

Nickel(II) nitrate hexahydrate

72253-250G

Version 1.3

Issuing date 12/19/2016
07/02/2019

Revision Date 01/10/2024

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1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**Product information**

Trade name : Nickel(II) nitrate hexahydrate

Number : 000000021156

Recommended use of the chemical and restrictions on use : Laboratory chemicals

Manufacturer or supplier's details : Honeywell Specialty Chemicals Seelze GmbH
Wunstorfer Straße 40
Seelze, 30926
Germany

For further information, please contact: : 1-800-368-0050
+1-231-726-3171
(Monday-Friday, 9:00am-5:00pm)

In case of emergency call : Medical: 1-800-498-5701 or +1-303-389-1414
: **Transportation (CHEMTREC): 1-800-424-9300 or +1-703-527-3887**
In Japan: 0800-300-5842

2. HAZARDS IDENTIFICATION**Classification of the substance or mixture**

Classification of the substance or mixture : Oxidizing solids, Category 2
Acute toxicity, Category 4, Oral
Acute toxicity, Category 4, Inhalation
Skin irritation, Category 2
Serious eye damage, Category 1
Respiratory sensitisation, Category 1
Skin sensitisation, Category 1
Germ cell mutagenicity, Category 2
Carcinogenicity, Category 1A
Reproductive toxicity, Category 1B
Specific target organ toxicity - repeated exposure, Category 1
Short-term (acute) aquatic hazard, Category 1
Long-term (chronic) aquatic hazard, Category 1

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GHS Label elements, including precautionary statements

Symbol(s)

:



Signal word

: Danger

Hazard statements

: May intensify fire; oxidizer.
Harmful if swallowed or if inhaled.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Suspected of causing genetic defects.
May cause cancer.
May damage fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.
Very toxic to aquatic life with long lasting effects.

Precautionary statements

: **Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat.
Keep/ Store away from clothing/ combustible materials.
Take any precaution to avoid mixing with combustibles.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.

Response:

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
IF ON SKIN: Wash with plenty of soap and water.

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IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER/ doctor.

If skin irritation or rash occurs: Get medical advice/ attention.

Take off contaminated clothing and wash before reuse.

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Collect spillage.

Storage:

Store locked up.

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : $\text{NiN}_2\text{O}_6 \cdot 6\text{H}_2\text{O}$

Chemical nature : Substance

Chemical name	CAS-No.	Concentration
Nickel (II) nitrate-6-hydrate	13478-00-7	100.00 %
Nickel (II) nitrate-6-hydrate		

4. FIRST AID MEASURES

General advice : Remove from exposure, lie down.
First aider needs to protect himself.
Immediately take off contaminated clothing and rinse body with plenty of water.
Show this safety data sheet to the doctor in attendance.

Inhalation : If inhaled, remove to fresh air.
Call a physician immediately.
Call a doctor immediately if allergic signs, particularly in the respiratory tract, are observed.

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|--------------------|---|--|
| Skin contact | : | After contact with skin, wash immediately with plenty of water.
Call a physician if irritation develops or persists. |
| Eye contact | : | Protect unharmed eye.
Rinse thoroughly with plenty of water, also under the eyelids.
Call a physician immediately. |
| Ingestion | : | A person suspected to have swallowed the substance who is conscious should be given water to drink. Take to a doctor immediately together with this card |
| Notes to physician | : | If dermatitis develops, avoid contact with the product in the future (contact avoidance can be achieved by the use of proper protective clothing and equipment). |

5. FIREFIGHTING MEASURES

- | | | |
|---|---|--|
| Suitable extinguishing media | : | Water spray
Foam
Carbon dioxide (CO ₂)
Dry powder |
| Specific hazards during firefighting | : | May intensify fire; oxidizer.
Cool closed containers exposed to fire with water spray.
Do not allow run-off from fire fighting to enter drains or water courses.
In case of fire hazardous decomposition products may be produced such as:
Nitrogen oxides (NO _x)
Toxic metal oxide fumes |
| Special protective equipment for firefighters | : | Wear self-contained breathing apparatus and protective suit.
No unprotected exposed skin areas. |
| Further information | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
The product itself does not burn. |

6. ACCIDENTAL RELEASE MEASURES

- | | | |
|-----------------------|---|-----------------------------------|
| Personal precautions, | : | Evacuate personnel to safe areas. |
|-----------------------|---|-----------------------------------|

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protective equipment and
emergency procedures

Wear personal protective equipment. Unprotected persons must be kept away.
Ensure adequate ventilation.
Avoid dust formation.
Do not breathe dust.
Do not get in eyes, on skin, or on clothing.

Environmental precautions

: Do not let product enter drains.
Clean contaminated floors and objects thoroughly while observing environmental regulations.
Prevent further leakage or spillage if safe to do so.

