

SPI Supplies Division

Structure Probe, Inc.

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Manufacturer's CAGE: 1P573

Safety Data Sheet

Date Effective: September 17, 2018

SPI Catalog #s 02535-BA, 02535-AB

SPI-Chem™ Phosphotungstic Acid,

Section 1.1: Identification

Chemical Name/Synonyms Phosphotungstic acid hydrate; 12-Tungstophosphate hydrate

Product or Trade Name SPI-Chem™ Phosphotungstic Acid,

CAS #'s 12501-23-4

Chemical Formula..... $H_3O_{40}PW_{12} \cdot x H_2O$

Section 1.2: Relevant Uses/Restrictions

Chemical stain for electron microscopy.

Section 1.3: Supplier of the Safety Data Sheet

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Section 1.4: Emergency telephone number

Emergencies

Contacting CHEMTREC:

24 Hour Emergency Use Only #'s...

Worldwide phone: 1-(703)-741-5970

Toll-free phone: 1-(800)-424-9300 USA + Canada only

Section 2: Hazard Identification

2.1 Classification of the substance

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS):

Skin corrosion/irritation (category 1B)

Serious eye damage (category 1)

2.2 Label elements

Pictogram



Signal Word: Danger

Hazard statements:

- H314 Causes severe skin burns and eye damage
- H318 Causes serious eye damage

Precautionary statements:

- P260 Do not breathe dust/fume/gas/mist/vapors/spray
- P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305 + P351 + 338 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
- P405 Store locked up
- P403 + P233 Store in a well-ventilated place. Keep container tightly closed
- P501 Dispose of contents/container to an approved waste disposal plant

2.3 Hazards not otherwise classified (HNOC): None identified

WHMIC classification:

- D2B – Toxic material causing other toxic effects.
- E – Corrosive material.

Results of PBT and vPvB assessment:

- PBT:** Not applicable
- vPvB:** Not applicable

Hazardous Material Information System USA

- Health 3
- Fire Hazard 0
- Reactivity 1
- Personal Protection

NFPA Rating (estimated)

- Health 3
- Flammability 0
- Reactivity 0

Section 3: Composition

3.1 Substances:

Phosphotungstic acid hydrate CAS # 12501-23-4 EC # 215-682-7 <=100%

Section 4: First Aid Measures

4.1 Description of first aid measures:

General Information:

Immediately remove any clothing soiled by the product.

Inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.

Skin Contact:

Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.

Eye Contact:

Rinse opened eye for several minutes under running water.
Then immediately consult a doctor.

Ingestion:

Seek medical treatment.

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

Causes severe skin burns.
Causes serious eye damage.

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

No further relevant information available.

Section 5: Fire Fighting Measures

5.1 Extinguishing media:

Product is not flammable. Use fire-fighting measures that suit the surrounding fire.

5.2 Special hazards arising from the substance or mixture:

If this product is involved in a fire, the following can be released:

Phosphorus oxides
Metal oxide fume

5.3 Hazardous combustion products:

No further relevant information available.

5.4 Advice for firefighters:

Special protective equipment and precautions for firefighters:

Wear self-contained respirator.
Wear fully protective impervious suit.

Section 6: Accidental Release Measures

6.1 Personal precautions:

Wear protective equipment.
Keep unprotected person away.
Ensure adequate ventilation.

6.2 Environmental precautions:

Do not allow material to be released to the environment without proper governmental permits.

6.3 Methods and material for containment and cleaning up:

Use neutralizing agent.
Dispose of contaminated material as waste according to Section 13.
Ensure adequate ventilation.

Prevention of secondary hazards: No special measures required.

6.4 Reference to other sections:

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

Protective Action Criteria for Chemicals:

PAC-1: Substance is not listed.

PAC-2: Substance is not listed.

PAC-3: Substance is not listed.

Section 7: Handling and Storage

7.1 Precautions for safe handling:

Handle under dry protective gas.
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

The product is not flammable.

7.2 Conditions for safe storage, including any incompatibilities:

Requirements to be met by storerooms and receptacles:

No special requirements.

Information about storage in one common storage facility:

Store in the dark.
Store away from water/moisture.
Store away from oxidizing agents.

Further information about storage conditions:

Store under dry inert gas.
This product is moisture sensitive.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Protect from humidity and water.
Protect from exposure to light.

7.3 Specific end uses:

Chemical stain for electron microscopy.

This material is not being offered for clinical or diagnostic applications, agricultural uses or for human or animal consumption.

Section 8: Exposure Controls and Personal Protection

8.1 Control parameter and Personal Protection:

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Workplace exposure limits:

This product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Biological limit values: No further relevant information available.

8.2 Exposure controls:

8.2.1 Appropriate engineering controls:

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages, and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

8.2.2 Individual protection measures:

Breathing equipment:

Use suitable respirator when high concentrations are present.

Use suitable respiratory protective device in case of insufficient ventilation.

Recommended filter device for short term use:

Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.

Protection of the hands:

Impervious gloves.

Check protective gloves prior to each use for their proper condition.

The selection of suitable gloves does not only depend upon the material, but also on quality. Quality will vary from manufacturer to manufacturer.

Penetration time of glove material (in minutes): Not determined.

Eye protection:

Tightly sealed goggles.

Full face protection.

Safety glasses with side shields / NIOSH (US) or EN 166 (EU).

Body protection:

Protective work clothing.

8.2.3 Environmental exposure controls:

Ensure adequate ventilation.

