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Safety Data Sheet

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

Product identifier:
Product name: Lithium hexafluorophosphate / LiPF6
SDS No. : 4586E-5
Recommended use of the chemical and restrictions on use
Research and Development
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

Section 2. Hazards identification

Classification of the substance or mixture
HEALTH HAZARDS
Acute toxicity (Oral): Category 3
Skin corrosion/irritation: Category 1A
Serious eye damage/eye irritation: Category 1
Reproductive toxicity: Category 1A
Reproductive toxicity - effects on or via lactation: Additional category
Specific target organ toxicity - single exposure: Category 1 (nervous system)
Specific target organ toxicity - single exposure: Category 3 (Respiratory tract irritation)
Specific target organ toxicity - single exposure: Category 3 (Narcotic effects)
Specific target organ toxicity - repeated exposure: Category 1 (nervous system, teeth, bone)
(Note) GHS classification without description: Not classified/Classification not possible
Label elements
Hazard pictograms:

Signal word: Danger
Hazard statements
H301 Toxic if swallowed
H314 Causes severe skin burns and eye damage
H360 May damage fertility or the unborn child
H362 May cause harm to breast-fed children
H370 Causes damage to organs (nervous system)
H335 May cause respiratory irritation
H336 May cause drowsiness or dizziness
H372 Causes damage to organs through prolonged or repeated exposure (nervous system, teeth, bone)
Precautionary statements
Prevention

P203 Obtain, read and follow all safety instructions before use.
P263 Avoid contact during pregnancy and while nursing.
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P271 Use only outdoors or in a well-ventilated area.
P264 Wash hands thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P264 + P265 Wash hands thoroughly after handling. Do not touch eyes.
P270 Do not eat, drink or smoke when using this product.

Response

P308 + P316 IF exposed or concerned: Get emergency medical help immediately.
P316 Get emergency medical help immediately.
P317 Get medical help.
P318 IF exposed or concerned, get medical advice.
P319 Get medical help if you feel unwell.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P302 + P361 + P354 IF ON SKIN: Take off immediately all contaminated clothing. Immediately rinse with water for several minutes.
P363 Wash contaminated clothing before reuse.
P305 + P354 + P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P330 IF SWALLOWED: Rinse mouth.
P301 + P316 IF SWALLOWED: Get emergency medical help immediately.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Specific danger/hazard

Health hazard

See "11. Toxicological Information".

Section 3. Composition/information on ingredients

Substance/mixture:

Substance

Ingredient name	Content (%)	CAS RN	ENCS	Chemical formula
Lithium hexafluorophosphate	≧99	21324-40-3	1-326; 1-1136	LiPF6

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

Section 4. First aid measures

Descriptions of first aid measures

General measures

IF exposed or concerned, get medical advice.
Get medical help if you feel unwell.

IF exposed or concerned: Get emergency medical help immediately.

IF INHALED

IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Get emergency medical help immediately.
Get medical help if you feel unwell.

IF ON SKIN

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water or shower.
If experiencing skin: Get emergency medical help immediately.
If you observe unusual symptom, have irritation/pain and/or feel unwell, seek medical advice.

IF IN EYES

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Rinse in order to better reach all parts of eyes.
Remove all chemicals from contact with the victim's eyes immediately. A delay of only seconds may increase the injury.
If experiencing eye: Get medical help.

IF SWALLOWED

Rinse mouth.
Do NOT induce vomiting.
IF SWALLOWED: Get emergency medical help immediately.

Section 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

Fire may produce irritating, corrosive and/or toxic gases.
Runoff from fire control or dilution water may cause pollution.
See "10.Stability and Reactivity".

Advice for firefighters

Special extinguishing method

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 a full facepiece operated in the positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.
Ventilate area until material pick up is complete.
Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses, low areas or rivers. To be careful not discharged to the environment without being properly handled waste water contaminated.

Methods and materials for containment and cleaning up

Liquid: Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

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

Preventive measures for secondary accident

Collect spillage.

Section 7. Handling and storage

Precautions for safe handling

Engineering measures

(Measures to prevent operator exposure)

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

(Measures to prevent fire and explosion)

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

(Local ventilation/general ventilation)

Use adequate general or local exhaust ventilation.

(Precautions)

Avoid contact with skin.

Avoid contact with eyes.

Advice on safe handling

Obtain, read and follow all safety instructions before use.

Use only outdoors or in a well-ventilated area.

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

Wash hands and contaminated parts thoroughly after handling.

When using do not eat, drink or smoke.

Avoidance of contact

See Section 10: Stability and Reactivity.

Advice on general occupational hygiene

Avoid contact during pregnancy and while nursing.

Wash hands thoroughly after handling. Do not touch eyes.

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

Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Conditions for safe storage

Keep container tightly closed.

Store locked up. (P405)

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

Storage in accordance with local/national regulation.

Safe packaging material

Use closed unbreakable containers.

Section 8. Exposure controls/personal protection

Control parameters

Permissible concentration

Administrative Control Levels and Concentration standard value

Not established

Occupational exposure limit values

The Japan Society for Occupational Health

(Other inorganic and organic dust (third class dust))

JSOH Respirable dust 2mg/m3, Total dust 8mg/m3

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Washing facilities should be available.

