山东贵恒化工科技有限公司
Shandong GH Chemicals Co., Ltd

Material Safety Data Sheet

（MSDS）

Description in Chinese： 乙烯基膦酸

Description in English： Vinylphosphonic Acid

Molecular Formula： $C_2H_5O_3P$

CAS No.： 1746-03-8

UN No.： 3265

Shandong GH Chemicals Co., Ltd

Material Safety Data Sheet

Section 1-Chemical Product and Company Identification

Chemical Name: Vinylphosphonic Acid

Synonyms: Vinylphosphonic acid (contains phosphoric acid; ethenylphosphonic acid; (ethenyloxy)(hydroxy)oxophosphonium; ethenylphosphonate

Molecular Formula: $C_2H_5O_3P$

CAS #: 1746-03-8

General Uses: Used in proton membrane of hydrogen fuel cells, inks, dyes and dental drugs.

Manuf. : Shandong GH Chemicals Co., Ltd

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Section 2-Composition and Information on Ingredients

CAS #	Chemical Name	Assay (%)	EINECS #
1746-03-8	Vinylphosphonic Acid	90-97	217-123-2

Hazards Symbols: C

Section 3-Hazards Identification

Emergency Overview

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Skin corrosion (Category 1B), H314

For the full text of the H-Statements mentioned in this Section, see Section 16.

Label elements

Labeling according Regulation (EC) No 1272/2008

Pictogram(s)	
Signal word	Danger
Hazard statement(s)	H314 Causes severe skin burns and eye damage.
Precautionary statement(s)	
Prevention	P264 Wash skin thoroughly after handling P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER/doctor.

Response	P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting. P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do, continue rinsing. P310 Immediately call a poison center/doctor/… P321 Specific treatment (see … on this label). P363 Wash contaminated clothing before reuse.
Storage	P405 Store locked up.
Disposal	P501 Dispose of contents/container to an approved waste disposal plant.

Other hazards

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.

Section 4-First Aid Measures

First Aid Measures

General Advice: Seek medical attention. Present this MSDS to medical personnel. Inhalation: Remove the victim to fresh air. If not breathing, give artificial respiration. Get medical attention.

Skin Contact: Take off immediately all contaminated clothing and shoes. Rinse skin with plenty of water and soap. Get medical attention.

Eye Contact: Flush with plenty of water for at least 15 minutes. Get medical attention.

Ingestion: Don't induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth. Get medical attention.

Special Instruction for Medical Care: N/A

Precaution to Medical Personnel: N/A

Section 5-Firefighting Measures

Extinguishing Media and Instruction: use water spray, ethanol-resistant foam, dry powder or carbon dioxide to extinguish.

Precaution to Firefighters: if necessary, wear self-contained respirator.

Section 6-Accidental Release Measures

Personal protective measures, equipment and emergency process

Use personal protective equipment. Avoid breathing vapor, mist or gases. Keep the place ventilated. Evacuate people to safety area. Refer to Section 8 for personal protection.

Environmental Protection: Avoid release to the drains.

Material for Recovery/Removal of the spill: Absorb the spill with inert material and dispose of it as waste. Recover it into a suitable, sealed container for disposal.

Section 7-Handling &Storage

Precaution: Avoid breathing vapor or mist. Common fire prevention measures.

Proper Situation for Storage, including incompatibility: Keep it at cool, dry, well-ventilated place. Containers should be tightly sealed. Opened containers must be resealed and kept upright to prevent possible release.

Section 8-Exposure Controls &Personal Protection

Harmful Composition &Exposure Limits: Not a material with exposure limits.

Exposure Control: Use proper technical control. Follow proper industrial hygiene and safe procedure while handling. Wash hands before rest and after handling.

Personal Protective Equipment

Eyes and Face Protection: Wear NIOSH/EN 166 approved protective goggles.

Skin Protection: Wear gloves before handling. Check gloves before wear. Take off gloves in a proper way. Don't contact gloves' outer surface. Avoid any skin contact. Properly dispose of contaminated gloves, following related regulations, laws and effective lab rules/procedure. Wash hands and blow dry.

The selected gloves must conform to EU 89/686/EEC regulations and EN 376 derived from it.

