

Sodium perchlorate.1aq a.r.

Revision: 11.03.2025

Product code: AC14.00638

Page 1 of 12

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Sodium perchlorate.1aq a.r.

CAS No: 7791-07-3
Index No: 017-010-00-6

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

Reagents and laboratory chemicals
Only for laboratory and analysis purposes.

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet**Details of the supplier of the safety data sheet**

Company name: AnalytiChem Services, Unipessoal, Lda
Street: Rua de Júlio Dinis 676 7º
Place: N-4050-320 Porto
Telephone: +351 226002917
E-mail: info@analytichem.com
Contact person: SDS service department
E-mail: SDS@analytichem.com
Internet: www.analytichem.com
Responsible Department: SDS service department

Supplier or manufacturer details

Company name: AnalytiChem Belgium NV
Street: Industriezone "De Arend" 2
Place: B-8210 Zedelgem
Telephone: +32 50 28 83 20
E-mail: info.be@analytichem.com
Contact person: SDS service department
E-mail: SDS@analytichem.com
Responsible Department: AnalytiChem:
EU-Belgium: AnalytiChem Belgium, Industriezone "De Arend" 2, 8210 Zedelgem, Belgium, +32 50 28 83 20
EU-Germany: AnalytiChem Germany, Stempelstrasse 6, 47167 Duisburg, Germany, +49 203 51 94 – 200
EU-Netherlands: AnalytiChem Netherlands, Communicatieweg 7, 3641 SG Mijdrecht, The Netherlands, +31 297 286848
UK: AnalytiChem UK, Unit 7 Launton Business Center, Murdock Road, Bicester, OX26 4XB, England, +44 1869 355 500
USA: AnalytiChem USA, 227 China Road, Winslow, Maine, 04901, United States, +1 800-244-8378
Canada: AnalytiChem Canada, 21800 Clark Graham Avenue, Baie d'Urfe, H9X 4B6, Canada, +1 514-457-0701
Australia: ORE Research & Exploration Pty Ltd, 37A Hosie Street, Bayswater North, 3153, Australia, +61 3 9729 0333
+44 20 3807 3798 (CHEMTREC)

1.4. Emergency telephone number:**Further Information**

A registration number is not available for this substance as the substance or its use are exempted from

Sodium perchlorate.1aq a.r.

Revision: 11.03.2025

Product code: AC14.00638

Page 2 of 12

registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Ox. Sol. 1; H271
Acute Tox. 4; H302
Eye Irrit. 2; H319
STOT RE 2; H373

Full text of hazard statements: see SECTION 16.

2.2. Label elements**Regulation (EC) No 1272/2008**

Signal word: Danger

Pictograms:

**Hazard statements**

H271 May cause fire or explosion; strong oxidiser.
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P221 Take any precaution to avoid mixing with combustibles.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314 Get medical advice/attention if you feel unwell.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients**3.1. Substances**

Sum formula: $\text{NaClO}_4 \cdot \text{H}_2\text{O}$
Molecular weight: 140.46 g/mol

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7791-07-3	Sodium perchlorate monohydrate			100 %
		017-010-00-6		
	Ox. Sol. 1, Acute Tox. 4, Eye Irrit. 2, STOT RE 2; H271 H302 H319 H373			

Full text of H and EUH statements: see section 16.

Sodium perchlorate.1aq a.r.

Revision: 11.03.2025

Product code: AC14.00638

Page 3 of 12

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
7791-07-3		Sodium perchlorate monohydrate	100 %
		oral: ATE = 500 mg/kg	

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

No data available

After inhalation

Provide fresh air.

Call a physician immediately.

After contact with skin

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.

Call a physician immediately.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water.

Remove contact lenses, if present and easy to do. Continue rinsing.

Consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink plenty of water.

Call a physician immediately.

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

Irritant

Dyspnoea

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

No data available

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Non-combustible solids

Oxidizing

Hazardous combustion products

In case of fire may be liberated:

Hydrogen chloride (HCl)

In case of warming: Decomposition with: Danger of explosion

5.3. Advice for firefighters

Avoid contact with skin, eyes and clothes.

Sodium perchlorate.1aq a.r.

Revision: 11.03.2025

Product code: AC14.00638

Page 4 of 12

In case of fire: Wear self-contained breathing apparatus.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Consult an expert

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

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up**For containment**

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Take up carefully when dry. Take up dust-free and set down dust-free.

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.

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

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Handle and open container with care.

Provide adequate ventilation.

Avoid contact with skin, eyes and clothes.

