

Sodium perchlorate monohydrate

89152-250G

Version 1.4

Revision Date 03.02.2023

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

1.1. Product identifier

Product name : Sodium perchlorate monohydrate
SDS-number : 000000020266
Type of product : Substance
Remarks : SDS according to Art. 31 of Regulation (EC) 1907/2006.
Chemical name : Sodium perchlorate-1-hydrate
Index-No. : 017-010-00-6
REACH Registration Number : no data available

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

Use of the Substance/Mixture : Laboratory chemicals
Uses advised against : none

1.3. Details of the supplier of the safety data sheet

Company	: Honeywell International Inc. 115 Tabor Road 07950-2546 Morris Plains USA	Honeywell International, Inc. 115 Tabor Road Morris Plains, NJ 07950-2546 USA
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Telephone :
For further information, please contact: : SafetyDataSheet@Honeywell.com

1.4. Emergency telephone number

Emergency telephone number : +1-703-527-3887 (ChemTrec-Transport)
+1-303-389-1414 (Medical)
Country based Poison : see chapter 15.1

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Control Center

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Oxidizing solids Category 1

H271 May cause fire or explosion; strong oxidizer.

Acute toxicity Category 4 - Oral

H302 Harmful if swallowed.

Eye irritation Category 2

H319 Causes serious eye irritation.

Specific target organ toxicity - repeated exposure Category 2 - Oral

H373 May cause damage to organs (Thyroid) through prolonged or repeated exposure.

2.2. Label elements

REGULATION (EC) No 1272/2008

Hazard pictograms



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 (Thyroid) through prolonged or repeated exposure.

Precautionary statements

: P210

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

P260

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

P280

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

P301 + P330 + P331

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

2.3. Other hazards

This substance/mixture contains components considered to have endocrine disrupting properties for environment, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100. Results of PBT and vPvB assessment, see chapter 12.5.

SECTION 3: Composition/information on ingredients

3.1. Substance

Chemical name	CAS-No. Index-No. REACH Registration Number EC-No.	Classification 1272/2008	Concentration	Remarks
Sodium perchlorate-1-hydrate	7791-07-3 017-010-00-6 231-511-9	Ox. Sol. 1; H271 Acute Tox. 4; H302; Oral Eye Irrit. 2; H319 STOT RE 2; H373; Oral	<= 100 %	

3.2. Mixture

Not applicable

Occupational Exposure Limit(s), if available, are listed in Section 8.
For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice:

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First aider needs to protect himself. Move out of dangerous area. Take off immediately all contaminated clothing.

Inhalation:

If inhaled, remove to fresh air. If symptoms persist, call a physician.

Skin contact:

After contact with skin, wash immediately with plenty of water.

Eye contact:

Protect unharmed eye. Rinse thoroughly with plenty of water, also under the eyelids. Call a physician immediately.

Ingestion:

When swallowed, allow water to be drunk. Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

No data available

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

See Section 11 for more detailed information on health effects and symptoms.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water spray
Foam
Carbon dioxide (CO₂)
Dry powder

Extinguishing media which shall not be used for safety reasons:

High volume water jet

5.2. Special hazards arising from the substance or mixture

Keep away from reducing agents.
In fires, the product supports combustion.
The product itself does not burn.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.
No unprotected exposed skin areas.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Wear personal protective equipment. Unprotected persons must be kept away.

6.2. Environmental precautions

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

6.3. Methods and materials for containment and cleaning up

Use mechanical handling equipment.
Pick for disposal in tightly closed containers

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Avoid dust formation.

Do not pick up with the help of saw-dust or other combustible substances.

Clean floors and contaminated objects with plenty of water.

6.4. Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling:

Exhaust ventilation at the object is necessary. Wear personal protective equipment. Never return unused material to storage receptacle. Protect from contamination.

Advice on protection against fire and explosion:

Keep away from combustible material. The product itself does not burn.

Hygiene measures:

Keep working clothes separately. Separate rooms are required for washing, showering and changing clothes. Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions:

Keep container dry. Keep only in the original container in a cool, well-ventilated place. Do not leave vessels/containers open. Containers should be protected against falling down. Store in a place accessible by authorized persons only.

Advice on common storage:

Do not store with combustible materials.

