

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Aluminium nitrate nonahydrate > 98% for analysis, ACS

Revision date: 12.09.2023

Product code: 25198

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

Aluminium nitrate nonahydrate > 98% for analysis, ACS

CAS No: 7790-28-5

EC No: 232-197-6

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

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name: AnalytiChem GmbH

Street: Stempelstraße 6

Place: D-47167 Duisburg

Telephone: 0203/5194-0

Telefax: 0203/5194-290

E-mail: info@analytichem.de

Contact person: Abteilung Produktsicherheit

Telephone: 0203/5194-107/117

E-mail: produktsicherheit@analytichem.de

Internet: www.analytichem.de

Responsible Department: Abteilung Produktsicherheit

1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

Further Information

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

Skin Corr. 1C; H314

Eye Dam. 1; H318

STOT RE 1; H372

Aquatic Acute 1; H400

Full text of hazard statements: see SECTION 16.

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

Signal word: Danger

Pictograms:



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Hazard statements

- H271 May cause fire or explosion; strong oxidiser.
- H314 Causes severe skin burns and eye damage.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.

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.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
- P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- 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 IF exposed or concerned:
- P310 Immediately call a POISON CENTER/doctor.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

- Sum formula: NaIO4
- Molecular weight: 213,89 g/mol

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7790-28-5	sodium periodate			100 %
	232-197-6			
	Ox. Sol. 1, Skin Corr. 1C, Eye Dam. 1, STOT RE 1, Aquatic Acute 1; H271 H314 H318 H372 H400			

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

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

Self-protection of the first aider

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.

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Call a physician immediately.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

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

After ingestion

Rinse mouth immediately and drink plenty of water.

Do not allow a neutralisation agent to be drunk.

Do NOT induce vomiting.

Call a physician immediately.

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

Irritant

corrosive

Cough

Dyspnoea

Risk of serious damage to eyes.

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

In case of warming: Decomposition with: Danger of explosion

Hazardous combustion products

In case of fire may be liberated:

Hydrogen iodide (HI)

5.3. Advice for firefighters

Do not inhale explosion and combustion gases.

Avoid contact with skin, eyes and clothes.

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.

Move undamaged containers from immediate hazard area if it can be done safely.

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

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

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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.

Advice on protection against fire and explosion

Keep away from combustible material.

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

Hints on joint storage

Keep away from: Combustible substance

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)

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Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
7790-28-5	sodium periodate			
Worker DNEL, long-term		inhalation	systemic	0,1 mg/m ³
Worker DNEL, acute		inhalation	systemic	0,3 mg/m ³
Worker DNEL, long-term		dermal	systemic	0,06 mg/kg bw/day
Worker DNEL, acute		dermal	systemic	0,2 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,03 mg/m ³
Consumer DNEL, acute		inhalation	systemic	0,09 mg/m ³
Consumer DNEL, long-term		dermal	systemic	0,03 mg/kg bw/day
Consumer DNEL, acute		dermal	systemic	0,09 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	0,03 mg/kg bw/day

PNEC values

CAS No	Substance	Value
7790-28-5	sodium periodate	
Environmental compartment		
Freshwater		0 mg/l
Freshwater (intermittent releases)		0,002 mg/l
Marine water		0 mg/l
Freshwater sediment		0,001 mg/kg
Marine sediment		0 mg/kg
Micro-organisms in sewage treatment plants (STP)		2,2 mg/l
Soil		0 mg/kg

8.2. Exposure controls

Appropriate engineering controls

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

Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection: goggles.

Hand protection

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

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

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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.

Respiratory protection

Respiratory protection necessary at: dust formation
Filtering device with filter or ventilator filtering device of type: P2

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:	white
Odour:	odourless
Odour threshold:	No data available
Melting point/freezing point:	270 °C
Boiling point or initial boiling point and boiling range:	No data available
Flammability:	not determined not applicable
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Flash point:	not applicable
Auto-ignition temperature:	No data available
pH-Value (at 20 °C):	5,2 (50 g/l)
Viscosity / kinematic:	No data available
Water solubility: (at 20 °C)	91 g/L
Solubility in other solvents	not determined
Dissolution rate:	No data available
Partition coefficient n-octanol/water:	not determined
Dispersion stability:	No data available
Vapour pressure:	No data available
Vapour pressure:	No data available
Density (at 20 °C):	3,87 g/cm ³
Relative density:	No data available
Bulk density:	No data available
Relative vapour density:	not determined
Particle characteristics:	No data available

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9.2. Other information

Information with regard to physical hazard classes

Explosive properties

No data available

Sustaining combustion:

No data available

Self-ignition temperature

Solid:

262 °C

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.

