

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Description:	Potassium tetrafluoroborate
Cat No. :	C26922
Synonyms	Potassium borofluoride.
CAS No	14075-53-7
Molecular Formula	B F4 K

Relevant identified uses of the substance or mixture and uses advised against

Recommended Use	Laboratory chemicals.
Uses advised against	No Information available

Details of the supplier of the safety data sheet

Importer	Supplier
Fisher Scientific Korea	Thermo Fisher Scientific Chemicals, Inc.
D5,D6, Incheon Airport Logistics Complex	30 Bond Street
150, Gonghangdong-Ro 296 Beon-Gil	Ward Hill, MA 01835-8099
Jung-Gu, Incheon	
Tel: +82-1661-9555	
Fax: +82-2-2023-0603	

E-mail address	Chem.KR@thermofisher.com
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Emergency Telephone Number

Emergency telephone: Medical: +(82) 070-7686-0086 or + 1-703-741-5970
 CHEMTREC: 080 822 1374 (Local), CHEMTREC: 1-800-424-9300 or + 1-703-527-3887
 Korea: 00-308-13-2549 (24 hours a day, 7 days a week)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture
Physical hazards

Based on available data, the classification criteria are not met

Health hazards

Skin Corrosion/Irritation	Category 1 B
Serious Eye Damage/Eye Irritation	Category 1

Environmental hazards

Based on available data, the classification criteria are not met

Label Elements

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Signal Word

Danger

Hazard Statements

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

Precautionary Statements

Prevention

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P264 - Wash hands and face thoroughly after handling

P280 - Wear protective gloves/protective clothing/eye protection/face protection

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 or shower

P363 - Wash contaminated clothing before reuse

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P310 - Immediately call a POISON CENTER or doctor

P321 - Specific treatment (see supplemental first aid instructions on this label)

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Storage

P405 - Store locked up

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Other Hazards

This product does not contain any known or suspected endocrine disruptors

NFPA

Health
3

Flammability
0

Instability
0

Physical hazards
N/A

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Component	Common Name	CAS No	Index No	Weight %
Borate(1-), tetrafluoro-, potassium	Potassium borofluoride.	14075-53-7	KE-29212	99 - 100

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General Advice

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

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Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
Skin Contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician immediately.
Ingestion	Do NOT induce vomiting. Immediate medical attention is required.
Inhalation	Remove to fresh air. Get medical attention immediately if symptoms occur. If not breathing, give artificial respiration.
Self-Protection of the First Aider	No special precautions required.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

CO₂, dry chemical, dry sand, alcohol-resistant foam.

Extinguishing media which must not be used for safety reasons

No information available.

Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products

Oxides of boron, Gaseous hydrogen fluoride (HF), Thermal decomposition can lead to release of irritating gases and vapors.

Advice for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Evacuate personnel to safe areas. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Environmental precautions

Do not allow material to contaminate ground water system. Should not be released into the environment.

Methods and Material for Containment and Cleaning Up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

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SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Wear personal protective equipment/face protection. Avoid contact with skin, eyes or clothing. Avoid dust formation. Avoid ingestion and inhalation.

Conditions for Safe Storage, Including any Incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Store under an inert atmosphere.

Specific End Uses

Use in laboratories.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Component	CAS No	Korea	ACGIH TLV	OSHA PEL
Borate(1-), tetrafluoro-, potassium	14075-53-7	TWA: 2.5 mg/m ³	TWA: 2.5 mg/m ³	(Vacated) TWA: 2.5 mg/m ³

Component	CAS No	European Union	The United Kingdom	Germany
Borate(1-), tetrafluoro-, potassium	14075-53-7	Not listed	STEL: 7.5 mg/m ³ 15 min TWA: 2.5 mg/m ³ 8 hr	TWA: 1 mg/m ³ (8 Stunden). AGW - exposure factor 4 TWA: 1 mg/m ³ (8 Stunden). MAK Haut

ACGIH - Biological Exposure Indices

Component	CAS No	ACGIH - Biological Exposure Indices
Borate(1-), tetrafluoro-, potassium	14075-53-7	Not listed

Exposure Controls

Engineering Measures

None under normal use conditions. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye Protection

Wear safety glasses with side shields (or goggles) Goggles

Hand Protection

Protective gloves

Skin and body protection

Long sleeved clothing

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Personal protective equipment

Use only those certified by the Korea Occupational Safety and Health Administration.