Avoid dust formation. Do not breathe dust.

Read label before use.

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

Advice on protection against fire and explosion

Keep away from combustible material.

May intensify fire; oxidiser.

Sodium perchlorate.1aq a.r.

Revision: 11.03.2025

Product code: AC14.00638

Page 5 of 12

Advice on general occupational hygiene

Take off contaminated clothing.
Wash hands before breaks and after work.
When using do not eat or drink.

Further information on handling

Take off contaminated clothing and wash it before reuse.
Wash hands before breaks and after work.
Draw up and observe skin protection programme.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep container tightly closed and dry.

Hints on joint storage

Keep away from combustible material.
Take national regulations into account.

Further information on storage conditions

storage temperature +5°C - +30°C
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****DNEL/DMEL values**

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
7791-07-3	Sodium perchlorate monohydrate			
Worker DNEL, long-term		dermal	systemic	2,16 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,02 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	0,28 mg/m³

PNEC values

CAS No	Substance		
Environmental compartment	Value		
7791-07-3	Sodium perchlorate monohydrate		
Freshwater	0,021 mg/l		
Freshwater (intermittent releases)	1 mg/l		
Marine water	0,002 mg/l		
Freshwater sediment	4,67 mg/kg		
Marine sediment	0,467 mg/kg		
Micro-organisms in sewage treatment plants (STP)	7 mg/l		
Soil	2,55 mg/kg		

8.2. Exposure controls**Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection

Sodium perchlorate.1aq a.r.

Revision: 11.03.2025

Product code: AC14.00638

Page 6 of 12

equipment.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Suitable eye protection: goggles.

Hand protection

Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: vertrieb@kcl.de with the following specification (test according to EN 374):

By long-term hand contact

Trade name/designation: KCL 741 Dermatril® L

Recommended material: NBR (Nitrile rubber) 0,11 mm

Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation: KCL 741 Dermatril® L

Recommended material: NBR (Nitrile rubber) 0,11 mm

Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

Wear suitable protective clothing.

Take off immediately all contaminated clothing.

Wash hands before breaks and after work.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

Respiratory protection

Respiratory protection necessary at: dust formation

Filtering device with filter or ventilator filtering device of type: P2

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	solid
Colour:	colourless
Odour:	odourless
Odour threshold:	No data available
Melting point/freezing point:	130 °C
Boiling point or initial boiling point and boiling range:	No data available
Flammability:	not applicable
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Flash point:	X

Sodium perchlorate.1aq a.r.

Revision: 11.03.2025

Product code: AC14.00638

Page 7 of 12

Auto-ignition temperature:	No data available
Decomposition temperature:	130/482 °C
pH-Value (at 25 °C):	4,5 - 7,0 (50 g/l)
Viscosity / kinematic:	No data available
Water solubility: (at 15 °C)	2090 g/l
Solubility in other solvents not determined	
Dissolution rate:	No data available
Partition coefficient n-octanol/water:	No data available
Dispersion stability:	No data available
Vapour pressure:	No data available
Vapour pressure:	No data available
Density (at 20 °C):	2,02 g/cm ³
Relative density:	No data available
Bulk density:	900 kg/m ³
Relative vapour density:	not determined
Particle characteristics:	No data available

9.2. Other information**Information with regard to physical hazard classes**

Explosive properties

No data available

Sustained combustibility:

No data available

Self-ignition temperature

Solid:

not determined

Gas:

not applicable

Oxidizing properties

The product is: oxidising, Oxidising.

Oxidizing solids, Category 1

Other safety characteristics

Evaporation rate:

not determined

Solvent separation test:

No data available

Solvent content:

No data available

Solid content:

100%

Sublimation point:

No data available

Softening point:

No data available

Pour point:

No data available

Viscosity / dynamic:

No data available

Flow time:

No data available

Further Information

No data available

SECTION 10: Stability and reactivity**10.1. Reactivity**

Possibility of hazardous reactions. oxidising, Oxidising.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Sodium perchlorate.1aq a.r.

Revision: 11.03.2025

Product code: AC14.00638

Page 8 of 12

Light metal, Metal
Alcohol, Fluorine, Metal powder
SULPHUR, Acid
Reducing agent, Combustible substance

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

iron and steel

10.6. Hazardous decomposition products

In case of fire may be liberated:
SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information**11.1. Information on hazard classes****Toxicokinetics, metabolism and distribution**

No data available

Acute toxicity

Harmful if swallowed.
May cause respiratory irritation.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7791-07-3	Sodium perchlorate monohydrate				
	oral	ATE 500 mg/kg			

Irritation and corrosivity

Serious eye damage/eye irritation: Causes serious eye irritation.
Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT-single exposure

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

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure. (Sodium perchlorate monohydrate)

Aspiration hazard

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

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Sodium perchlorate.1aq a.r.