Oxidising agent, strong

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Combustible substance

Metal powder

Reducing agent

Acid

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

No data available

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 as defined in Regulation (EC) No 1272/2008

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Toxicokinetics, metabolism and distribution

No data available

Acute toxicity

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

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

Irritation and corrosivity

Causes severe skin burns and eye damage.

Causes serious eye damage.

Risk of serious damage to eyes.

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

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

Causes damage to organs through prolonged or repeated exposure. (sodium periodate)
thyroid gland

Aspiration hazard

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

Information on likely routes of exposure

No data available

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Practical experience

No data available

11.2. Information on other hazards

Other information

No data available

Further information

Irritant

corrosive

Respiratory complaints

Gastrointestinal complaints

Circulatory collapse

Cyanosis (blue coloured blood)

Risk of serious damage to eyes.

SECTION 12: Ecological information

12.1. Toxicity

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
7790-28-5	sodium periodate					
	Acute fish toxicity	LC50 mg/l	> 0,17	96 h	Oncorhynchus mykiss	REACH Registration Dossier
	Acute algae toxicity	ErC50	1,1 mg/l	72 h	Pseudokirchneriella subcapitata	REACH Registration Dossier
	Acute crustacea toxicity	EC50 mg/l	0,18	48 h	Daphnia magna	REACH Registration Dossier
	Acute bacteria toxicity	(EC50 mg/l)	220	3 h	activated sludge of a predominantly domestic sewage	REACH Registration Dossier

12.2. Persistence and degradability

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

12.3. Bioaccumulative potential

No data available

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 REACH, annex XIII.

No data available

12.6. Endocrine disrupting properties

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

No data available

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

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.

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 3085

14.2. UN proper shipping name:

OXIDIZING SOLID, CORROSIVE, N.O.S. (sodium periodate)

14.3. Transport hazard class(es):

5.1

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14.4. Packing group: I
 Hazard label: 5.1+8
 Classification code: OC2
 Special Provisions: 274
 Limited quantity: 0
 Excepted quantity: E0
 Transport category: 1
 Tunnel restriction code: E

Inland waterways transport (ADN)

14.1. UN number or ID number: UN 3085
14.2. UN proper shipping name: OXIDIZING SOLID, CORROSIVE, N.O.S. (sodium periodate)
14.3. Transport hazard class(es): 5.1
14.4. Packing group: I
 Hazard label: 5.1+8
 Classification code: OC2
 Special Provisions: 274
 Limited quantity: 0
 Excepted quantity: E0

Marine transport (IMDG)

14.1. UN number or ID number: UN 3085
14.2. UN proper shipping name: OXIDIZING SOLID, CORROSIVE, N.O.S. (sodium periodate)
14.3. Transport hazard class(es): 5.1
14.4. Packing group: I
 Hazard label: 5.1+8
 Special Provisions: 274
 Limited quantity: 0
 Excepted quantity: E0
 EmS: F-A, S-Q

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 3085
14.2. UN proper shipping name: OXIDIZING SOLID, CORROSIVE, N.O.S. (sodium periodate)
14.3. Transport hazard class(es): 5.1
14.4. Packing group: I
 Hazard label: 5.1+8
 Special Provisions: A3 A803
 Limited quantity Passenger: Forbidden
 Passenger LQ: Forbidden
 Excepted quantity: E0
 IATA-packing instructions - Passenger: 557
 IATA-max. quantity - Passenger: 1 kg
 IATA-packing instructions - Cargo: 561
 IATA-max. quantity - Cargo: 15 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes
 Danger releasing substance: sodium periodate

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

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

EU regulatory information

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

Additional information: E1

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): 3 - highly hazardous to water

SECTION 16: Other information

Abbreviations and acronyms

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%

Ox. Sol: Oxidising solid

Skin Corr: Skin corrosion

Eye Dam: Eye damage

STOT RE: Specific target organ toxicity - repeated exposure

Aquatic Acute: Acute aquatic hazard

Relevant H and EUH statements (number and full text)

H271 May cause fire or explosion; strong oxidiser.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H372 Causes damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.