Respiratory Protection

No protective equipment is needed under normal use conditions

Recommended Filter type:

Particle filter

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Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls

No information available

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance (Physical State, Color, etc.) Light grey Powder Solid

Odor No information available

Odor Threshold No data available

pH 5 saturated solution

Melting Point/Range 530 °C / 986 °F

Softening Point No data available

Boiling Point/Range No information available

Flash Point No information available **Method -** No information available

Evaporation Rate Not applicable Solid

Flammability (solid,gas) No information available

Explosion Limits No data available

Vapor Pressure No data available

Vapor Density Not applicable Solid

Specific Gravity / Density No data available

Bulk Density No data available

Water Solubility 4.4 g/L (20°C)

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Component	CAS No	log Pow
Borate(1-), tetrafluoro-, potassium	14075-53-7	No data available

Autoignition Temperature No data available

Decomposition Temperature No data available

Viscosity Not applicable Solid

Explosive Properties No information available

Oxidizing Properties No information available

Molecular Formula B F4 K

Molecular Weight 125.91

SECTION 10: STABILITY AND REACTIVITY

Reactivity

None known, based on information available

Chemical Stability

Stable under normal conditions. Moisture sensitive.

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Possibility of Hazardous Reactions

Hazardous Polymerization Hazardous polymerization does not occur.
Hazardous Reactions None under normal processing.

Conditions to Avoid

Incompatible products. Excess heat. Exposure to moist air or water.

Incompatible Materials

Strong oxidizing agents. Acids.

Hazardous Decomposition Products

Oxides of boron. Gaseous hydrogen fluoride (HF). Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Product Information

Information on expected route of exposure

Inhalation Harmful by inhalation.
Ingestion Ingestion causes burns of the upper digestive and respiratory tracts. Can burn mouth, throat, and stomach. Harmful if swallowed.
Eyes Causes burns. Corrosive to the eyes and may cause severe damage including blindness. Risk of serious damage to eyes.
Skin Causes burns.

Information on Health Hazards

(a) acute toxicity;

Oral Based on available data, the classification criteria are not met
Dermal No data available
Inhalation No data available

Component	CAS No	LD50 Oral	LD50 Dermal	LC50 Inhalation
Borate(1-), tetrafluoro-, potassium	14075-53-7	5854 mg/kg (Rat)	No data available	LC50 > 5300 mg/m ³ (Rat) 4 h

(b) skin corrosion/irritation; Category 1

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

Respiratory No data available
Skin No data available

Component	CAS No	Test method	Test species	Study result
Borate(1-), tetrafluoro-, potassium	14075-53-7	No data available	No data available	No data available

(e) germ cell mutagenicity; No data available

Component	CAS No	Test method	Test species	Study result
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Borate(1-), tetrafluoro-, potassium	14075-53-7	No data available	No data available	No data available
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(f) carcinogenicity; No data available

Component	CAS No	Test method	Test species / Duration	Study result
Borate(1-), tetrafluoro-, potassium	14075-53-7	No data available	No data available	No data available

There are no known carcinogenic chemicals in this product

Component	CAS No	IARC	NTP	ACGIH	OSHA	UK
Borate(1-), tetrafluoro-, potassium	14075-53-7	Not listed	Not listed	Not listed	Not listed	Not listed

(g) reproductive toxicity; No data available

Component	CAS No	Test method	Test species / Duration	Study result
Borate(1-), tetrafluoro-, potassium	14075-53-7	No data available	No data available	No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs None known.

(j) aspiration hazard; Not applicable
Solid

Other Adverse Effects

No information available.

Component	CAS No	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Borate(1-), tetrafluoro-, potassium	14075-53-7	Not applicable	Not applicable	Not applicable

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity effects Do not empty into drains. .

Component	CAS No	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Borate(1-), tetrafluoro-, potassium	14075-53-7	LC50 = 760 mg/L 96h	No data available	EC50 = 95 mg/L 96 h	No data available

Persistence and degradability

Persistence

Soluble in water, Persistence is unlikely, based on information available.

Degradability

Not relevant for inorganic substances.

Bioaccumulative potential

Bioaccumulation is unlikely

Mobility in soil

The product is water soluble, and may spread in water systems Will likely be mobile in the environment due to its water solubility. Highly mobile in soils.

Ozone Depletion Potential

Component	CAS No	Ozone Depletion Potential
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Borate(1-), tetrafluoro-, potassium	14075-53-7	Not listed
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Other adverse effects No information available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from Residues/Unused Products Waste is classified as hazardous. Dispose in accordance with the Wastes Control Act (폐기물관리법).

Contaminated Packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

Other Information Waste codes should be assigned by the user based on the application for which the product was used. Do not flush to sewer. Do not empty into drains. Large amounts will affect pH and harm aquatic organisms.

