

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

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

Perihal Produk: **Potassium perchlorate**  
 Product Description: **Potassium perchlorate**  
 Cat No. : S11296  
 CAS No 7778-74-7  
 Molecular Formula Cl K O4

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

Recommended Use Laboratory chemicals.  
 Uses advised against No Information available

**Company**

Thermo Fisher Scientific Fisher Scientific (M) Sdn Bhd  
 Hap Seng Business Park, Lot 01-03, 01-04 Aras 1 Unity Square,  
 No 12, Persiaran Perusahaan, Seksyen 23, 40300 Shah Alam,  
 Selangor Darul Ehsan, Malaysia.  
 Main line: +60 3-5525 7888

**Supplier**

E-mail address Enquiry.my@thermofisher.com

**Emergency Telephone Number**

Tel: +03-5525 7888  
 CHEMTREC Malaysia **1-800-815-308** (Malay)  
 CHEMTREC Malaysia (Kuala Lumpur) **+(60)-327884561** (Malay)

**SECTION 2: HAZARDS IDENTIFICATION**
**Classification of the substance or mixture**

|                     |                   |
|---------------------|-------------------|
| Oxidizing solids    | Category 1 (H271) |
| Acute oral toxicity | Category 4 (H302) |

**Label Elements**

**Signal Word**
**Danger**
**Hazard Statements**

H271 - May cause fire or explosion; strong oxidizer

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H302 - Harmful if swallowed

## Precautionary Statements

### Prevention

P270 - Do not eat, drink or smoke when using this product

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P220 - Keep away from clothing and other combustible materials

P221 - Take any precaution to avoid mixing with combustibles

P264 - Wash face, hands and any exposed skin thoroughly after handling

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

P283 - Wear fire resistant or flame retardant clothing

### Response

P306 + P360 - IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell

P330 - Rinse mouth

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

P371 + P380 + P375 - In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion

### Storage

P403 - Store in a well-ventilated place

### Disposal

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

## Other Hazards

Toxicity to Soil Dwelling Organisms

Toxic to terrestrial vertebrates

This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Component             | CAS No    | Weight % |
|-----------------------|-----------|----------|
| Potassium perchlorate | 7778-74-7 | >95      |

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

#### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

#### Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention.

#### Ingestion

Never give anything by mouth to an unconscious person. Clean mouth with water. Get medical attention.

#### Inhalation

Remove from exposure, lie down. Remove to fresh air. If not breathing, give artificial respiration. Get medical attention.

#### Self-Protection of the First Aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

### Most important symptoms and effects, both acute and delayed

No information available.

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## Indication of any immediate medical attention and special treatment needed

### Notes to Physician

Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

### Extinguishing media

#### Suitable Extinguishing Media

Water. Water mist may be used to cool closed containers.

#### Extinguishing media which must not be used for safety reasons

No information available.

### Special hazards arising from the substance or mixture

Burning produces obnoxious and toxic fumes. Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.).

### Hazardous Combustion Products

Chlorine, Hydrogen chloride gas.

### Advice for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment and Emergency Procedures

Ensure adequate ventilation.

### Environmental precautions

See Section 12 for additional Ecological Information.

### Methods and Material for Containment and Cleaning Up

Avoid dust formation. Sweep up and shovel into suitable containers for disposal. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Sweep up and shovel into suitable containers for disposal.

### Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### Precautions for Safe Handling

Avoid contact with skin and eyes. Do not breathe dust. Keep away from clothing and other combustible materials.

### Conditions for Safe Storage, Including any Incompatibilities

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Do not store near combustible materials. Flammables area. Keep containers tightly closed in a dry, cool and well-ventilated place.

### Specific End Uses

Use in laboratories.

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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

### Exposure Controls

#### Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Personal protective equipment

#### **Eye Protection**

Goggles

#### **Hand Protection**

Protective gloves

#### **Skin and body protection**

Wear appropriate protective gloves and clothing to prevent skin exposure

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.

#### **Respiratory Protection**

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

#### **Recommended Filter type:**

Particulates filter conforming to EN 143

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

When RPE is used a face piece Fit Test should be conducted

### 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**

White

#### **Physical State**

Powder Solid

#### **Odor**

Odorless

#### **Odor Threshold**

No data available

#### **pH**

5.0-7.0

1% aq.sol

#### **Melting Point/Range**

400 °C / 752 °F

#### **Softening Point**

No data available

#### **Boiling Point/Range**

No information available

#### **Flash Point**

No information available

**Method -** No information available

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|                          |                          |       |
|--------------------------|--------------------------|-------|
| Evaporation Rate         | Not applicable           | Solid |
| Flammability (solid,gas) | No information available |       |
| Explosion Limits         | No data available        |       |

|                              |                          |       |
|------------------------------|--------------------------|-------|
| Vapor Pressure               | No data available        | Solid |
| Vapor Density                | Not applicable           |       |
| Specific Gravity / Density   | 2.52                     |       |
| Bulk Density                 | No data available        |       |
| Water Solubility             | 17 g/l (20°C)            |       |
| Solubility in other solvents | No information available |       |

## Partition Coefficient (n-octanol/water)

|                           |                          |       |
|---------------------------|--------------------------|-------|
| Autoignition Temperature  | No data available        | Solid |
| Decomposition Temperature | > 400°C                  |       |
| Viscosity                 | Not applicable           |       |
| Explosive Properties      | No information available |       |
| Oxidizing Properties      | Oxidizer                 |       |

|                   |                     |
|-------------------|---------------------|
| Molecular Formula | Cl K O <sub>4</sub> |
| Molecular Weight  | 138.55              |

## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

Yes; Oxidizer.

### Chemical Stability

Hygroscopic. Oxidizer: Contact with combustible/organic material may cause fire.

### Possibility of Hazardous Reactions

|                          |  |
|--------------------------|--|
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions      | No information available.                |

### Conditions to Avoid

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

### Incompatible Materials

Organic materials. Strong acids. Alcohols. Amines. Ammonium nitrate: fertilizers capable of self-sustaining decomposition. Strong reducing agents. Fluorine. Metals. Finely powdered metals. Combustible material.

### Hazardous Decomposition Products

Chlorine. Hydrogen chloride gas.

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## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects

#### Product Information

##### (a) acute toxicity;

|            |                   |
|------------|-------------------|
| Oral       | Category 4        |
| Dermal     | No data available |
| Inhalation | No data available |

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

##### (d) respiratory or skin sensitization;

|             |                   |
|-------------|-------------------|
| Respiratory | No data available |
| Skin        | No data available |

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; Not applicable  
Solid

Symptoms / effects, both acute and delayed No information available.

**Endocrine Disrupting Properties** Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

## SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity effects Do not empty into drains. .

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## Persistence and degradability

|                      |  |
|----------------------|--|
| <b>Persistence</b>   | Soluble in water, Persistence is unlikely, based on information available. |
| <b>Degradability</b> | 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.

## Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

## Other adverse effects

No information available

## SECTION 13: DISPOSAL CONSIDERATIONS

### Waste treatment methods

**Waste from Residues/Unused Products** Waste is classified as hazardous Dispose of in accordance with the European Directives on waste and hazardous waste Dispose of in accordance with local regulations

### Contaminated Packaging

Dispose of this container to hazardous or special waste collection point.

### Other Information

Waste codes should be assigned by the user based on the application for which the product was used Do not empty into drains

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

|                             |                       |
|-----------------------------|-----------------------|
| <b>UN-No</b>                | UN1489                |
| <b>Hazard Class</b>         | 5.1                   |
| <b>Packing Group</b>        | II                    |
| <b>Proper Shipping Name</b> | POTASSIUM PERCHLORATE |

### Road and Rail Transport

|                             |                       |
|-----------------------------|-----------------------|
| <b>UN-No</b>                | UN1489                |
| <b>Hazard Class</b>         | 5.1                   |
| <b>Packing Group</b>        | II                    |
| <b>Proper Shipping Name</b> | POTASSIUM PERCHLORATE |

### IATA

|                             |                       |
|-----------------------------|-----------------------|
| <b>UN-No</b>                | UN1489                |
| <b>Hazard Class</b>         | 5.1                   |
| <b>Packing Group</b>        | II                    |
| <b>Proper Shipping Name</b> | POTASSIUM PERCHLORATE |

### Special Precautions for User

No special precautions required

## SECTION 15: REGULATORY INFORMATION

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

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International Inventories X = listed

| Component             | EINECS    | TSCA | DSL | PICCS | ENCS | ISHL | IECSC | AICS | KECL     |
|-----------------------|-----------|------|-----|-------|------|------|-------|------|----------|
| Potassium perchlorate | 231-912-9 | X    | X   | X     | X    | X    | X     | X    | KE-29178 |

## National Regulations

**Persistent Organic Pollutant**  
**Ozone Depletion Potential**

This product does not contain any known or suspected substance  
This product does not contain any known or suspected substance

## 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/NDL** - 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, Chemadvisor - LOLI, Merck index, RTECS

**Prepared By**

**Revision Date**

**Revision Summary**

Health, Safety and Environmental Department

31-Mar-2025

Not applicable.

**In accordance with local and national regulations: Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013**

### Disclaimer

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



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**End of Safety Data Sheet**