Individual protection measures, such as personal protective equipment

Recommend to use protective equipment in conformity with the standards.

Use appropriate protective equipment in accordance with local/national regulation.

Respiratory protection

Wear respiratory protection (dust-proof mask/gas mask). Select chemical cartridge corresponding to type of gases when using a gas mask.

Hand protection

Wear impervious protective glove.

Consult with your glove and/or personnel equipment manufacturer for selection of appropriate compatible materials as needed.

Inspect before use and replace worn or damaged gloves.

Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions as needed.

Eye/face protection

Wear eye/face protection. Wear safety goggles in cases gas is generated.

Skin and body protection

Wear protective clothing.

Personal protective equipment for the body and skin should be selected based on the task being performed and the risks involved.

Section 9. Physical and Chemical Properties

Physical state: Powder crystals

Color: White

Odor: Odorless

Melting point/Freezing point data is not available.

Boiling point, initial boiling point, or boiling range data is not available.

Flammability 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: Soluble (hydrolyze)

Solubility in solvent data is not available.

Partition coefficient n-octanol/water data is not available.

Vapor pressure data is not available.

Density and/or relative density: 2.72

Relative vapor density (Air=1) data is not available.

Particle characteristics data is not available.

Other information

Other information is not available.

Section 10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Form HF, POF3 gas by contact with water and moisture.

Possibility of hazardous reactions

Decomposes on heating. This produces PF5 gas.

Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

Incompatible materials

Water, Moisture

Hazardous decomposition products

Hydrogen fluoride, PF5, POF3

Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Product]

Category 3, Toxic if swallowed

[Data for components of the product]

[Company proprietary data]

rat LD50=50-1702mg/kg

Skin corrosion/irritation

[Product]

Category 1A, Causes severe skin burns and eye damage

[Data for components of the product]

[Company proprietary data]

Category 1A

Serious eye damage/irritation

[Product]

Category 1, Causes serious eye damage

[Data for components of the product]

[Company proprietary data]

Category 1

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenic effects data is not available.

Reproductive toxicity

[Product]

Category 1A, May damage fertility or the unborn child

Additional category, May cause harm to breast-fed children

[Data for components of the product]

[Company proprietary data]

(As soluble lithium compounds)
Category 1A, Additional category

Specific target organ toxicity - single exposure

[Product]
Category 1, Causes damage to organs
Category 3, May cause respiratory irritation
Category 3, May cause drowsiness or dizziness

[Data for components of the product]
[Company proprietary data]
Category 1 (nervous system), Category 3 (Respiratory tract irritation), Category 3 (Narcotic effects)

Specific target organ toxicity - repeated exposure

[Product]
Category 1, Causes damage to organs through prolonged or repeated exposure

[Data for components of the product]
[Company proprietary data]
Category 1 (nervous system, teeth, bone)

Aspiration hazard data is not available.

Information on other hazards

May cause lung disorders by massive inhalation of powdered substance.
-e.g. fibrosis of lung tissue, cough, sputum, breath shortness, dyspnea, decline of lung function, interstitial lung disease, pneumothorax

Section 12. Ecological Information

Toxicity

Toxicity data is not available.

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.

Section 13. Disposal considerations

Waste treatment methods

Waste from residues, Contaminated packing

Avoid release to the environment.
Dispose of contents/container as industrial waste. Accordance with local/national regulation.

Section 14. Transport Information

UNRTDG

UN number : UN2923
UN Proper Shipping Name : CORROSIVE SOLID, TOXIC, N.O.S.
Transport hazard class(es) : 8

Subsidiary hazard(s) : 6.1
Packing group : I

IMDG Code (International Maritime Dangerous Goods Regulations)
UN number : UN2923
UN Proper Shipping Name : CORROSIVE SOLID, TOXIC, N.O.S.
Transport hazard class(es) : 8
Subsidiary hazard(s) : 6.1
Packing group : I

IATA (Dangerous Goods Regulations)
UN number : UN2923
UN Proper Shipping Name : CORROSIVE SOLID, TOXIC, N.O.S.
Transport hazard class(es) : 8
Subsidiary hazard(s) : 6.1
Hazard labels : Corrosive & Toxic
Packing group : I

Environmental hazards
Marine pollutants (yes/no) : no
Environmentally hazardous substance/mixture (yes/no) : no

ERG GUIDE No.: 154

Section 15. Regulatory Information

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

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

Applicable

Other regulatory information

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

Section 16. Other information

References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 23rd edit., 2023 UN
IMDG Code, 2024 Edition (Incorporating Amendment 42-24)
IATA Dangerous Goods Regulations (67th Edition) 2026
2024 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2026 TLVs and BEIs. (ACGIH)
JIS Z 7252 : 2025
JIS Z 7253 : 2025
Recommendation of occupational exposure limits (2024-2025) (JSOH)
Supplier's data/information

General Disclaimer

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Unauthorized translation or modification is prohibited.
Please provide SDS to customers for selling or transferring.
All chemicals have unknown hazard. Handle the product with care.
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 Data published in Japan (National Institute of Technology and Evaluation (NITE) Chemical Risk Information Platform (NITE-CHRIP), up to FY2024).