

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.07.2014

Page 1 of 8

Phosphoric Acid,ACS

SECTION 1 : Identification of the substance/mixture and of the supplier

Product name : Phosphoric Acid,ACS

Manufacturer/Supplier Trade name:

Manufacturer/Supplier Article number: S25470A

Recommended uses of the product and uses restrictions on use:

Manufacturer Details:

AquaPhoenix Scientific
9 Barnhart Drive, Hanover, PA 17331

Supplier Details:

Fisher Science Education
15 Jet View Drive, Rochester, NY 14624

Emergency telephone number:

Fisher Science Education Emergency Telephone No.: 800-535-5053

SECTION 2 : Hazards identification

Classification of the substance or mixture:



Corrosive

Skin corrosion, category 1B
Corrosive to metals, category 1

Corrosive to Metals 1
Skin Corrosion 1B

Signal word :Danger

Hazard statements:

May be corrosive to metals
Causes severe skin burns and eye damage

Precautionary statements:

If medical advice is needed, have product container or label at hand
Keep out of reach of children
Read label before use
Do not breathe dust/fume/gas/mist/vapours/spray
Wash ... thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Keep only in original container
Do not eat, drink or smoke when using this product
Immediately call a POISON CENTER or doctor/physician
Specific treatment (see ... on this label)
Wash contaminated clothing before reuse
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.
Continue rinsing

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.07.2014

Page 2 of 8

Phosphoric Acid,ACS

Store locked up

Store in a corrosive resistant/... container with a resistant inner liner

Dispose of contents/container to ...

Conc 10% to <25%:

Eye Irritation 2, Skin Irritation 2

Conc <10%:

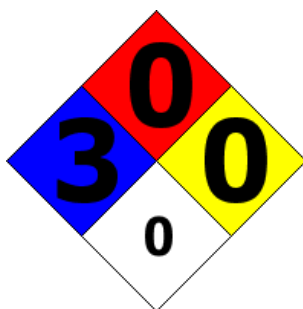
Not classified for physical or health hazards under GHS.

Other Non-GHS Classification:

WHMIS



NFPA/HMIS



NFPA SCALE (0-4)

Health	0
Flammability	0
Physical Hazard	0
Personal Protection	X

HMIS RATINGS (0-4)

SECTION 3 : Composition/information on ingredients

Ingredients:		
CAS 7664-38-2	Phosphoric Acid	>85 %
CAS 7732-18-5	Deionized Water	<15 %
Percentages are by weight		

SECTION 4 : First aid measures

Description of first aid measures

After inhalation: Seek medical attention immediately. Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position.

After skin contact: Remove contaminated clothing and wash before reuse or discard. Rinse skin with for 30 minutes with deluge of water or under a shower. Seek immediate medical attention.Wash affected area with soap and water.

After eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 30 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention immediately.Protect unexposed eye.

After swallowing: Seek medical attention immediately. Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water.

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.07.2014

Page 3 of 8

Phosphoric Acid,ACS

Most important symptoms and effects, both acute and delayed:

Irritation, Nausea, Headache, Shortness of breath. May cause severe burns and ulcerations. May cause severe burn and irreversible eye injury. May cause gastrointestinal tract burns, corrosion and permanent tissue damage of the digestive tract and esophagus;

Indication of any immediate medical attention and special treatment needed:

If seeking medical attention, provide SDS document to physician. Wipe off contact areas with a dry cloth if possible, before flushing with water. Dispose of cloth by soaking in water. Neutralize the soaking solution with sodium hydroxide solution.

SECTION 5 : Firefighting measures

Extinguishing media

Suitable extinguishing agents: If in laboratory setting, follow laboratory fire suppression procedures. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

For safety reasons unsuitable extinguishing agents:

Special hazards arising from the substance or mixture:

Hydrogen gas is released in contact with most metals. Combustion products may include carbon oxides or other toxic vapors. Combustion products may include phosphine, oxides of phosphorus, and hydrogen gas.

