

## Chemical Safety Data Sheet MSDS / SDS

**SODIUM PERCHLORATE MONOHYDRATE**

Revision Date:2023-11-29 Revision Number:1

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****Product identifier**

Product name : SODIUM PERCHLORATE MONOHYDRATE  
CBnumber : CB9149027  
CAS : 7791-07-3  
EINECS Number : 616-573-0  
Synonyms : Sodium Perchlorate Monohydrate,Sodium perchlorate hydrate

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

**Company Identification**

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 400-158-6606

**SECTION 2: Hazards identification****GHS Label elements, including precautionary statements**

Symbol(GHS)



Signal word

Danger

**Precautionary statements**

P220 Keep/Store away from clothing/.../combustible materials.  
P221 Take any precaution to avoid mixing with combustibles/...  
P283 Wear fire/flame resistant/retardant clothing.  
P306+P360 IF ON CLOTHING: Rinse Immediately contaminated CLOTHING and SKIN with plenty of water before removing clothes.  
P371+P380+P375 in case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

**Hazard statements**

H271 May cause fire or explosion; strong oxidiser  
H302 Harmful if swallowed

**SECTION 3: Composition/information on ingredients**

## Substance

Product name	: SODIUM PERCHLORATE MONOHYDRATE
Synonyms	: Sodium Perchlorate Monohydrate, Sodium perchlorate hydrate
CAS	: 7791-07-3
EC number	: 616-573-0
MF	: ClH <sub>2</sub> NaO <sub>5</sub>
MW	: 140.46

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## SECTION 4: First aid measures

### Description of first aid measures

#### General advice

Consult a physician. Show this material safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

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## SECTION 5: Firefighting measures

### Extinguishing media

#### Suitable extinguishing media

Dry powder Dry sand

### Special hazards arising from the substance or mixture

Hydrogen chloride gas Sodium oxides

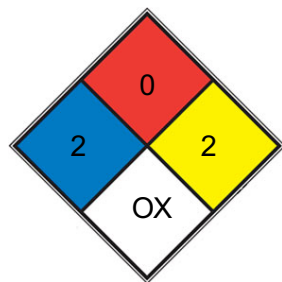
### Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### Further information

Use water spray to cool unopened containers.

## NFPA 704



<input type="checkbox"/>	HEALTH	2	Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. <a href="#">diethyl ether</a> , ammonium phosphate, iodine)
<input type="checkbox"/>	FIRE	0	Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes.(e.g. Carbon tetrachloride)
<input type="checkbox"/>	REACT	2	Undergoes violent chemical change at elevated temperatures and pressures, reacts violently with water, or may form explosive mixtures with water (e.g. white phosphorus, <a href="#">potassium</a> , <a href="#">sodium</a> )
<input type="checkbox"/>	SPEC. HAZ.	OX	

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## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### Methods and materials for containment and cleaning up

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

### Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### Precautions for safe handling

### Advice on safe handling

Avoid formation of dust and aerosols.

## **Advice on protection against fire and explosion**

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking.

## **Hygiene measures**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

For precautions see section 2.2.

## **Conditions for safe storage, including any incompatibilities**

### **Storage conditions**

Keep container tightly closed in a dry and well-ventilated place. Store in cool place.

### **Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## **SECTION 8: Exposure controls/personal protection**

### **control parameter**

#### **Hazard composition and occupational exposure limits**

Does not contain substances with occupational exposure limits.

### **Exposure controls**

#### **Personal protective equipment**

##### **Eye/face protection**

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

##### **Body Protection**

Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full- face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

##### **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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## **SECTION 9: Physical and chemical properties**

## Information on basic physicochemical properties

Appearance	white crystalline
Odour	No data available
Odour Threshold	No data available d) pH 4,5 - 7,0 at 50 g/l at 25 °C Melting point/freezing point Melting point/range: 472 °C Initial boiling point No data available and boiling range Flash point Not applicable Evaporation rate No data available Flammability (solid, gas) Upper/lower flammability or explosive limits No data available No data available Vapour pressure No data available Vapour density No data available Relative density No data available Water solubility soluble Partition coefficient: n-octanol/water Autoignition temperature Decomposition temperature No data available No data available 482 °C - Viscosity Viscosity, kinematic: No data available Viscosity, dynamic: No data available Explosive properties No data available Oxidizing properties The substance or mixture is classified as oxidizing with the category 1.
Melting point/freezing point	Melting point/range: 472 °C
Initial boiling point and boiling range	130 °C
Flash point	Not applicable
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density	No data available
Water solubility	soluble
Partition coefficient: n-octanol/water	H <sub>2</sub> O: 100 mg/mL, clear, colorless
Autoignition temperature	No data available
Decomposition temperature	482 °C -
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
Explosive properties	No data available
Oxidizing properties	The substance or mixture is classified as oxidizing with the

## Other safety information

No data available

## SECTION 10: Stability and reactivity

### Reactivity

No data available

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

No data available

### Conditions to avoid

No data available

### Incompatible materials

Organic materials, Strong acids, Forms shock-sensitive mixtures with certain other materials., Powdered metals, Reducing agents, Magnesium, Strong oxidizing agents

### Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### Information on toxicological effects

#### Acute toxicity

Acute toxicity estimate Oral - 500,1 mg/kg (Expert judgment)

LD50 Dermal - Rat - male and female - > 2.000 mg/kg (OECD Test Guideline 402)

Remarks: The value is given in analogy to the following substances: Sodium perchlorate

#### Skin corrosion/irritation

Skin - Rabbit

Result: slight irritation (OECD Test Guideline 404)

Remarks: The value is given in analogy to the following substances: Sodium perchlorate

#### Serious eye damage/eye irritation

Eyes - Rabbit Result: Irritations

(OECD Test Guideline 405)

Remarks: The value is given in analogy to the following substances: Sodium perchlorate

#### Respiratory or skin sensitization

(OECD Test Guideline 429) Remarks:

The value is given in analogy to the following substances: Sodium perchlorate

#### Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471

Result: negative

Remarks: The value is given in analogy to the following substances: Sodium perchlorate Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Human lymphocytes

Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 473

Result: negative

Remarks: The value is given in analogy to the following substances: Sodium perchlorate Test Type: In vitro mammalian cell gene mutation test

Test system: Mouse lymphoma test

Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476

Result: negative

Remarks: The value is given in analogy to the following substances: Sodium perchlorate

#### **Carcinogenicity**

No data available

#### **Reproductive toxicity**

#### **Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure**

May cause damage to organs through prolonged or repeated exposure. - Thyroid

#### **Aspiration hazard**

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## SECTION 12: Ecological information

### **Toxicity**

#### **Toxicity to fish**

static test LC50 - Danio rerio (zebra fish) - > 1.000 mg/l - 96 h (OECD Test Guideline 203)

Remarks: The value is given in analogy to the following substances: Sodium perchlorate

#### **Toxicity to daphnia and other aquatic invertebrates**

static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202)

Remarks: The value is given in analogy to the following substances: Sodium perchlorate

#### **Toxicity to algae**

static test EC10 - Pseudokirchneriella subcapitata (green algae) - > 435,7 mg/l - 72 h

(OECD Test Guideline 201)

Remarks: The value is given in analogy to the following substances:

Sodium perchlorate

static test EC50 - Pseudokirchneriella subcapitata (green algae) - > 435,7 mg/l - 72 h

(OECD Test Guideline 201)

Remarks: The value is given in analogy to the following substances: Sodium perchlorate

#### **Toxicity to bacteria**

static test EC50 - activated sludge - > 700 mg/l - 3 h (ISO 8192)

Remarks: The value is given in analogy to the following substances: Sodium perchlorate

#### **Persistence and degradability**

Not applicable for inorganic substances

#### **Bioaccumulative potential**

#### **Mobility in soil**

#### **Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and

very bioaccumulative (vPvB) at levels of 0.1% or higher.

### Other adverse effects

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## SECTION 13: Disposal considerations

### Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

#### Contaminated packaging

Dispose of as unused product.

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## SECTION 14: Transport information

### UN number

ADR/RID: 1502 IMDG: 1502 IATA: 1502

### UN proper shipping name

ADR/RID: SODIUM PERCHLORATE IMDG: SODIUM PERCHLORATE

IATA: Sodium perchlorate

14.3	Transport hazard class(es)	
	ADR/RID: 5.1 IMDG: 5.1	IATA: 5.1
14.4	Packaging group	
	ADR/RID: II IMDG: II	IATA: II
14.5	Environmental hazards	
	ADR/RID: no IMDG Marine pollutant: no	IATA: no
14.6	Special precautions for user	
	No data available	

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## SECTION 15: Regulatory information

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

#### Regulations on the Safety Management of Hazardous Chemicals

China Catalog of Hazardous chemicals 2015:Not Listed. website: <https://www.mem.gov.cn/>

#### Measures for Environmental Management of New Chemical Substances

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC):Listed. website: <https://www.mee.gov.cn/>

New Zealand Inventory of Chemicals (NZIoC):Listed. website: <https://www.epa.govt.nz/>



Vietnam National Chemical Inventory: Listed. website: <https://chemicaldata.gov.vn/>

EC Inventory: Not Listed.

European Inventory of Existing Commercial Chemical Substances (EINECS): Not Listed. website: <https://echa.europa.eu/>

Korea Existing Chemicals List (KECL): Not Listed. website: <http://ncis.nier.go.kr>

Philippines Inventory of Chemicals and Chemical Substances (PICCS): Not Listed. website: <https://emb.gov.ph/>

United States Toxic Substances Control Act (TSCA) Inventory: Not Listed. website: <https://www.epa.gov/>

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## SECTION 16: Other information

### Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS: Chemical Abstracts Service

EC50: Effective Concentration 50%

IATA: International Air Transportation Association

IMDG: International Maritime Dangerous Goods

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

STEL: Short term exposure limit

TWA: Time Weighted Average

### References

【1】 CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

【2】 ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

【3】 ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

【4】 eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:

[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

【5】 ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

【6】 Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

【7】 HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

【8】 IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

【9】 IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

【10】 Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>

### Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.