

SAFETY DATA SHEET

NICKEL NITRATE HEXAHYDRATE

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

1.1 Product identifier:	
CAS Number:	10028-18-9
EC number:	233-071-3
1.2 SYNONYMS:	- Nickel(II) nitrate hexahydrate $\text{Ni}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$

SECTION 2: Hazards identification:

2.1 Classification of the substance or mixture:	Classification according to Regulation (EC) No 1272/2008 The substance is classified according to the CLP regulation.
2.2 Label elements:	Labelling according to Regulation (EC) No 1272/2008 Oxidizing solids, (Category 2) Acute toxicity, Oral (Category 4) Acute toxicity, Inhalation (Category 4) Serious eye damage, (Category 1) Respiratory sensitisation, (Category 1) Skin sensitisation, (Category 1) Skin irritation, (Category 2) Germ cell mutagenicity, (Category 2) Carcinogenicity, (Category 1A) Reproductive toxicity, (Category 1B) Specific target organ toxicity - repeated exposure, respiratory system (Category 1) Short-term (acute) aquatic hazard, (Category 1) Long-term (chronic) aquatic hazard, (Category 1)
Hazard Pictograms:	

Signal Word:	Danger
Hazard statements:	H272: May intensify fire; oxidizer. H302: Harmful if swallowed H315: Causes skin irritation H318: Causes serious eye damage. 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 through inhalation H360: May damage fertility or the unborn child 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
Precautionary Statements:	P261: Avoid breathing dust. P264: Wash skin thoroughly after handling. P280: Wear protective gloves/protective clothing/eye protection/face protection. P273: Avoid release to the environment. P303+P361+P353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.

	P404: Store in a closed container. P501: Dispose of contents/ container to an approved waste disposal plant.
2.3 Other hazards:	
Inhalation:	can irritate the respiratory tract and may cause allergic sensitization, lung damage, and increased cancer risk with repeated or prolonged exposure.
Ingestion:	may cause gastrointestinal irritation, nausea, vomiting, abdominal pain, and systemic nickel poisoning.
Skin Contact:	may cause skin irritation, allergic dermatitis, and sensitization, especially with repeated or prolonged exposure.
Eye contact:	may cause severe eye irritation, redness, pain, and possible corneal damage.
Chronic Exposure:	may lead to skin sensitization, respiratory effects, organ damage, and an increased risk of cancer.
Aggravation of pre-existing conditions:	may worsen existing skin allergies, asthma, respiratory disorders, or nickel sensitivity.

SECTION 3: Composition/information on ingredients

3.1 Chemical characterisation:	Substances
CAS No:	Description: 13478-00-7 NICKEL NITRATE HEXAHYDRATE
Identification number(s):	EC number: 236-068-5

SECTION 4: First aid measures

4.1 Description of first aid measures	
General information:	
After inhalation:	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

After skin contact:	Remove contaminated clothing immediately. Wash with plenty of water. Consult a physician.
After eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. consult a physician.
After swallowing:	Rinse mouth with water. Immediately after ingestion. If conscious, make victim drink two glasses at most immediately. Never give anything by mouth to an unconscious person. Do not induce vomiting. Consult a physician.
4.2 Most important symptoms and effects, both acute and delayed:	Acute exposure may cause irritation of the skin, eyes, and respiratory tract with nausea if ingested, while delayed effects include allergic sensitization, respiratory damage, and increased cancer risk.
4.3 Indication of any immediate medical attention and special treatment needed:	Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media:	Water, Carbon dioxide dry chemical, Alcohol-resistant foam.
5.2 Special hazards arising from the substance or mixture:	Nickel oxides, nitrogen oxides.
5.3 Advice for firefighters:	Wear fully protective suit, safety glasses and respiratory device. Cool tanks/drums with water spray/remove them into safety.
5.4 further information:	no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.
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	Beware of vapours accumulating to form explosive concentrations. Avoid dust accumulation. Seek medical attention.
6.2 Environmental precautions:	Do not enter this chemical into drains.
6.3 Methods and material for containment and cleaning up:	Take up spill into absorbent material, e.g.: sand, earth, vermiculite, powdered limestone. Scoop absorbed substance into closing containers. Spill must not return in its original container. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

