revision Date 17.12.2022

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.
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. Unprotected persons must be kept away. Evacuate personnel to safe areas. Provide adequate ventilation. Avoid contact with skin, eyes and clothing.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

6.3. Methods and materials for containment and cleaning up

Neutralize with lime milk or soda and flush with plenty of water.
Soak up with inert absorbent material.
Sweep up and shovel into suitable containers for disposal.
Dispose of in accordance with local regulations.

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. Wear personal protective equipment. Use only acid resistant equipment. Avoid inhalation, ingestion and contact with skin and eyes.

Advice on protection against fire and explosion:

Normal measures for preventive fire protection.

Hygiene measures:

Take off all contaminated clothing immediately. Wash hands before breaks and at the end of workday. When using do not eat or drink. Avoid contact with the skin and the eyes.

Phosphorous acid solution

04115-1L

Version 1.2

Revision Date 17.12.2022

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions:

Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place.

Advice on common storage:

Keep away from oxidizing agents and strongly acid or alkaline materials.

7.3. Specific end use(s)

no additional data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

DNEL/ PNEC-Values

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
phosphonic acid	Workers / Long-term systemic effects		2,94 mg/m3	Inhalation	
phosphonic acid	Workers / Long-term systemic effects		0,83mg/kg bw/d	Skin contact	
phosphonic acid	Consumers / Long-term systemic effects		0,72 mg/m3	Inhalation	
phosphonic acid	Consumers / Long-term systemic effects		0,42mg/kg bw/d	Skin contact	

Phosphorous acid solution

04115-1L

Version 1.2

Revision Date 17.12.2022

phosphonic acid	Consumers / Long-term systemic effects		0,42mg/kg bw/d	Ingestion	
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Component	Environmental compartment / Value	Remarks
phosphonic acid	Fresh water: 0,153 mg/l	Assessment factor: 1000
phosphonic acid	Marine water: 0,0153 mg/l	Assessment factor: 10000

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.
Do not breathe vapours/dust.

Personal protective equipment

Respiratory protection:

In the case of vapour formation use a respirator with an approved filter.

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.

Phosphorous acid solution

04115-1L

Version 1.2

Revision Date 17.12.2022

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 recommends to use the chemical protective glove in practice not longer than 50% of the recommended 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:

acid-proof protective clothing

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

Physical state	: liquid
Colour	: colourless
Odour	: slight, original odour
molecular weight	: 82,00 g/mol
Melting point/range	: No data available
Boiling point/boiling range	: No data available
Upper explosion limit	: Not applicable
Lower explosion limit	: Not applicable

Phosphorous acid solution

04115-1L

Version 1.2

Revision Date 17.12.2022

Flash point	:	Not applicable
Decomposition temperature	:	180 °C Decomposition temperature
pH	:	< 1,0 at 20 °C
Water solubility	:	completely miscible
Partition coefficient: n-octanol/water	:	No data available
Density	:	ca. 1,270 g/cm ³ at 20 °C

9.2 Other Information

Corrosive to metals : Corrosive to metals

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

180 °C
Decomposition temperature

10.3. Possibility of hazardous reactions

Corrosive in contact with metals

10.4. Conditions to avoid

Protect from exposure to air/oxygen.

Phosphorous acid solution

04115-1L

Version 1.2

Revision Date 17.12.2022

10.5. Incompatible materials

Corrosive in contact with metals
Incompatible with oxidizing agents.
Strong bases

10.6. Hazardous decomposition products

Phosphorus compounds

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity:

LD50

Species: Rat

Sex: female

Value: 1.560 mg/kg

Method: OECD Test Guideline 401

Test substance: Aqueous solution (10%)

Acute dermal toxicity:

No data available

Acute inhalation toxicity:

No data available

Skin irritation:

Species: Rabbit

Result: Causes severe burns.

Eye irritation:

No data available

Respiratory or skin sensitisation:

No data available

Repeated dose toxicity:

Species: Rat, male and female

Application Route: Oral

Note: Not classified due to data which are conclusive although insufficient for classification.

Phosphorous acid solution

04115-1L

Version 1.2

Revision Date 17.12.2022

Carcinogenicity:

Species: not specified

Note: Not classified due to data which are conclusive although insufficient for classification.

Germ cell mutagenicity:

Test Method: In vitro mammalian cell gene mutation test

Cell type: Mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Result: negative

Method: OECD Test Guideline 476

GLP: yes

Reproductive toxicity:

Species: not specified

Remarks: Not classified due to data which are conclusive although insufficient for classification.

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:

LC50

static test

Species: Cyprinus carpio (Carp)

Value: > 100 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to aquatic plants:

EC50

Growth rate

Phosphorous acid solution

04115-1L

Version 1.2

Revision Date 17.12.2022

static test

Species: *Pseudokirchneriella subcapitata* (green algae)

Value: 153 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Toxicity to aquatic invertebrates:

EC50

static test

Species: *Daphnia magna* (Water flea)

Value: > 1.000 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

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

No data available

12.6. Endocrine disrupting properties

No data available

12.7. Other adverse effects

The ecological data given are those of the active ingredient.

Phosphorous acid solution

04115-1L

Version 1.2

Revision Date 17.12.2022

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

ADR/RID:3264

IMDG:3264

IATA:3264

14.2 UN proper shipping name

ADR/RID:CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(PHOSPHONIC ACID)

IMDG:CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(PHOSPHONIC ACID)

IATA:Corrosive liquid, acidic, inorganic, n.o.s.(Phosphonic acid)

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

Phosphorous acid solution

04115-1L

Version 1.2

Revision Date 17.12.2022

No data available

SECTION 15: Regulatory information

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

Basis	Value	Remarks
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).

Poison Control Center

Country	Phone Number
Austria	+4314064343
Belgium	070 245245
Bulgaria	(+35929154233
Croatia	(+3851)23-48-342
Cyprus	+357 2240 5611
Czech Republic	+420224919293; +420224915402
Denmark	82121212
Estonia	16662; (+372)6269390
Finland	9471977
France	+33(0)145425959
Greece	+30 210 779 3777
Hungary	(+36-80)201-199
Iceland	5432222
Ireland	+353(1)8092166
Italy	0382 24444
Germany	Berlin : 030/19240

Country	Phone Number
Liechtenstein	+41 442515151
Lithuania	+370532362052
Luxembourg	070245245; (+352)80002-5500
Malta	+356 2395 2000
Netherlands	030-2748888
Norway	22591300
Poland	+48 42 25 38 400
Portugal	800250250
Romania	+40 21 318 3606
Slovakia (NTIC)	+421 2 54 774 166
Slovenia	+386 1 400 6051
Spain	+34915620420
Sweden	112 (begär Giftinformation);+46104566786
Switzerland	145
United Kingdom	(+44) 844 892 0111

Phosphorous acid solution

04115-1L

Version 1.2

Revision Date 17.12.2022

	Bonn : 0228/19240
	Erfurt : 0361/730730
	Freiburg : 0761/19240
	Göttingen : 0551/19240
	Homburg : 06841/19240
	Mainz : 06131/19240
	Munich : 089/19240
Latvia	+37167042473

Other inventory information

US. Toxic Substances Control Act
On TSCA Inventory

Australia. Inventory of Industrial Chemicals (AIIC), as amended
On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)
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

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
On the inventory, or in compliance with the inventory

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

Phosphorous acid solution

04115-1L

Version 1.2

Revision Date 17.12.2022

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

phosphonic acid : 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 bioaccumulative substance
PBT Persistent, bioaccumulative und toxic substance

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user.

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