Advice for firefighters:

Protective equipment: Wear protective equipment Use respiratory protective device against the effects of fumes/dust/aerosol/vapor . Use NIOSH-approved respiratory protection/breathing apparatus.

Additional information (precautions): Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

SECTION 6 : Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Wear protective equipment. Avoid contact with eyes, skin, and clothing. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

Environmental precautions:

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13

Methods and material for containment and cleaning up:

Absorb spillage to prevent material damage due to corrosiveness to metal. If in a laboratory setting, follow Chemical Hygiene Plan procedures. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor. Collect liquids using inert absorbent material.

Reference to other sections:

SECTION 7 : Handling and storage

Precautions for safe handling:

Wash hands after handling. Do not mix with bases. Use in a chemical fume hood. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan. Use only in well ventilated areas. Prevent contact with eyes, skin, and clothing

Conditions for safe storage, including any incompatibilities:

Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Keep container tightly sealed. Do not store under direct sun light. Do not pile up the containers. Do not store at temperatures close to freezing point. Container materials should be made of stainless steel 316-L, high-density polyethylene, or

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.07.2014

Page 4 of 8

Phosphoric Acid,ACS

glass. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs.

SECTION 8 : Exposure controls/personal protection



Control Parameters:

7664-38-2, Phosphoric Acid, ACGIH TLV: 1 mg/m³ as TWA
7664-38-2, Phosphoric Acid, ACGIH TLV 3 mg/m³ as STEL
7664-38-2, Phosphoric Acid, OSHA PEL†: TWA 1 mg/m³ (See 29 CFR 1910.1000 Appendix G)
7664-38-2, Phosphoric Acid, NIOSH REL: TWA 1 mg/m³
7664-38-2, Phosphoric Acid, NIOSH REL ST: 3 mg/m³
7664-38-2, Phosphoric Acid, NIOSH IDLH: 1000 mg/m³

Appropriate Engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or dusts (total/respirable) below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

Respiratory protection:

Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.

Protection of skin:

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Eye protection:

Safety glasses with side shields or goggles.

General hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

SECTION 9 : Physical and chemical properties

Appearance (physical state,color):	Clear, colorless liquid	Explosion limit lower: Explosion limit upper:	Not determined Not determined
Odor:	Odorless	Vapor pressure:	Not determined
Odor threshold:	Not determined	Vapor density:	3.4
pH-value:	Not determined	Relative density:	1.680
Melting/Freezing point:	21°C	Solubilities:	Soluble in water
Boiling point/Boiling range:	158°C	Partition coefficient (n-octanol/water):	Not determined
Flash point (closed cup):	Not determined	Auto/Self-ignition temperature:	Not determined

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.07.2014

Page 5 of 8

Phosphoric Acid,ACS

Evaporation rate:	Not determined	Decomposition temperature:	300°C
Flammability (solid,gaseous):	Not applicable	Viscosity:	a. Kinematic:Not determined b. Dynamic: Not determined
Density: Not determined Additional property:: Hygroscopic. Specific Gravity: 1.680 Molecular Weight: :98.00 g/mol			

SECTION 10 : Stability and reactivity

Reactivity:

Chemical stability:This hygroscopic substance pulls moisture from air. No decomposition if used and stored according to specifications.

Possible hazardous reactions:

Conditions to avoid:Metals. Exposure to moist air or water. Incompatible materials. Excess heat. Store away from oxidizing agents, strong acids or bases.

Incompatible materials:Metals. Bases . Alcohols. Amines. Halogenated agents. Organic peroxides. Amides. Azo. Diazo. Hydrazines. Chlorates. Carbamates. Esters. Fluorides. Phenols. Cresols . Organophosphates.

Phosphothioates. Epoxides. Combustible and flammable materials. Explosives. Alkalines. Nitromethane. Sodium tetrahydroborate. Mercaptans. Aldehydes. Ketones. Glycols. Cyanides. Sulfides. Caustics. Strong acids.Carbides. Strong bases.Fulminates. Reducing agents. Nitrates. Acetic acid. Oxidizing agents

Hazardous decomposition products:Phosphine. Oxides of phosphorus. Hydrogen gas is released in contact with most metals.