7.3. Specific end use(s)

no additional data available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

DNEL/ PNEC-Values

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
Sodium perchlorate-1-hydrate	Workers / Long-term systemic effects		0,28 mg/m3	Inhalation	
Sodium perchlorate-1-hydrate	Workers / Long-term systemic effects		2,16mg/kg bw/d	Skin contact	
Sodium perchlorate-1-hydrate	Consumers / Long-term systemic effects		0,02mg/kg bw/d	Ingestion	

Component	Environmental compartment / Value	Remarks
Sodium perchlorate-1-hydrate	Fresh water: 0,021 mg/l	Assessment factor: 10
Sodium perchlorate-1-hydrate	Marine water: 0,002 mg/l	Assessment factor: 100
Sodium perchlorate-1-hydrate	Sewage treatment plant: 7 mg/l	Assessment factor: 100
Sodium perchlorate-1-hydrate	Fresh water sediment: 4,67 mg/kg dw	Assessment factor: 100
Sodium perchlorate-1-hydrate	Marine sediment: 0,467 mg/kg dw	Assessment factor: 1000
Sodium perchlorate-1-hydrate	Soil: 2,55 mg/kg dw	Assessment factor:

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1000

8.2. Exposure controls

Occupational exposure controls

The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.

Do not breathe dust.

Wash hands before breaks and at the end of workday.

Engineering measures

Local exhaust

Personal protective equipment

Respiratory protection:

In the case of dust or aerosol formation use respirator with an approved filter.

Hand protection:

Glove material: Natural Latex

Break through time: > 480 min

Glove thickness: 0,6 mm

Lapren®706

Gloves must be inspected prior to use.

Replace when worn.

Remarks:Supplementary note: The specifications are based on information and tests from similar substances by analogy.

Due to varying conditions (e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.

Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer recommends to use the chemical protective glove in practice not longer than 50% of the recommended permeation time.

Manufacturer´s directions for use should be observed because of great diversity of types .

Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

Eye protection:

Safety goggles

Skin and body protection:

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Protective suit

Environmental exposure controls

Handle in accordance with local environmental regulations and good industrial practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	solid
Colour	:	colourless
Odour	:	odourless
molecular weight	:	140,46 g/mol
Melting point/range	:	≥ 469 °C anhydrous substance
Boiling point/boiling range	:	Not applicable Decomposes on heating.
Upper explosion limit	:	Not applicable
Lower explosion limit	:	Not applicable
Flash point	:	Not applicable
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	482 °C Decomposition temperature
pH	:	6,0 - 8,0 at 20 °C
Auto-ignition temperature	:	not auto-flammable
Viscosity, kinematic	:	Not applicable

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Water solubility	:	2.090 g/l at 20 °C anhydrous substance
Partition coefficient: n- octanol/water	:	No data available
Vapour pressure	:	negligible
Density	:	ca. 2,02 g/cm ³ at 20 °C
Bulk density	:	ca. 1.200 kg/m ³
Relative vapour density	:	No data available

9.2 Other Information

The product is hygroscopic.

Oxidizing properties	:	The substance or mixture is classified as oxidizing with the category 1.
Evaporation rate	:	No data available
Viscosity, dynamic	:	Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under recommended storage conditions.

10.2. Chemical stability

482 °C
Decomposition temperature

10.3. Possibility of hazardous reactions

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Decomposes on heating.

10.4. Conditions to avoid

Keep away from reducing agents.
Protect from heat/overheating.

10.5. Incompatible materials

Reactions with metals in powder form.
Mixtures of inflammable substances are easily combustible and burn vigorously even under exclusion of air.
Strong reducing agents
Dirt

10.6. Hazardous decomposition products

Oxygen

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity:
Classification based on Annex VI of regulation 1272/2008/EC.

Acute dermal toxicity:
LD50
Species: Rat
Sex: male and female
Value: > 2.000 mg/kg
Method: OECD Test Guideline 402
Test substance: anhydrous substance

Acute inhalation toxicity:
No data available

Skin irritation:
Species: Rabbit
Result: slight irritation
Classification: non-irritant
Method: OECD Test Guideline 404

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Test substance: anhydrous substance

Eye irritation:

Species: Rabbit

Result: Irritating to eyes.

Method: OECD Test Guideline 405

Test substance: anhydrous substance

Respiratory or skin sensitisation:

Mouse local lymph node assay

Species: Mouse

Result: Did not cause sensitisation on laboratory animals.

