

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Nickel(II) sulfate hexahydrate pure chrystalline

Revision date: 21.09.2023 Product code: 27514 Page 1 of 13

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

1.1. Product identifier

Nickel(II) sulfate hexahydrate pure chrystalline

Substance name: nickel sulfate hexahydrate REACH Registration Number: 01-2119439361-44-XXXX

CAS No: 10101-97-0 Index No: 028-009-00-5 EC No: 232-104-9

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

<u>1.4. Emergency telephone</u> For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire,

number: 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

No data available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008 Carc. 1A: H350i

Muta. 2; H341 Repr. 1B; H360D Acute Tox. 4; H332 Acute Tox. 4; H302 Skin Irrit. 2; H315 Resp. Sens. 1; H334 Skin Sens. 1; H317

STOT RE 1; H372

Aquatic Acute 1; H400 (M-Factor = 1) Aquatic Chronic 1; H410 (M-Factor = 1)

Full text of hazard statements: see SECTION 16.

2.2. Label elements



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Regulation (EC) No 1272/2008

Signal word: Danger

Pictograms:







Hazard statements

H302+H332 Harmful if swallowed or if inhaled.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H341 Suspected of causing genetic defects.
H350i May cause cancer by inhalation.
H360D May damage the unborn child.

H372 Causes damage to organs through prolonged or repeated exposure.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P201 Obtain special instructions before use.
P273 Avoid release to the environment.

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

protection.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P314 Get medical advice/attention if you feel unwell.

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

Special labelling of certain mixtures

Restricted to professional users.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Sum formula: NiSO4 * 6 H2O Molecular weight: 262,86 g/mol

Hazardous components

CAS No	Chemical name				
	EC No	Index No	REACH No		
	Classification (Regulation (EC) No 1272/2008)				
10101-97-0	nickel sulfate hexahydrate				
	232-104-9	028-009-00-5	01-2119439361-44-XXXX		
	Carc. 1A, Muta. 2, Repr. 1B, Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Resp. Sens. 1, Skin Sens. 1, STOT RE 1, Aquatic Acute 1, Aquatic Chronic 1; H350i H341 H360D H332 H302 H315 H334 H317 H372 H400 H410				

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



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Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. I	Specific Conc. Limits, M-factors and ATE	
10101-97-0	232-104-9	nickel sulfate hexahydrate	100 %
	361,9 mg/kg S	•	

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.

If breathing is irregular or stopped, administer artificial respiration.

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

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

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

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

Asthmatic complaints

Respiratory complaints

Allergic reactions

Gastrointestinal complaints

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

Hazardous combustion products



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In case of fire may be liberated: Metal oxide smoke, toxic, Sulphur oxides

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.

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.

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

Avoid exposure - obtain special instructions before use.

Read label before use. Handle and open container with care.

Avoid dust formation. Do not breathe dust.

When using do not eat, drink, smoke, sniff. Keep container tightly closed.

Use personal protection equipment. Use extractor hood (laboratory).

Provide adequate ventilation. Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion

Usual measures for fire prevention.



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Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs. Make available sufficient washing facilities Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

Further information on handling

Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary.

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

If handled uncovered, arrangements with local exhaust ventilation have to be used.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

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

Store in a place accessible by authorized persons only.

Further information on storage conditions

Store in a dry place.

storage temperature: +5°C - +30°C

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		
10101-97-0	nickel sulfate hexahydrate					
Worker DNEL	, long-term	inhalation	systemic	0,05 mg/m³		
Worker DNEL	., acute	inhalation	systemic	104 mg/m³		
Worker DNEL	., long-term	inhalation	local	0,05 mg/m³		
Worker DNEL, acute		inhalation	local	1,6 mg/m³		
Worker DNEL, long-term		dermal	local	0 mg/cm²		
Consumer DNEL, acute		inhalation	systemic	8,8 mg/m³		
Consumer DNEL, acute		inhalation	local	0,1 mg/m³		
Consumer DNEL, long-term		oral	systemic	0,011 mg/kg bw/day		
Consumer DN	NEL, acute	oral	systemic	0,37 mg/kg bw/day		



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PNEC values

CAS No	Substance	
Environmen	tal compartment	Value
10101-97-0	nickel sulfate hexahydrate	
Freshwater		0,0071 mg/l
Freshwater (intermittent releases)		0 mg/l
Marine water		0,0086 mg/l
Freshwater sediment		109 mg/kg
Marine sediment		109 mg/kg
Secondary poisoning		0,12 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,33 mg/l
Soil		29,9 mg/kg

8.2. Exposure controls

Appropriate engineering controls

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

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Avoid dust formation. Do not breathe dust.

Individual protection measures, such as personal protective equipment

Eye/face protection

goggles

Wear eye/face protection.

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

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

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: P3

Environmental exposure controls

Do not allow to enter into surface water or drains.



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650 g/L

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: solid
Colour: green
Odour: odourless
Odour threshold: No data available

Melting point/freezing point:

Boiling point or initial boiling point and

No data available

No data available

boiling range:

Flammability:

Lower explosion limits:

Upper explosion limits:

No data available

Upper explosion limits:

No data available

Flash point:

X

Auto-ignition temperature:

Decomposition temperature:

103 °C

pH-Value (at 20 °C):

Viscosity / kinematic:

No data available

No data available

Water solubility: (at 20 °C)

Solubility in other solvents
No data available

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): 2,07 g/cm³ ~1000 kg/m³ Bulk density: No data available Relative vapour density: No data available Particle characteristics:

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: No data available
Gas: No data available

Oxidizing properties

No data available

Other safety characteristics

Evaporation rate:

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
No data available

No data available:

Viscosity / dynamic:

Flow time:

No data available

No data available



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Further Information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Strong 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: Metal oxide smoke, toxic, Sulphur oxides

Further information

No data available

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicocinetics, metabolism and distribution

Avoid exposure - obtain special instructions before use.

