

according to Regulation (EC) No 1907/2006

## Nickel(II) nitrate hexahydrate pure

Revision date: 21.09.2023

Product code: 15306

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

## 1.1. Product identifier

Nickel(II) nitrate hexahydrate pure

REACH Registration Number:	01-2119492333-38-XXXX
CAS No:	13478-00-7
Index No:	028-012-00-1
EC No:	236-068-5

## 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).

.3.	Details	of the	supplier	of the	safety	data sheet

1.3. Details of the supplier of the s	afety 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> number:	Exposure, or Accident Call CHEMTR	bus Goods] Incidents Spill, Leak, Fire, EC Day or Night Within USA and Canada: anada: +1 703-741-5970 (collect calls

## **Further Information**

No data available

#### **SECTION 2: Hazards identification**

### 2.1. Classification of the substance or mixture

## Regulation (EC) No 1272/2008

Ox. Sol. 2; H272 Carc. 1A; H350i Muta. 2; H341 Repr. 1B; H360D Acute Tox. 4; H332 Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 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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	Nickel(II) nitrate hexahydrate pure	
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Regulation (EC) No 1272	2008	
Signal word:	Danger	
Pictograms:		
Hazard statements	• • • • •	
H272 H302+H332 H315 H317 H318 H334 H341 H350i H360D H372 H410 <b>Precautionary statemen</b> P201 P221	Obtain special instructions before use. Take any precaution to avoid mixing with combustibles.	
P273 P280	Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.	
P302+P352 P304+P340 P305+P351+P338	IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	
P314 P342+P311	Get medical advice/attention if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.	
Special labelling of cert	tain mixtures Restricted to professional users.	

## 2.3. Other hazards

No data available

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

## 3.1. Substances

Sum formula:	Ni(NO3)2 * 6 H2O
Molecular weight:	290,81 g/mol

#### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
13478-00-7	-7 nickel dinitrate hexahxdrate			100 %
	236-068-5 028-012-00-1 01-2119492333-38-XXXX			
Ox. Sol. 2, Carc. 1A, Muta. 2, Repr. 1B, Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, Resp. Sens. 1, Skin Sens. 1, STOT RE 1, Aquatic Acute 1, Aquatic Chronic 1; H272 H350i H341 H360D H332 H302 H315 H318 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.	Limits, M-factors and ATE	
13478-00-7	236-068-5	nickel dinitrate hexahxdrate	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

Cough Irritant Vomiting Allergic reactions Gastrointestinal complaints Methaemoglobinaemia 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



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## 5.2. Special hazards arising from the substance or mixture

Non-combustible solids Oxidizing Hazardous combustion products In case of fire may be liberated: Metal oxide smoke, toxic, Nitrogen oxides (NOx)

### 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).



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

# Advice on protection against fire and explosion

Material, oxygen-rich, Oxidising

### 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.

## Hints on joint storage

Keep away from: Combustible substance

### 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
13478-00-7 nickel dinitrate hexahxdrate				
Worker DNEL, acute inhalation systemic 104 mg/m³				
Worker DNEL, acuteinhalationlocal1,6 mg/m³				1,6 mg/m³
Consumer DNEL, acute		inhalation	systemic	8,8 mg/m³
Consumer DNEL, acute		inhalation	local	0,1 mg/m³
Consumer DNEL, long-term		oral	systemic	0,02 mg/kg bw/day
Consumer DN	Consumer DNEL, acute		systemic	0,012 mg/kg bw/day



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#### **PNEC** values

CAS No	Substance		
Environment	al compartment	Value	
13478-00-7	nickel dinitrate hexahxdrate		
Freshwater		0,0071 mg/l	
Freshwater (intermittent releases) 0 mg/l			
Marine water		0,0086 mg/l	
Freshwater sediment 109 r		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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# **SECTION 9: Physical and chemical properties**

# 9.1. Information on basic physical and chemical properties

9.1. Information on basic physical and che	<u>mical properties</u>	
Physical state:	solid	
Colour:	green	
Odour:	like: Nitric acid	
Odour threshold:	No data available	
Melting point/freezing point:		56,7 °C
Boiling point or initial boiling point and		No data available
boiling range:		
Flammability:		No data available
Lower explosion limits:		No data available
Upper explosion limits:		No data available
Flash point:		Х
Auto-ignition temperature:		No data available
Decomposition temperature:		137 °C
pH-Value (at 20 °C):		~5 (50 g/l)
Viscosity / kinematic:		No data available
Water solubility:		940 g/L
(at 20 °C)		5 · · · 3/ =
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):		2,05 g/cm <sup>3</sup>
Relative density:		No data available
Bulk density:		~800 kg/m³
Relative vapour density:		No data available
Particle characteristics:		No data available
9.2. Other information		
Information with regard to physical haz	ard classes	
Explosive properties		
No data available		
Sustaining combustion:		No data available
Self-ignition temperature		
Solid:		No data available
Gas:		No data available
Oxidizing properties		
Oxidizing solids, Category 2		
Other safety characteristics		
Evaporation rate:		No data available
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:		
Viscosity / dynamic:		No data available



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No data available

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Flow time:

**Further Information** 

No data available

## **SECTION 10: Stability and reactivity**

#### 10.1. Reactivity

Oxidising agent, strong

## 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

#### 10.3. Possibility of hazardous reactions

Reducing agent Combustible substance Acid

## 10.4. Conditions to avoid

No data available

# 10.5. Incompatible materials

No data available

#### 10.6. Hazardous decomposition products

In case of fire may be liberated: Metal oxide smoke, toxic, Nitrogen oxides (NOx)

## **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
13478-00-7	nickel dinitrate hexahxd	rate				
	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.

