Date of issue: 2018/10/09
Date of revision: 2022/05/18

Safety Data Sheet

1. Identification of the substance/mixture and of the company/undertaking

Product identifier:
- Product name: Phosphorus(V) chloride
- SDS No. : 6197E-2

Details of the supplier of the safety data sheet
- Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.
- Address: 3-1, Honmachibashi, Chuo-ku,Osaka ,JAPAN
- Division: Chemical Safety Management Department
- Telephone number: +81-6-6946-8061
- FAX: +81-6-6946-1607
- e-mail address: kagakuhinanzenkanri@kishida.co.jp

2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

HEALTH HAZARDS
- Acute toxicity (Oral): Category 4
- Acute toxicity (Dermal): Category 3
- Skin corrosion/irritation: Category 1
- Serious eye damage/eye irritation: Category 1
- Specific target organ toxicity - single exposure: Category 1(respiratory system)
- Specific target organ toxicity - repeated exposure: Category 2(bone)

Label elements

Signal word: Danger

HAZARD STATEMENT
- Harmful if swallowed
- Toxic in contact with skin
- Causes severe skin burns and eye damage
- Causes damage to organs(respiratory system)
- May cause damage to organs through prolonged or repeated exposure(bone)

PRECAUTIONARY STATEMENT

Prevention
- Do not breathe dust/fume/gas/mist/vapors/spray.
- Wash contaminated parts thoroughly after handling.
- Wear protective gloves, protective clothing or face protection.
- Wear eye protection/face protection.
- Do not eat, drink or smoke when using this product.

Response
- Get medical advice/attention if you feel unwell.
- IF exposed or concerned: Call a POISON CENTER/doctor/physician.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- IF ON SKIN: Wash with plenty of soap and water.
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Wash contaminated clothing before reuse.
Take off immediately all contaminated clothing and wash it before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Disposal

Dispose of contents/container in accordance with local/national regulation.

3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name:Phosphorus(V) chloride
Content (%):98(min)
Chemical formula:PCl5
Chemicals No, Japan:1-250
CAS No.:10026-13-8
MW:208.24
ECNO:233-060-3

Note : The figures shown above are not the specifications of the product.

4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical advice/attention if you feel unwell.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water or shower.
Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

IF SWALLOWED

Rinse mouth. Do NOT induce vomiting.
Call a POISON CENTER/doctor/physician if you feel unwell.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

Specific hazards arising from the substance or mixture

Containers may explode when heated.
Fire may produce irritating, corrosive and/or toxic gases.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.

Wear protective gloves/protective clothing/eye protection/face protection.

Firefighters should wear self-contained breathing apparatus with full face peace operated positive pressure mode.

6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

Methods and materials for containment and cleaning up

Sweep up, place in a bag and hold for waste disposal.

Preventive measures for secondary accident

Collect spillage.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Wear protective gloves, protective clothing or face protection.

Wear eye protection/face protection.

When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity"

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

Take off immediately all contaminated clothing and wash it before reuse.

Storage

Conditions for safe storage

Keep container tightly closed.

Store in a cool, dry place. Do not store in direct sunlight.

Keep under lock and key.

Container and packaging materials for safe handling

Glass

Polyethylene

8. Exposure controls/personal protection

Control parameters

Adopted value

(Phosphorus(V) chloride)

ACGIH(1985) TWA: 0.1ppm (URT & eye irr)

OSHA-PEL

(Phosphorus(V) chloride)

TWA: 1mg/m3

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

Individual protection measures

Respiratory protection

Wear respiratory protection.

Hand protection

Wear protective gloves.

Eye protection

Wear eye/face protection.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Fuming crystal or lump

Color: White to yellow

Odor: Pungent odor

Melting point/Freezing point data is not available.

Boiling point or initial boiling point: (Phosphorus(V) chloride)(sublimation point) 100℃

Boiling range data is not available.

Flammability (gases, liquids and solids) data is not available.

Lower and upper explosion limit/flammability limit data is not available.

Flash point data is not available.

Auto-ignition temperature data is not available.