Acute toxicity

Harmful if swallowed.

Harmful if inhaled.

CAS No	Chemical name						
	Exposure route	Dose		Species	Source	Method	
10101-97-0	nickel sulfate hexahydrate						
	oral	LD50 mg/kg	361,9	Rat	Regul Toxicol and Pharmacol (doi.org/10.	OECD Guideline 425	
	inhalation vapour	ATE	11 mg/l				
	inhalation dust/mist	ATE	1,5 mg/l				

Irritation and corrosivity

Causes skin irritation.

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

Sensitising effects

May cause allergy or asthma symptoms or breathing difficulties if inhaled. (nickel sulfate hexahydrate)

May cause an allergic skin reaction. (nickel sulfate hexahydrate)

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of causing genetic defects. (nickel sulfate hexahydrate)

May cause cancer by inhalation. (nickel sulfate hexahydrate)

May damage the unborn child. (nickel sulfate hexahydrate)

STOT-single exposure

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



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STOT-repeated exposure

Causes damage to organs through prolonged or repeated exposure. (nickel sulfate hexahydrate)

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

Endocrine disrupting properties

No data available

Other information

No data available

Further information

Irritant

Asthmatic complaints

Respiratory complaints

Allergic reactions

Gastrointestinal complaints

SECTION 12: Ecological information

12.1. Toxicity



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CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] [d]	Species	Source	Method
10101-97-0	nickel sulfate hexahydrate						
	Acute fish toxicity	LC50 mg/l	15,3	96 h	Oncorhynchus mykiss	Aquatic Toxicology 63 (2003) 65-82 (2003	other: not reported
	Acute algae toxicity	ErC50 mg/l	0,237	72 h	Ankistrodesmus falcatus	Water Research. V43: p1935-p1947. (2009)	OECD Guideline 201
	Acute crustacea toxicity	EC50 mg/l	0,276	48 h	Ceriodaphnia dubia	Study report (2005)	Test methods were in accordance with app
	Fish toxicity	NOEC mg/l	0,057	32 d	Pimephales promelas	Water Resources Research Institute. Kent	other: ASTM 1980, E-729
	Algae toxicity	NOEC	0,6 mg/l	14 d	Anabaena cylindrica	Environ. Pollut. (Series A). 25(4):241-2	other: not reported
	Crustacea toxicity	NOEC 0,0153 mg	0,0053 - /I	7 d	Ceriodaphnia dubia	Environmental Toxicology and Chemistry,	other: EPA/600/4-91/00 2
	Acute bacteria toxicity	(EC50	33 mg/l)	0,5 h	Activated sludge	Journal of Hazardous Materials. B139:332	ISO 8192

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

BCF

CAS No	Chemical name	BCF	Species	Source
10101-97-0	nickel sulfate hexahydrate	_	other aquatic crustacea: Cambarus bartoni	Bull. Environ. Conta

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

Discharge into the environment must be avoided.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods



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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 allow to enter into surface water or drains.

Contaminated packaging

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number: UN 3077

14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

(nickel sulfate hexahydrate)

14.3. Transport hazard class(es):914.4. Packing group:IIIHazard label:9Classification code:M7

Special Provisions: 274 335 375 601

Limited quantity: 5 kg
Excepted quantity: E1
Transport category: 3
Hazard No: 90
Tunnel restriction code: -

Inland waterways transport (ADN)

14.1. UN number or ID number: UN 3077

14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

(nickel sulfate hexahydrate)

14.3. Transport hazard class(es):914.4. Packing group:IIIHazard label:9Classification code:M7

Special Provisions: 274 335 375 601

Limited quantity: 5 kg
Excepted quantity: E1

Marine transport (IMDG)

14.1. UN number or ID number: UN 3077

14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

(nickel sulfate hexahydrate)

 14.3. Transport hazard class(es):
 9

 14.4. Packing group:
 III

 Hazard label:
 9

Special Provisions: 274, 335, 966, 967, 969

Limited quantity: 5 kg
Excepted quantity: E1
EmS: F-A, S-F

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 3077

14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

(nickel sulfate hexahydrate)

14.3. Transport hazard class(es): 9



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14.4. Packing group:IIIHazard label:9

Special Provisions: A97 A158 A179 A197

Limited quantity Passenger: 30 kg G
Passenger LQ: Y956
Excepted quantity: E1

IATA-packing instructions - Passenger:956IATA-max. quantity - Passenger:400 kgIATA-packing instructions - Cargo:956IATA-max. quantity - Cargo:400 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes

Danger releasing substance: nickel sulfate hexahydrate

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 27, Entry 75

Information according to 2012/18/EU

(SEVESO III):

E1 Hazardous to the Aquatic Environment

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. Observe employment restrictions for women of

child-bearing age.

Water hazard class (D): 3 - highly hazardous to water

SECTION 16: Other information

Abbreviations and acronyms

Acute Tox: Acute toxicity Skin Irrit: Skin irritation

Resp. Sens: Respiratory sensitisation

Skin Sens: Skin sensitisation Muta: Germ cell mutagenicity

Carc: Carcinogenicity
Repr: Reproductive toxicity

STOT RE: Specific target organ toxicity - repeated exposure

Aquatic Acute: Acute aquatic hazard Aquatic Chronic: Chronic aquatic hazard

Relevant H and EUH statements (number and full text)

H302 Harmful if swallowed.

H302+H332 Harmful if swallowed or if inhaled.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H332 Harmful if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H341 Suspected of causing genetic defects.
H350i May cause cancer by inhalation.
H360D May damage the unborn child.



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H372 Causes damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

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.