Issue date: 12/8/2003
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Safety Data Sheet

1. Chemical product and company identification

Product name	:	Phosphonic acid

Company information

Name of manufacturer	:	KANTO CHEMICAL CO., INC.
Address	:	2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, JP
Name of section	:	Business Administration Department, Reagent Division
Telephone number	:	+81-3-6214-1090
Facsimile number	:	+81-3-3241-1047
Mail address	:	BC32@kanto.co.jp
Reference No	:	32189
Product numbers applied by the SDS	:	32151, 32189
Recommended use	:	For research use only
Restrictions on use	:	Seek expert judgment when using the product for applications other than those recommended.

2. Hazards identification

GHS classification

Physical hazards	Self-reactive substances and mixtures	Type G
Health hazards	Acute toxicity (oral)	Category 4
	Skin corrosion/irritation	Category 1C
	Serious eye damage/eye irritation	Category 1

Hazard pictograms



Signal word	:	Danger
Hazard statements	:	Harmful if swallowed Causes severe skin burns and eye damage

Precautionary statements

Prevention	:	Do not breathe dust. Wash hands, forearms and face thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.
Response	:	IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. IF SWALLOWED: Rinse mouth. Do not induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with 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.
Immediately call a POISON CENTER or doctor.

Storage : Store locked up.

Disposal : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

3. Composition/information on ingredients

Distinction of substance or mixture : Substance

Synonyms : Phosphorous acid

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
Phosphonic acid	≥ 97.5	H3PO3	Listed	237-066-7	13598-36-2

4. First aid measures

First aid measures

First-aid measures after inhalation : Remove the victim to fresh air, and make him blow his nose and gargle.

First-aid measures after skin contact : Wash the affected areas under running water, get medical treatment as soon as possible.

First-aid measures after eye contact : Wash the affected areas under running water for at least 15 minutes. Get medical treatment.

First-aid measures after ingestion : Rinse mouth with water. Give the victim one or two glasses of water or milk. Do not induce vomiting. Get medical treatment as soon as possible.

Personal Protection in First Aid and Measures : Rescuers should wear proper protective equipment like rubber gloves, goggles.

5. Fire fighting measures

Suitable extinguishing media : This product is noncombustible.

Unsuitable extinguishing media : None

Fire hazard : Thermal decomposition emits harmful phosphine.

Firefighting instructions : Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area.

Personal protection (Emergency response) : Firefighters should wear protective equipment.

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

General measures : Wear proper protective equipment and avoid contact with skin and inhalation of dust. Conduct operations from upwind and evacuate people downwind.

Environmental precautions

Environmental precautions	:	Attention should be given to avoid discharge of spilled product into rivers and resulting environmental damage. When diluting spill with large amounts of water, discharge of untreated wastewater into the environment must be avoided.

Methods and Equipment for Containment and Cleaning up

For containment	:	Sweep up in a chemical waste container. Neutralize residue with calcium hydroxide or sodium carbonate water solution and then flush contaminated area with copious amounts of water.

7. Handling and storage

Handling

Technical measures	:	If necessary, wear proper protective equipment to avoid contact with skin or inhalation of dust.
Precautions for safe handling	:	Avoid formation of dust and aerosols. Do not allow contact with oxidizing substances.

Storage

Storage conditions	:	As the chemical is deliquescent, keep the bottle tightly closed and store in a cool place.
Material used in packaging/containers	:	Glass, polyethylene, polypropylene.

8. Exposure controls / Personal protection equipment

ACGIH TWA	Not established

Appropriate engineering controls	:	Install a local ventilation system in case of dusty condition.