Do not allow material to be released to the environment without proper governmental permits.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties:

Appearance: White to pale yellow powder

Odor: Not determined

Odor threshold: Not determined

pH: Not applicable

Melting point/Freezing point: 95 °C (203 °F)

Boiling point/Boiling point range: Not determined

Flash Point: Not determined

Evaporation rate: Not applicable

Flammability (solid, gas): Not determined

Upper/lower flammability or explosive limits: Not determined

Vapor Pressure: Not determined

Vapor density: Not applicable

Relative density: Not determined

Solubility in/Miscibility with water: Soluble

Partition coefficient (n-octanol/water): Not determined

Auto-ignition temperature: Not determined

Decomposition temperature: Not determined

Viscosity: Not applicable

Explosive properties: Not determined

Oxidizing Properties: Not determined

9.2 Other information: No further relevant information available.

Section 10: Stability and Reactivity

10.1 Reactivity: No information known.

10.2 Chemical Stability: Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications.

10.3 Possibility of Hazardous Reactions: Reacts with strong oxidizing agents.

10.4 Conditions to avoid: No further relevant information available.

10.5 Incompatible materials:

Bases
Oxidizing agents
Water / moisture
Light

10.6 Hazardous decomposition products: Phosphorous oxides (e.g. P₂P₅); Tungsten oxides.

Section 11: Toxicological Information

Information on the likely routes of exposure:

11.1 Information on toxicological effects:

A. Acute Toxicity:

Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

LD/LC values that are relevant for classification: No data available.

B. Skin irritation or corrosion:

Causes severe skin burns.

C. Eye irritation or corrosion:

Causes serious eye damage.

D. Respiratory or skin sensitization:

No sensitizing effects known.

E. Germ cell mutagenicity:

No effects known.

F. Carcinogenicity:

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

G. Reproductive toxicity: No effects known.

H. STOT-single exposure: No effects known.

I.. STOT-repeated exposure: No effects known.

J. Aspiration hazard: No effects known.

Subacute to chronic toxicity: No effects known.

Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

Section 12: Ecological Information

12.1 Toxicity:

Aquatic toxicity: No further relevant information available.

12.2 Persistence and degradability: No further relevant information available.

12.3 Bio-accumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

Additional ecological information: General Notes:

Do not allow material to be released to the environment without proper governmental permits.
Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.
Avoid transfer to the environment.

12.5 Results of PBT and vPvB assessment:

PBT: Not applicable.
vPvB: Not applicable

12.6 Other adverse effects: No further relevant information available.

Section 13: Disposal Considerations

13.1 Waste treatment methods:

Recommendation: Consult state, local, or national regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

Section 14: Transport Information

DOT:

UN number:	UN3260
UN proper shipping name:	Corrosive solid, acidic, inorganic, n.o.s. (12-Tungstophosphate hydrate)
Class:	8 Corrosive substances
Packing group:	III

Quantity limitations:	Passenger aircraft/rail: 25 kg. Cargo aircraft only: 100 kg
Marine pollutant:	No

IATA:

UN number:	UN3260
UN proper shipping name:	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (12-Tungstophosphate hydrate)
Class:	8 Corrosive substances
Packing group:	III

IMDG:

UN number:	UN3260
UN proper shipping name:	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (12-Tungstophosphate hydrate)
Class:	8 Corrosive substances
Packing group:	III
Limited quantities (LQ):	5 kg
Excepted quantities (EQ):	Code: E1 Maximum net quantity per inner packaging: 30g Maximum net quantity per outer packaging: 1000 g

Environmental hazards: Not applicable.

Special precautions for user: Warning: Corrosive substances.

EMS Number: F-A,S-B

Segregation groups: Acids

Stowage Category: A

UN "Model Regulation": UN3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
(12-TUNGSTOPHOSPHATE HYDRATE), 8, III

Section 15: Regulatory Information

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

U.S. Government Regulations:

TSCA:

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory.

SARA Section 313 (specific toxic chemical listings): Substance is not listed.

California Proposition 65:

Prop 65 – Chemicals known to cause cancer: Substance is not listed.

Prop 65 – Developmental toxicity: Substance is not listed.

Prop 65 – Developmental toxicity, female: Substance is not listed.

Prop 65 – Developmental toxicity, male: Substance is not listed.

Information about limitation of use: For use only by technically qualified individuals.

Other regulations:

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006:

Substance is not listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) or the manufacturing, placing on the market and use must be observed:

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorization for use):

Substance is not listed.

CANADA:

All components of this product are listed on the Canadian Domestic Substances List (DSL).

15.2 Chemical Safety Assessment: A Chemical Safety Assessment has not been carried out.

Date of Preparation: 17 September 2018.

Abbreviations and acronyms

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

CMRG: Chemical Manufacturer's Recommended Guidelines

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

AIHA: American Industrial Hygiene Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bio-accumulative and Toxicological
vPvB: very Persistent and very Bio-accumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety Health
ATE: Acute Toxicity Estimates
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
STEL: Short Term Exposure Limit
CEIL: Ceiling
TSCA: Toxic Substances Control Act (USA)
DSL: Domestic Substances List (Canada)
PICCS: Philippine Inventory of Chemicals and Chemical Substances
ENCS: Existing and New Chemical Substances (Japan)
AICS: Australian Inventory of Chemical Substances
IECSC: Inventory of Existing Chemical Substances in China
KECL: Korea Existing Chemicals List

Section 16: Other Information

Disclaimer of Liability:

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