Revision: 11.03.2025

Product code: AC14.00638

Page 9 of 12

Practical experience

No data available

11.2. Information on other hazards**Endocrine disrupting properties**

No data available

Other information

No data available

Further information

Irritant

Dyspnoea

SECTION 12: Ecological information**12.1. Toxicity**

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

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
7791-07-3	Sodium perchlorate monohydrate					
	Acute fish toxicity	LC50 > 1000 mg/l	96 h	Danio rerio	Study report (2005)	OECD Guideline 203
	Acute algae toxicity	ErC50 > 435,7 mg/l	72 h	Pseudokirchneriella subcapitata	Study report (1998)	OECD Guideline 201
	Crustacea toxicity	NOEC 10 mg/l	7 d	Ceriodaphnia dubia	Study report (1998)	other: EPA/600/4-91/002
	Acute bacteria toxicity	EC50 > 700 mg/l ()	0,5 h	Activated sludge	Study report (1997)	ISO 8192

12.2. Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential**BCF**

CAS No	Chemical name	BCF	Species	Source
7791-07-3	Sodium perchlorate monohydrate	> 0,06 - < 0,14	Danio rerio	Chemosphere 65 (2006)

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of UK REACH.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

No data available

Further information

Avoid release to the environment.

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Sodium perchlorate.1aq a.r.

Revision: 11.03.2025

Product code: AC14.00638

Page 10 of 12

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.
Send to a physico-chemical treatment facility under observation of official regulations.
Do not mix with other wastes.
Do not empty into drains.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information**Land transport (ADR/RID)**

14.1. UN number or ID number:	UN 1502
14.2. UN proper shipping name:	SODIUM PERCHLORATE
14.3. Transport hazard class(es):	5.1
14.4. Packing group:	II
Hazard label:	5.1
Classification code:	O2
Limited quantity:	1 kg
Excepted quantity:	E2
Transport category:	2
Hazard No:	50
Tunnel restriction code:	E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 1502
14.2. UN proper shipping name:	SODIUM PERCHLORATE
14.3. Transport hazard class(es):	5.1
14.4. Packing group:	II
Hazard label:	5.1
Classification code:	O2
Limited quantity:	1 kg
Excepted quantity:	E2

Marine transport (IMDG)

14.1. UN number or ID number:	UN 1502
14.2. UN proper shipping name:	SODIUM PERCHLORATE
14.3. Transport hazard class(es):	5.1
14.4. Packing group:	II
Hazard label:	5.1
Special Provisions:	-
Limited quantity:	1 kg
Excepted quantity:	E2
EmS:	F-H, S-Q

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 1502
14.2. UN proper shipping name:	SODIUM PERCHLORATE
14.3. Transport hazard class(es):	5.1
14.4. Packing group:	II
Hazard label:	5.1
Limited quantity Passenger:	2.5 kg
Passenger LQ:	Y544
Excepted quantity:	E2

Sodium perchlorate.1aq a.r.

Revision: 11.03.2025

Product code: AC14.00638

Page 11 of 12

IATA-packing instructions - Passenger:	558
IATA-max. quantity - Passenger:	5 kg
IATA-packing instructions - Cargo:	562
IATA-max. quantity - Cargo:	25 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Warning: Oxidising substances.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Information according to Directive 2012/18/EU (SEVESO III):	P8 OXIDISING LIQUIDS AND SOLIDS
---	---------------------------------

National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.
Water hazard class (D):	1 - slightly hazardous to water

SECTION 16: Other information**Changes**

This data sheet contains changes from the previous version in section(s): 9,12.

Abbreviations and acronyms

Ox. Sol. 1: Oxidising solids, hazard category 1
Acute Tox. 4: Acute toxicity, hazard category 4
Eye Irrit. 2: Eye irritation, hazard category 2
STOT RE 2: Specific target organ toxicity - repeated exposure, hazard category 2
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%

Relevant H and EUH statements (number and full text)

H271	May cause fire or explosion; strong oxidiser.
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H373	May cause damage to organs through prolonged or repeated exposure.

Further Information

Provide appropriate information, instructions and training to users

Sodium perchlorate.1aq a.r.

Revision: 11.03.2025

Product code: AC14.00638

Page 12 of 12