Protective equipment

Respiratory protection	:	If necessary, wear dust mask
Hand protection	:	Impervious protective gloves
Eye protection	:	Safety goggles
Skin and body protection	:	Protective clothing, protective boots

9. Physical and chemical properties

Physical state	:	Solid
Color	:	Colorless.
Odor	:	Odorless
pH	:	No data available
Melting point	:	74 ° C
Freezing point	:	No data available
Boiling point	:	259 ° C
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability	:	Non flammable.
Vapor pressure	:	0.001 Pa (20℃)
Relative density	:	1.837 (20℃)

Density	:	No data available
Relative gas density	:	No data available
Solubility	:	Organic solvents: Soluble in ethanol. Water: 1067 g/L (20℃)
Partition coefficient n-octanol/water (log Pow)	:	No data available
Explosive limits (vol %)	:	No data available
Viscosity, kinematic	:	No data available
Particle characteristics	:	No data available

10. Stability and reactivity

Reactivity	:	Has strong reducing property.
Chemical stability	:	Stable under normal conditions. Deliquescent. Absorbs oxygen and turns into phosphoric acid.
Possibility of hazardous reactions	:	When ignited, it decomposes to generate phosphine and becomes metaphosphate.
Conditions to avoid	:	Light, heat, moisture.
Incompatible materials	:	Alkaline substances, oxidizing substances.
Hazardous decomposition products	:	Phosphine, phosphorus oxide.

11. Toxicological information

Acute toxicity (oral)	:	Harmful if swallowed rat LD50=1500mg/kg
Acute toxicity (dermal)	:	No classification rat LD50＞5000mg/kg
Acute toxicity (inhalation)	:	No classification (gas) Classification not possible (vapor) Classification not possible (dust, mist)
Skin corrosion/irritation	:	Causes severe skin burns The substance was classified into category 1C based on the result of "corrosive" in the rabbit test (OECD TG 404, GLP-compliant).
Serious eye damage/irritation	:	Causes serious eye damage The substance was classified into category 1 based on the preexisting classification for skin corrosion/irritation.
Respiratory sensitization	:	Classification not possible
Skin sensitization	:	Classification not possible
Germ cell mutagenicity	:	Classification not possible
Carcinogenicity	:	Classification not possible
Reproductive toxicity	:	Classification not possible
STOT-single exposure	:	Classification not possible May cause respiratory tract irritation.
STOT-repeated exposure	:	Classification not possible
Aspiration hazard	:	Classification not possible

12. Ecological information

Ecotoxicity

Aquatic acute	:	No classification Brachydanio rerio LC50=6980-9784mg/L/96h
Aquatic chronic	:	No classification

Persistence and degradability

No additional information available

Bioaccumulative potential

No additional information available

Mobility in soil

No additional information available

Hazardous to the ozone layer

Ozone : Classification not possible

13. Disposal considerations

Ecological waste information : Precipitation method :
Dissolve in water and add calcium hydroxide or sodium carbonate solution to precipitate. Filter the precipitation and bury in a landfill site approved for hazardous waste disposal. Flush the supernatant in a drain after adjusting the pH to neutral.
Or entrust approved waste disposal companies with the disposal.

<Note>
＊The pH of the neutralization should be above 8.5. The precipitation does not form completely below pH 8.5.

Contaminated container and packaging : In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

14. Transport information

International Regulations

Transport by sea(IMDG)

UN-No. (IMDG)	:	2834
Proper Shipping Name (IMDG)	:	PHOSPHOROUS ACID
Packing group (IMDG)	:	III
Transport hazard class(es) (IMDG)	:	8

Air transport(IATA)

UN-No. (IATA)	:	2834
Proper Shipping Name (IATA)	:	Phosphorous acid
Packing group (IATA)	:	III
Transport hazard class(es) (IATA)	:	8
Marine pollutant	:	Not applicable
MFAG-No	:	154

15. Regulatory information

Regulatory information with regard to this substance in your country or region should be examined by your own responsibility.

16. Other information

Data sources : NITE Chemical Risk Information Platform (NITE-CHRIP), National Institute of Technology and Evaluation.

Encyclopaedia Chimica, Kyoritsu Shuppan Co, Ltd. (1963) .
Handbook of 17524 Chemical Products, The Chemical Daily Co. (2024) .

The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully.The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements.The information herein is only provision of information, and it does not represent a guarantee the properties of the product.The Safety Data Sheet(SDS) is prepared based on JIS Z7253.