Classification: non-sensitizing

Method: OECD Test Guideline 429

Test substance: anhydrous substance

Repeated dose toxicity:

Application Route: Oral

Note: Conclusive and supporting classification (Ref: REACH Dossier - ECHA disseminated data)

Germ cell mutagenicity:

Cell type: Human lymphocytes

Metabolic activation: with and without metabolic activation

Result: negative

Method: OECD Test Guideline 473

Aspiration hazard:

Not applicable

11.2. Information on other hazards

Endocrine disrupting properties

No data available

Other information:

No data available

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish:

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Honeywell
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LC50

static test

Species: Danio rerio (zebra fish)

Value: > 1.000 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Test substance: anhydrous substance

NOEC

semi-static test

Species: Danio rerio (zebra fish)

Value: 11,48 mg/l

Exposure time: 84 d

Method: OECD Test Guideline 215

Toxicity to aquatic plants:

EC50

Biomass

static test

Species: Pseudokirchneriella subcapitata (green algae)

Value: > 435,7 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

NOEC

Growth rate

static test

Species: Pseudokirchneriella subcapitata (green algae)

Value: 86,9 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Toxicity to Microorganisms:

EC50

Respiration inhibition

static test

Species: activated sludge

Value: > 700 mg/l

Exposure time: 3 h

Method: ISO 8192

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Toxicity to aquatic invertebrates:

EC50

static test

Species: Daphnia magna (Water flea)

Value: > 100 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Test substance: anhydrous substance

NOEC

semi-static test

Species: Ceriodaphnia dubia (water flea)

Value: 10 mg/l

Exposure time: 7 d

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

No data available

12.6. Endocrine disrupting properties

This substance/mixture contains components considered to have endocrine disrupting properties for environment, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

12.7. Other adverse effects

The methods for determining biodegradability are not applicable to inorganic substances.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product:

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Dispose according to legal requirements.

Packaging:

Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

Further information:

Provisions relating to waste:

EC Directive 2006/12/EC; 2008/98/EEC

Regulation No. 1013/2006

For personal protection see section 8.

SECTION 14: Transport information

14.1 UN number

ADR/RID:1502

IMDG:1502

IATA:1502

14.2 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

Marine pollutant: no

14.6 Special precautions for user

No data available

14.7 Maritime transport in bulk according to IMO instruments

No data available

SECTION 15: Regulatory information

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

Basis	Value	Remarks
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Directive 2012/18/EC Listed in Regulation : P8: Oxidizing liquids and solids Number in Regulation: 1.2.8	Quantity: 50.000 kg Quantity: 200.000 kg	
Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of $\geq 0.1\%$ (w/w).
Regulation (EU) 2019/1148 on the marketing and use of explosives precursors		Listed

Poison Control Center

Country	Phone Number
Austria	+4314064343
Belgium	070 245245
Bulgaria	(+35929154233
Croatia	(+3851)23-48-342
Cyprus	+357 2240 5611
Czech Republic	+420224919293; +420224915402
Denmark	82121212
Estonia	16662; (+372)6269390
Finland	9471977
France	+33(0)145425959
Greece	+30 210 779 3777
Hungary	(+36-80)201-199
Iceland	5432222
Ireland	+353(1)8092166
Italy	0382 24444

Country	Phone Number
Liechtenstein	+41 442515151
Lithuania	+370532362052
Luxembourg	070245245; (+352)80002-5500
Malta	+356 2395 2000
Netherlands	030-2748888
Norway	22591300
Poland	+48 42 25 38 400
Portugal	800250250
Romania	+40 21 318 3606
Slovakia (NTIC)	+421 2 54 774 166
Slovenia	+386 1 400 6051
Spain	+34915620420
Sweden	112 (begär Giftinformation);+46104566786
Switzerland	145
United Kingdom	(+44) 844 892 0111

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Germany	Berlin : 030/19240
	Bonn : 0228/19240
	Erfurt : 0361/730730
	Freiburg : 0761/19240
	Göttingen : 0551/19240
	Homburg : 06841/19240
	Mainz : 06131/19240
	Munich : 089/19240
Latvia	+37167042473

Other inventory information

US. Toxic Substances Control Act
On TSCA Inventory

Australia. Inventory of Industrial Chemicals (AIIC), as amended
On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)
All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List
On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI)
On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS)
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory (TCSI)
On the inventory, or in compliance with the inventory

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15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Text of H-statements referred to under heading 3

Sodium perchlorate-1-
hydrate : H271 May cause fire or explosion; strong oxidizer.
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H373 May cause damage to organs (Thyroid) through
prolonged or repeated exposure.

Further information

All directives and regulations refer to amended versions.
Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

Abbreviations:

EC European Community
CAS Chemical Abstracts Service
DNEL Derived no effect level
PNEC Predicted no effect level
vPvB Very persistent and very bioaccumulative substance
PBT Persistent, bioaccumulative und toxic substance

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. Final determination of suitability of any material is the sole responsibility of the user.

This information should not constitute a guarantee for any specific product properties.

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