Methods and materials for
containment and cleaning up

: Use mechanical handling equipment.
Sweep up and shovel into suitable containers for disposal.
Do not pick up with the help of saw-dust or other combustible substances.
Dispose of in accordance with local regulations.

7. HANDLING AND STORAGE**Handling**

Precautions for safe handling

: Wear personal protective equipment.
Refill and handle product only in closed system.
Never return unused material to storage receptacle.
Do not breathe dust.
Do not get in eyes, on skin, or on clothing.

Advice on protection against
fire and explosion

: Keep away from combustible material.

StorageConditions for safe storage,
including any
incompatibilities

: Store in original container.
Keep containers tightly closed in a dry, cool and well-ventilated place.
Keep away from combustible material.
Keep locked up or in an area accessible only to qualified or authorised persons.

Further information on
storage conditions

: Product is hygroscopic.

Advice on common storage

: Do not store with combustible materials.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Update	Basis
Nickel (II) nitrate-6-hydrate Nickel (II) nitrate-6-hydrate	13478-00-7	TL : Threshold limits	0.1 mg/m3	04 2009	ISHL:Industrial Safety and Health Law OEL
Further information	:	Expressed as : as Ni			

Appropriate engineering controls

Use product only in closed system.
Ensure adequate ventilation.

Individual protection measures, such as personal protective equipment (PPE)

- Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.
- Hand protection : Impervious gloves
Gloves must be inspected prior to use.
Replace when worn.
- Eye protection : Safety goggles
- Skin and body protection : Wear suitable protective equipment.
Protective suit
Lab coat
- Hygiene measures : Separate rooms are required for washing, showering and changing clothes.
Keep working clothes separately.
Contaminated work clothing should not be allowed out of the workplace.
Regular cleaning of equipment, work area and clothing.
- Protective measures : Ensure that eyewash stations and safety showers are close to

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the workstation location.

Legal requirements are to be considered in regard of the selection, use and care of personal protective equipment.
Avoid exposure - obtain special instructions before use.

Do not breathe dust.

Do not get in eyes, on skin, or on clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: solid
Colour	: blue green
Odour	: odourless
Odour Threshold	: Note: No data available
pH	: ca. 4.0 at , 20 °C Note: (as aqueous solution)
Melting point/range	: 56.7 °C
Boiling point/boiling range	: Note: Decomposes on heating.
Flash point	: Note: Not applicable
Evaporation rate	: Note: No data available
Flammability	: The product is not flammable.
Lower explosion limit	: Note: Not applicable
Upper explosion limit	: Note: Not applicable
Vapour pressure	: Note: No data available
Vapour density	: Note: No data available

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Density	: ca. 2.050 g/cm ³ at 20 °C
Water solubility	: 2,385 g/l at 0 °C
Partition coefficient: n-octanol/water	: Note: No data available
Ignition temperature	: Note: Not applicable
Auto-ignition temperature	: Note: not auto-flammable
Decomposition temperature	: ca. 105 - 110 °C Note: Decomposition temperature, with dehydration, Nitrogen oxides (NO _x)
Viscosity, dynamic	: Note: Not applicable
Viscosity, kinematic	: Note: No data available
Oxidizing properties	: The substance or mixture is classified as oxidizing with the category 2.
Molecular weight	: 290.79 g/mol
Bulk density	: Note: No data available

10. STABILITY AND REACTIVITY

Chemical stability	: Stable under recommended storage conditions.
Possibility of hazardous reactions	: May intensify fire; oxidizer.
Conditions to avoid	: Protect from heat/overheating. Protect from contamination. Avoid contact with combustible material (paper, wool, oil).
Incompatible materials to avoid	: Reducing agents Combustible material Powdered metals
Hazardous decomposition	: Nitrogen oxides (NO _x)

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products

Toxic metal compounds

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	: Inhalation, Eye contact, Skin contact, Ingestion
Acute oral toxicity	: Note: Classification based on Annex VI of regulation 1272/2008/EC.
Acute inhalation toxicity	: Note: Classification based on Annex VI of regulation 1272/2008/EC.
Acute dermal toxicity	: Note: Not classified due to data which are conclusive although insufficient for classification.
Skin corrosion/irritation	: Note: Classification based on Annex VI of regulation 1272/2008/EC.
Serious eye damage/eye irritation	: Note: Classification based on Annex VI of regulation 1272/2008/EC.
Respiratory or skin sensitisation	: Note: Classification based on Annex VI of regulation 1272/2008/EC.
Carcinogenicity	: Note: Classification based on Annex VI of regulation 1272/2008/EC.
Reproductive toxicity	: Note: Classification based on Annex VI of regulation 1272/2008/EC.
Reproductive toxicity	: Note: Classification based on Annex VI of regulation 1272/2008/EC.
Aspiration toxicity	: Not applicable

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Further information : Note: Chronic Health Hazard Inhalation of aerosol or skin contact may cause sensitisation of susceptible persons. Danger of serious damage to health by prolonged exposure. May cause cancer. May cause genetic defects. May damage fertility or the unborn child.

12. ECOLOGICAL INFORMATION**Aquatic and ecotoxicity**

Toxicity to fish : Note: Classification based on Annex VI of regulation 1272/2008/EC.

Toxicity to algae : Note: Classification based on Annex VI of regulation 1272/2008/EC.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Note: Classification based on Annex VI of regulation 1272/2008/EC.

Persistence and degradability**Other adverse effects**

Additional ecological information : Do not flush into surface water or sanitary sewer system. The methods for determining biodegradability are not applicable to inorganic substances. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS

Disposal methods : In accordance with local and national regulations.

14. TRANSPORT INFORMATION

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ADR

UN/ID No. : UN 2725
Description of the goods : NICKEL NITRATE

Class : 5.1
Packing group : III
Classification Code : O2
Hazard Identification Number : 50
Labels : 5.1

IATA

UN/ID No. : UN 2725
Description of the goods : Nickel nitrate
Class : 5.1
Packing group : III
Labels : 5.1
Packing instruction (cargo aircraft) : 563
Packing instruction (passenger aircraft) : 559
Packing instruction (passenger aircraft) : Y546

IMDG

UN/ID No. : UN 2725
Description of the goods : NICKEL NITRATE
Class : 5.1
Packing group : III
Labels : 5.1
EmS Number 1 : F-A
EmS Number 2 : S-Q
Marine pollutant : yes

15. REGULATORY INFORMATION**National regulatory information**

Vessel Safety Law : Oxidizing substances and organic peroxides (Article 2 and 3 of JP VSL rules on shipping and storage of dangerous goods and its Attached Table 1)

Aviation Law : Oxidizing substances and organic peroxides (Article 194 of The 11/14

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JP AVL Enforcement Rules of Aviation Law and its Attached Table 1)

Substances Subject to be : Article 18
Indicated Names Threshold limits: 0.1 % wt 24.2
JPISHL LR

Substances Subject to be : Article 18
Indicated Names Threshold limits: 0.1 % wt 418
JPISHL LR

Substances Subject to be :
Notified Names Threshold Concentration: 0.1 % wt 418
JP MSDSD

Fire Service Law : Group 1 Oxidizing solids
Nitrates
Hazardous rank II
Be careful with fire and shock

Japan. ISHL Class 2 : 23.3
Designated Chemical Listed
Substances (ISHL Nickel (II) nitrate-6-hydrate 13478-00-7
Enforcement Order, Table 3,
as amended)

Japan. ISHL Specified : 23.3
Chemical Substances (ISHL Listed
Ordinance No. 39, Article 38- Nickel (II) nitrate-6-hydrate 13478-00-7
3)

Japan. ISHL Hazardous : 418
Substances Labeling Listed
Requirements (ISHL Art. 57, Nickel (II) nitrate-6-hydrate 13478-00-7
Enforcement Order Art. 18,
Enforcement Rule Art. 30 &
31), as amended

Japan. ISHL Dangerous : Listed
Substances, Oxidizing (ISHL Nickel (II) nitrate-6-hydrate 13478-00-7
Enforcement Order, Table 1-
3)

Japan. SDS and Risk : 418
Assessment Requirements Listed
(ISHL Art. 57-2 and 57-3, Nickel (II) nitrate-6-hydrate 13478-00-7

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Enforcement Order Art. 18-2,
Enforcement Rule Art. 34-2
and 34-2-2), as amended
Poisonous and Deleterious
Substances Control Law
Act on Confirmation, etc. of
Release Amounts of Specific
Chemical Substances in the
Environment and Promotion
of Improvements to the
Management Thereof

: Not relevant

: Class I Designated Chemical Substances
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Nickel (II) nitrate-6-hydrate 13478-00-7**Other international regulations****Notification status**US. Toxic Substances
Control Act : On TSCA InventoryAustralia. Inventory of
Industrial Chemicals (AIIC),
as amended : On the inventory, or in compliance with the inventoryCanada. 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 inventoryPhilippines. Inventory of
Chemicals and Chemical
Substances (PICCS) : On the inventory, or in compliance with the inventoryChina. Inventory of Existing
Chemical Substances
(IECSC) : On the inventory, or in compliance with the inventoryNew Zealand. Inventory of
Chemicals (NZIoC), as
published by ERMA New
Zealand : On the inventory, or in compliance with the inventory

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

16. OTHER INFORMATION

	HMIS III	NFPA
Health hazard	: 2*	2
Flammability	: 0	0
Physical Hazard	: 1	
Instability	:	0
Special hazard	:	OX

* - Chronic health hazard

Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

Further information

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.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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Prepared by Honeywell Performance Materials and Technologies Product Stewardship Group