Decomposition temperature data is not available.

pH data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: Reaction

n-Octanol/water partition coefficient data is not available.

Vapor pressure: 133 Pa (55.5℃)

Density and/or relative density: 1.6

Relative vapor density (Air=1): 7.2

Relative density of the Vapor/air - mixture at 20℃ (Air = 1): 1.2

Particle characteristics data is not available.

10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

The vapour is heavier than air.
Decomposes on heating. This produces toxic and corrosive fumes including hydrogen chloride and phosphorus oxides. Reacts violently with water and moisture. This produces phosphoric acid and hydrogen chloride. Reacts with many compounds. This generates fire and explosion hazard. Attacks many metals. This produces flammable/explosive gas (hydrogen). Attacks plastics and rubber. (ICSC 0544)

Conditions to avoid

Contact with incompatible materials.
Contact with fire source.

Incompatible materials

Water, Metals

Hazardous decomposition products

Hydrogen chloride, Phosphorus oxides, Phosphoric acid, Hydrogen

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11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]
(Phosphorus(V) chloride)
rat LD50=ca.600mg/kg (REACH Registration dossier, Access on Aug. 2019)

Acute toxicity (Dermal)

[GHS Cat. Japan, base data]
(Phosphorus(V) chloride)
rabbit LD50=660mg/kg (HSDB, Access on July 2019)

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]
(Phosphorus(V) chloride)
human strongly irritating or corrosive to skin (GESTIS, Access on Aug. 2019)

Serious eye damage/irritation

[GHS Cat. Japan, base data]
(Phosphorus(V) chloride)
human strongly irritating or corrosive to mucosal membrane (GESTIS, Access on Aug. 2019)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenic effects data is not available.

Reproductive toxicity data is not available.

STOT

STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]
(Phosphorus(V) chloride)
respiratory system (ACGIH 7th, 2001; GESTIS Access on July 2019)

STOT-repeated exposure

[cat.2]

[GHS Cat. Japan, base data]
(Phosphorus(V) chloride)
bone (HSDB, Access on July 2019)

Aspiration hazard data is not available.

12. Ecological Information

Ecotoxicity

Ecotoxicity data is not available.

Water solubility

(Phosphorus(V) chloride)

reaction (ICSC, 1997)

Persistence and degradability

Persistence and degradability data is not available.

Bioaccumulative potential

Bioaccumulative potential data is not available.

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Waste treatment methods

Dispose of contents/container in accordance with local/national regulation.

14. Transport Information

UN No. or ID No.: 1806

UN Proper Shipping Name :

PHOSPHORUS PENTACHLORIDE

Class or division (Transport hazard class) : 8

Packing group : II

ERG GUIDE No.: 137

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 1806

Proper Shipping Name :

PHOSPHORUS PENTACHLORIDE

Class or division : 8

Packing group : II

IATA Dangerous Goods Regulations

UN No.: 1806

Proper Shipping Name :

PHOSPHORUS PENTACHLORIDE

Class or division : 8

Hazard labels : Corrosive

Packing group : II

Special provisions No.: A1

Environmental hazards

MARPOL Annex III – Prevention of pollution by harmful substances

Marine pollutants (yes/no) : no

15. Regulatory Information

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

Chemicals listed in TSCA Inventory

Phosphorus(V) chloride

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information

GHS classification and labelling

Acute Tox. 4: H302 Harmful if swallowed
Acute Tox. 3: H311 Toxic in contact with skin
Skin Corr. 1: H314 Causes severe skin burns and eye damage
Eye Dam. 1: H318 Causes serious eye damage
STOT SE 1: H370 Causes damage to organs
STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure

Reference Book

Globally Harmonized System of classification and labelling of chemicals, UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN
IMDG Code, 2018 Edition (Incorporating Amendment 39-18)
IATA Dangerous Goods Regulations (62nd Edition) 2021
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2021 TLVs and BEIs. (ACGIH)
Supplier's data/information

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.
The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.
The GHS classification data given here is based on current Japan official data (NITE published in 2020).