Body Protection: Wear protective lab work suit. Select PPE type according to the concentration and quantity of harmful substance in work place.

Respiratory System Protection: if risk assessment indicates that a filter-type gas mask is necessary, then use full-face multi-functional gas mask (US) or ABEK type (EN 14387) gas mask as a spare for engineering control. If gas mask is the only choice, then use full-face gas mask. Use only respirators and parts that have passed government standard, say, NIOSH (US) or CEN (EU).

Environmental Exposure Controls: Don't allow it to enter drains.

Section 9 Physical &Chemical Properties

Basic Physical &Chemical Properties

Appearance: Colorless or pale yellow, clear, viscous liquid
Odor: N/A
Odor Threshold Value: N/A
pH Value: N/A
Melting/Freezing Point: 36 Deg.C
IBP/Boiling Range: N/A
Flash Point: 113 Deg. C –Closed
Evaporation Rate: N/A
Flammability (solid, gas): N/A
High/Low Combustibility or Explosive Limits: N/A
Vapor Pressure: N/A
Vapor Density: 1.37g/cm^3 @20 Deg. C
Water Solubility: N/A
Log Kow: N/A
Auto-ignition Temperature: N/A
Hydrolysis Temperature: N/A
Viscosity: N/A

Explosive Properties: N/A

Oxidability: N/A

Other Safety Information

N/A

Section 10-Stability &Reactivity

Stability: it is stable under the suggested storage situation.

Dangerous Reaction: N/A

Conditions to Avoid: N/A

Incompatibility with Other Materials: Strong alkali, metal powder

Hazardous Decomposition Product(s): it will produce hazardous decomposition products (carbon oxide, phosphorus oxide) if catches fire.

Other Products of Decomposition: N/A

Section 11-Toxicological Information

Acute Toxicity: N/A

Skin Irritation/Corrosion: Cause serious skin burns

Respiratory/Skin Sensitization: Cause serious damage to upper respiratory tract

Serious Eye Damage/Irritation: Cause serious eye damage

Germ Cell Mutagenicity: N/A

Carcinogenicity

IARC: No component of this product presents at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproduction Toxicity: N/A

Specific Target Organ Systemic Toxicity (single time exposure): N/A

Specific Target Organ Systemic Toxicity (repeated exposure): N/A

Inhalation Hazard: N/A

This material causes serious damage to mucosal tissue, upper respiratory tract, eyes and skin, causes coughing, short breath, headache and nausea.

Section 12-Ecological Information

Ecotoxicity: N/A

Persistence and Decomposability: N/A

Bioaccumulation: N/A

Migration in Soil: N/A

PBT and vPvB Result Assessment: N/A

Other Harmful Environmental Effects: N/A

Section 13-Disposal Consideration

Disposal Method: Hand over the remaining/unrecoverable solution to a licensed company for waste disposal.

Section 14-Transport Information

UN Number

ADR/RID: 3265 IMDG: 3265 IATA-DGR: 3265

UN Proper Shipping Name

ADR/RID: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Vinylphosphonic acid)

IMDG: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Vinylphosphonic acid)

IATA-DGR: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Vinylphosphonic acid)

Transport Hazard Class

ADR/RID: 8 IMDG: 8 IATA-DGR: 8

Packaging Group

ADR/RID: III IMDG: III IATA-DGR: III

Environmental Hazards

ADR/RID: Null IMDG Marine Pollutant: Null IATA-DGR: Null

Special Precautions for User

Please select proper transport vehicle and suitable storage condition according to chemical properties. There should be required types and quantity of firefighting apparatus, materials and emergency equipment (in case of accidental release) on the vehicle. If select road transportation, please proceed along the route as specified.

Incompatible Materials: Strong alkali, metal powder

Section 15-Regulatory Information

Follow regulations/laws specially issued for safety, health and environmental concerns of this material or its mixture.

Other Regulations

Waste disposal should also follow local regulation/law.

Section 16-Other Information

Disclaimer

The MSDS above is based on the information currently available to us and described for health &environmental concern only. In no cases shall it be regarded as warranty of merchantability or warranty for any particular purpose, express or implied, with respect to the information. We assume no liability resulting from its use. Users should make investigation to determine the suitability of the information for their particular purpose. In no event shall we be liable for any claims, damages or losses.