Causes serious eye damage.

### Sensitising effects

May cause allergy or asthma symptoms or breathing difficulties if inhaled. (nickel dinitrate hexahxdrate) May cause an allergic skin reaction. (nickel dinitrate hexahxdrate)

## Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of causing genetic defects. (nickel dinitrate hexahxdrate) May cause cancer by inhalation. (nickel dinitrate hexahxdrate) May damage the unborn child. (nickel dinitrate hexahxdrate)



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# 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. (nickel dinitrate hexahxdrate)

#### 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**

Cough Irritant Vomiting Allergic reactions Gastrointestinal complaints Methaemoglobinaemia 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	
13478-00-7	nickel dinitrate hexahxdrate							
	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	Publication (2009)	OECD Guideline 201	
	Acute crustacea toxicity	EC50 mg/l	0,2663	48 h	Ceriodaphnia dubia	Study report (2004)	other: American society of testing and m	
	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 mg/l	0,04	42 d	Daphnia magna	Wat. Res. 24(7):845-852 (1990)	Chronic exposure to sublethal concentrat	
	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

#### BCF

CAS No	Chemical name	BCF	Species	Source
13478-00-7	nickel dinitrate hexahxdrate	23	Spirodela polyrhiza	Ecotoxicology and en

# 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

# 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.



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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) <u>14.1. UN number or ID number:</u> <u>14.2. UN proper shipping name:</u> <u>14.3. Transport hazard class(es):</u> <u>14.4. Packing group:</u> Hazard label: Classification code: Limited quantity: Excepted quantity: Transport category: Hazard No:	UN 2725 NICKEL NITRATE 5.1 III 5.1 O2 5 kg E1 3 50	
Tunnel restriction code:	E	
Inland waterways transport (ADN) <u>14.1. UN number or ID number:</u> <u>14.2. UN proper shipping name:</u> <u>14.3. Transport hazard class(es):</u> <u>14.4. Packing group:</u> Hazard label: Classification code: Limited quantity: Excepted quantity:	UN 2725 NICKEL NITRATE 5.1 III 5.1 O2 5 kg E1	
Marine transport (IMDG) <u>14.1. UN number or ID number:</u> <u>14.2. UN proper shipping name:</u> <u>14.3. Transport hazard class(es):</u> <u>14.4. Packing group:</u> Hazard label: Special Provisions: Limited quantity:	UN 2725 NICKEL NITRATE 5.1 III 5.1 - 5 kg	
Excepted quantity: EmS:	E1	
Ems:     Air transport (ICAO-TI/IATA-DGR)     14.1. UN number or ID number:     14.2. UN proper shipping name:     14.3. Transport hazard class(es):     14.4. Packing group:     Hazard label:     Special Provisions:     Limited quantity Passenger:     Passenger LQ:     Excepted quantity:     IATA-packing instructions - Passenger:	F-A, S-Q UN 2725 NICKEL NITRATE 5.1 III 5.1 A803 10 kg Y546 E1	559
IATA-max. quantity - Passenger: IATA-packing instructions - Cargo: IATA-max. quantity - Cargo:		25 kg 563 100 kg



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14.5. Environmental hazards						
ENVIRONMENTALLY HAZARDOUS:	Yes					
Danger releasing substance:	nickel dinitrate hexahxdrate					
SECTION 15: Regulatory information						
15.1. Safety, health and environmental regul	ations/legislation specific for the substance or mixture					
EU regulatory information						
Restrictions on use (REACH, annex XVII): Entry 27						
Information according to 2012/18/EU (SEVESO III):	P8 OXIDISING LIQUIDS AND SOLIDS					
Additional information:	E1					
National regulatory information						
Employment restrictions: Water hazard class (D):	Observe restrictions to employment for juveniles according to the 'juve work protection guideline' (94/33/EC). Observe employment restriction under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age. 3 - highly hazardous to water					
SECTION 16: Other information						
Abbreviations and acronyms Ox. Sol: Oxidising solid Acute Tox: Acute toxicity Skin Irrit: Skin irritation Eye Dam: Eye damage Resp. Sens: Respiratory sensitisation Skin Sens: Skin sensitisation						

**Further Information** 

H272

H302

H315 H317

H318

H332 H334

H341

H350i

H360D

H372

H400

H410

H302+H332

Muta: Germ cell mutagenicity Carc: Carcinogenicity Repr: Reproductive toxicity

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

STOT RE: Specific target organ toxicity - repeated exposure

May intensify fire; oxidiser.

Harmful if swallowed or if inhaled.

May cause an allergic skin reaction. Causes serious eye damage.

Suspected of causing genetic defects.

Very toxic to aquatic life with long lasting effects.

The above information describes exclusively the safety requirements of the product and is based on our

May cause cancer by inhalation.

May damage the unborn child.

Very toxic to aquatic life.

Harmful if swallowed.

Causes skin irritation.

Harmful if inhaled.

Relevant H and EUH statements (number and full text)

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

Causes damage to organs through prolonged or repeated exposure.



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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.