SECTION 11 : Toxicological information

Acute Toxicity:		
Oral:	2600 mg/kg bw	LD50 for a 10% solution of 75.4% thermal phosphoric acid (rat)
Oral:	1530 mg/m3	LD50 oral-rat: (7764-38-2)
Inhalation:	>850mg/m3	LC50 inhalation-rat (1h) (7664-38-2)
Chronic Toxicity: No additional information.		
Corrosion Irritation:		
Dermal:	Section 2	Classified as a skin corrosion
Ocular:	Section 2 (eye damage is presumed with Skin 1 classification)	Eye Damage
Dermal:		May cause severe burns and ulcerations.
Ocular:		May cause severe burn and irreversible eye damage
Sensitization:		No additional information.
Single Target Organ (STOT):		No additional information.
Numerical Measures:		No additional information.

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.07.2014

Page 6 of 8

Phosphoric Acid,ACS

Carcinogenicity:	IARC: Not listed NTP: Not listed
Mutagenicity:	No additional information.
Reproductive Toxicity:	No additional information.

SECTION 12 : Ecological information

Ecotoxicity

Do not release to water: May release phosphates which will result in algae growth, increased turbidity, and depleted oxygen in the marine environment; at extremely high concentrations and/or quantities, this may be hazardous to fish or other marine organisms.

LpH50 (median lethal pH) (96h) phosphoric acid (bluegill sunfish): 3-3.25

Adult brook trout survived 5 months exposure to pH levels of 5.0 and above. Total egg production was not affected, but viability was significantly less at pH 5.0. Hatchability was significantly less at levels below pH 6.5. Growth and survival of alevins was reduced at the lower pH levels. : The data indicate that continuous exposure to pH levels below 6.5 result in significant reductions in egg hatchability and growth.

Algae: NOEC (EC50 >100 mg/l, the upper limit of toxic range) D. subspicatus : 100 mg/l

Persistence and degradability: Readily degradable in the environment.

Bioaccumulative potential: The phosphorus element is an essential nutrient for flora and fauna

Mobility in soil:

Other adverse effects:

SECTION 13 : Disposal considerations

Waste disposal recommendations:

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

SECTION 14 : Transport information

UN-Number

1805

UN proper shipping name

Phosphoric Acid Solution

Transport hazard class(es)



Class:

8 Corrosive substances

Packing group:III

Environmental hazard:Not listed as a Marine Pollutant

Transport in bulk:

Special precautions for user:

SECTION 15 : Regulatory information

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.07.2014

Page 7 of 8

Phosphoric Acid,ACS

United States (USA)

SARA Section 311/312 (Specific toxic chemical listings):

Acute

SARA Section 313 (Specific toxic chemical listings):

None of the ingredients is listed

RCRA (hazardous waste code):

None of the ingredients is listed

TSCA (Toxic Substances Control Act):

All ingredients are listed.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

7664-38-2 Phosphoric acid 5000

Proposition 65 (California):

Chemicals known to cause cancer:

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed

Chemicals known to cause developmental toxicity:

None of the ingredients is listed

Canada

Canadian Domestic Substances List (DSL):

All ingredients are listed.

Canadian NPRI Ingredient Disclosure list (limit 0.1%):

None of the ingredients is listed

Canadian NPRI Ingredient Disclosure list (limit 1%):

7664-38-2 Phosphoric acid

SECTION 16 : Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

GHS Full Text Phrases:

Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

PNEC: Predicted No-Effect Concentration (REACH)

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.07.2014

Page 8 of 8

Phosphoric Acid,ACS

CFR: Code of Federal Regulations (USA)

SARA: Superfund Amendments and Reauthorization Act (USA)

RCRA: Resource Conservation and Recovery Act (USA)

TSCA: Toxic Substances Control Act (USA)

NPRI: National Pollutant Release Inventory (Canada)

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

DNEL: Derived No-Effect Level (REACH)

Effective date : 12.07.2014

Last updated : 03.23.2015