SECTION 14: TRANSPORT INFORMATION

Road and Rail Transport Not Regulated

IATA Not regulated

IMDG/IMO Not regulated
Marine Pollutant No hazards identified

Special Precautions for User No special precautions required

SECTION 15: REGULATORY INFORMATION

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

Legend: X - Listed '-' - Not Listed

International Inventories

Component	CAS No	KECL	TSCA	EINECS	IECSC	DSL	NDSL	PICCS	ENCS	ISHL	AICS
Borate(1-), tetrafluoro-, potassium	14075-53-7	KE-29212	X	237-928-2	X	X	-	X	X	X	X

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Borate(1-), tetrafluoro-, potassium	14075-53-7	Not applicable	Not applicable	Not applicable	Not applicable

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential
Borate(1-), tetrafluoro-, potassium	14075-53-7	Listed	Not applicable	Not applicable

Korean National Regulations

Component	CAS No	Act on Registration and Evaluation of Chemical Substances (K-REACH)	Authorised Chemicals	Existing Substances Subject to Registration

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Borate(1-), tetrafluoro-, potassium	14075-53-7	Annex 1 - KE-29212	Not applicable	Listed
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Component	CAS No	Chemical Control Act - Toxic Chemicals	Chemical Control Act - Prohibited Chemicals	Chemical Control Act - Use Restricted Chemicals
Borate(1-), tetrafluoro-, potassium	14075-53-7	Not applicable	Not applicable	Not applicable

Component	CAS No	Chemical Control Act - Accident Precaution Chemicals (% in mixtures)	Chemical Control Act - Accident Precaution Chemicals - Quantity limits Storage (% in mixtures)	Chemical Control Act - Accident Precaution Chemicals - Quantity limits Manufacture/Use (% in mixtures)
Borate(1-), tetrafluoro-, potassium	14075-53-7	Not applicable	Not applicable	Not applicable

Component	CAS No	Waste Control Law	Ministry of Environment CMR risk	Ministry of Environment - Critically Controlled Substance
Borate(1-), tetrafluoro-, potassium	14075-53-7	Not applicable	Not applicable	Not applicable

CCA = Chemical Control Act

Component	CAS No	ISHA - Harmful Agents Subject to Work Environment Monitoring	ISHA - Prohibited substances	ISHA - Substances requiring permission
Borate(1-), tetrafluoro-, potassium	14075-53-7	Not applicable	Not applicable	Not applicable

Component	CAS No	ISHA - Substances subject to control	ISHA - Harmful Agents Requiring Health Examination	ISHA - Permissible Exposure Limits
Borate(1-), tetrafluoro-, potassium	14075-53-7	Not applicable	Not applicable	Not applicable

Component	CAS No	ISHA - Subject to Process Safety Reports (minimum quantity)	ISHA - Threshold Limit Values (TLVs) Chemicals	ISHA - Special management materials
Borate(1-), tetrafluoro-, potassium	14075-53-7	Not applicable	TWA: 2.5 mg/m ³	Not applicable

National Fire Association - Dangerous Substances Minimum quantity requiring a permit

Component	CAS No	Class 1 - Oxidising solids	Class 2 - Flammable solid	Class 3 - Spontaneously Combustible Substances and Dangerous Substances When Wet	Class 4 - Flammable liquids	Class 5 - Self-reactive substances	Class 6 - Oxidising liquids
Borate(1-), tetrafluoro-, potassium	14075-53-7	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Control Parameters

Component	CAS No	Korea	ACGIH - Biological Exposure Indices
Borate(1-), tetrafluoro-, potassium	14075-53-7	TWA: 2.5 mg/m ³	Not listed

US Management Information

OSHA - Occupational Safety and Health Administration

Not applicable

Component	CAS No	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Borate(1-), tetrafluoro-, potassium	14075-53-7	Not applicable	Not applicable

CERCLA Not applicable

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Component	CAS No	CERCLA Extremely Hazardous Substances RQs	Hazardous Substances RQs	SARA 313 - Threshold Values %
Borate(1-), tetrafluoro-, potassium	14075-53-7	Not applicable	Not applicable	Not applicable

GHS Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

Based on available data, the classification criteria are not met.

SECTION 16: OTHER INFORMATION

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

POW - Partition coefficient Octanol:Water

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - (Volatile Organic Compound)

Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadviser - LOLI, Merck index, RTECS

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Prepared By

Creation Date

Revision Date

Revision Number

Revision Summary

Health, Safety and Environmental Department

15-Dec-2011

12-Jun-2024

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New emergency telephone response service provider.

MOEL's Public Notice No. 2023-9 (Standards for Classification and Labeling of Chemical Substances and Safety Data Sheets)

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the

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date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet