

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**

Perihalan Produk: **Sodium perchlorate monohydrate**  
 Product Description: **Sodium perchlorate monohydrate**  
 Cat No. : S/5965NC/53, S/5965/53  
 Synonyms Perchloric acid, sodium salt, monohydrate.  
 CAS No 7791-07-3  
 Molecular Formula Cl Na O<sub>4</sub> . H<sub>2</sub> O

**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)
Serious Eye Damage/Eye Irritation	Category 2 (H319)
Specific target organ toxicity - (repeated exposure)	Category 2 (H373)

**Label Elements**


# SAFETY DATA SHEET

Sodium perchlorate monohydrate

Revision Date 23-Mar-2025

## Signal Word

## Danger

### Hazard Statements

H271 - May cause fire or explosion; strong oxidizer

H302 - Harmful if swallowed

H319 - Causes serious eye irritation

H373 - May cause damage to organs through prolonged or repeated exposure if swallowed

### Precautionary Statements

#### Prevention

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

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

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

P283 - Wear fire resistant or flame retardant clothing

#### Response

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

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

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

P314 - Get medical advice/attention if you feel unwell

P330 - Rinse mouth

P337 + P313 - If eye irritation persists: Get medical advice/attention

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

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 %
Perchloric acid, sodium salt, monohydrate	7791-07-3	100

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

#### General Advice

If symptoms persist, call a physician.

#### 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 plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

# SAFETY DATA SHEET

Sodium perchlorate monohydrate

Revision Date 23-Mar-2025

<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.
<b>Inhalation</b>	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
<b>Self-Protection of the First Aider</b>	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**

None reasonably foreseeable.

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

**Notes to Physician** Treat symptomatically.

## **SECTION 5: FIREFIGHTING MEASURES**

### **Extinguishing media**

#### **Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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

No information available.

### **Special hazards arising from the substance or mixture**

Oxidizer: Contact with combustible/organic material may cause fire. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition. 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**

Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation.

### **Environmental precautions**

Should not be released into the environment.

### **Methods and Material for Containment and Cleaning Up**

Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

### **Reference to Other Sections**

Refer to protective measures listed in Sections 8 and 13.

# SAFETY DATA SHEET

Sodium perchlorate monohydrate

Revision Date 23-Mar-2025

## SECTION 7: HANDLING AND STORAGE

### Precautions for Safe Handling

Ensure adequate ventilation. Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation. 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.

### Specific End Uses

Use in laboratories.

## 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. Use explosion-proof electrical/ventilating/lighting equipment.

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

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 compatibility, 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

# SAFETY DATA SHEET

Sodium perchlorate monohydrate

Revision Date 23-Mar-2025

## Information on basic physical and chemical properties

Appearance	White	
Physical State	Solid	
Odor	Odorless	
Odor Threshold	No data available	
pH	6.0-8.0	5% aq.sol. (25°C)
Melting Point/Range	130 °C / 266 °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 information available	
Vapor Density	Not applicable	Solid
Specific Gravity / Density	2.02	
Bulk Density	No data available	
Water Solubility	2090 g/L (15°C)	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Autoignition Temperature	No data available	
Decomposition Temperature	> 482°C	
Viscosity	Not applicable	Solid
Explosive Properties	No information available	
Oxidizing Properties	Oxidizer	
Molecular Formula	Cl Na O4 . H2 O	
Molecular Weight	140.46	

## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

Yes.

### Chemical Stability

Stable under normal conditions. Hygroscopic. Oxidizer: Contact with combustible/organic material may cause fire.

### Possibility of Hazardous Reactions

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

# SAFETY DATA SHEET

Sodium perchlorate monohydrate

Revision Date 23-Mar-2025

## Conditions to Avoid

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

## Incompatible Materials

Organic materials. Strong acids. Metals. Reducing Agent. Finely powdered metals. Strong reducing agents. Combustible material.

## Hazardous Decomposition Products

Chlorine. Hydrogen chloride gas.

## 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; Category 2

##### (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; Category 2

Route of exposure	Oral
Target Organs	Thyroid.

(j) aspiration hazard; Not applicable  
Solid

# SAFETY DATA SHEET

Sodium perchlorate monohydrate

Revision Date 23-Mar-2025

**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** Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

**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.

**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**  
**UN-No** UN1502  
**Hazard Class** 5.1  
**Packing Group** II  
**Proper Shipping Name** SODIUM PERCHLORATE

**Road and Rail Transport**  
**UN-No** UN1502  
**Hazard Class** 5.1  
**Packing Group** II  
**Proper Shipping Name** SODIUM PERCHLORATE

# SAFETY DATA SHEET

Sodium perchlorate monohydrate

Revision Date 23-Mar-2025

## IATA

**UN-No** UN1502  
**Hazard Class** 5.1  
**Packing Group** II  
**Proper Shipping Name** SODIUM 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

**International Inventories** X = listed

Component	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	IECSC	AICS	KECL
Perchloric acid, sodium salt, monohydrate	-	-	-	-	X		X	X	-

### National Regulations

**Persistent Organic Pollutant** This product does not contain any known or suspected substance  
**Ozone Depletion Potential** 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



# SAFETY DATA SHEET

Sodium perchlorate monohydrate

Revision Date 23-Mar-2025

---

Revision Date	23-Mar-2025
Revision Summary	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

**End of Safety Data Sheet**