SECTION 7: Handling and storage

7.1 Precautions for safe handling:	For use in are with adequate ventilation. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material Do not use in confined spaces. Electrostatic discharge protection. Minimize dust generation and accumulation. Avoid ingestion and inhalation.
7.2 Conditions for safe storage, including any incompatibilities:	Store in original containers. Keep containers securely sealed Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Store in a dry and dark area. Hygroscopic.
Requirements to be met by storerooms and receptacles:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
7.3 Specific end uses:	no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters	
Additional information about design of technical facilities:	A system of local and general exhaust is recommended.
8.2 Exposure controls	
Appropriate engineering controls	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Personal protective equipment:	Dust respirator, protective masks, wearing anti chemical gloves, rubber gloves, etc.
General protective and hygienic measures:	Eyes, body and hand protection, maintain indoor air unobstructed. Wear protective equipment.
	Respiratory protection: Required.
Protection of hands:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws. Wash and dry hands.
	Eye protection: Required
Protection of Body:	Complete suit protecting against chemicals, Flame retardant antistatic protective clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties	
General Information	
Appearance: Form:	Crystalline powder
Colour:	Green
Odour:	Odorless
pH-value:	6
Melting point/Melting range:	56°C
Boiling point/Boiling range:	Not determined
Flammability (solid, gaseous):	Non-Flammable

Ignition temperature:	No data available
Decomposition temperature:	60°C
Self-igniting:	None
Flash point:	Not applicable
Danger of explosion:	None
Explosion limits: Lower:	No data available
Explosion limits: Upper:	No data available
Vapour pressure:	Not determined
Density at 20 °C:	2.05 g/cm ³
Relative density:	2.05
Vapour density:	No data available
Evaporation rate:	No data available
Solubility in / Miscibility with- water at 20 °C:	Highly Soluble
Partition coefficient:(n- octanol/water)	No data available
Viscosity:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity	No data available
10.2 Chemical stability	This chemical is stable under storage conditions.
10.3 Possibility of hazardous reactions	May react violently with strong reducing agents, combustible materials, and organic substances, as it is a strong oxidizer.
10.4 Conditions to avoid	Heat, open flames, sparks, moisture.
10.5 Incompatible materials	Strong reducing agents, strong acids and bases
10.6 Hazardous decomposition products	Nickel oxides, nitrogen oxides.

SECTION 11: Toxicological information

11.1 Information on toxicological effects	
Acute Toxicity:	LD50 (Oral, Rat): no data available LD50 (Dermal, Rabbit): no data available LC50 (Inhalation Rat): no data available

Skin corrosion/Irritation:	Causes serious skin irritation
Serious eye damage/irritation:	Causes serious eye damage
Respiratory damage/irritation:	Causes serious respiratory irritation
Ingestion:	No data available
Germ cell mutagenicity:	Suspected of causing genetic defects
Carcinogenicity:	May cause cancer by inhalation
Reproductive toxicity:	May damage the unborn child
Specific target organ toxicity - single exposure:	No data available
Specific target organ toxicity - repeated exposure:	May cause damage to respiratory system through prolonged exposure.
Aspiration hazard:	No data available
Signs and Symptoms of Exposure:	Refer section 2.3
11.2 Additional toxicological information	
Biodegradability:	Not biodegradable

SECTION 12: Ecological information

12.1 Toxicity Aquatic toxicity:	LC50(fish): no data available EC50(daphnia): no data available ErC50(algae): no data available
12.2 Persistence and degradability:	Not biodegradable
12.3 Bioaccumulative potential:	Low bioaccumulative
12.4 Mobility in soil:	Moderate mobility
12.5 Other adverse effects:	No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods	
Uncleaned packaging Recommendation:	dispose of in accordance with local hazardous waste regulations
Recommended cleansing agents:	Water, mild detergents.

SECTION 14: Transport information

14.1 UN-Number · ADR, ADN, IMDG, IATA:	2725
14.2 UN proper shipping name · ADR, ADN, IMDG, IATA:	NICKEL NITRATE

14.3 Transport hazard class(es) · ADR, ADN, IMDG, IATA :	5.1
14.4 Packing group · ADR, IMDG, IATA:	3
14.5 Environmental hazards:	Yes
14.6 Special precautions for user:	Handle responsibly.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Directive 2012/18/EU	Directive 2012/18/EU, under that this substance is classified in listed substances as environmental hazard and oxidizing liquid.
Named dangerous substances:	This substance is not listed in the annex 1 to the directive.
15.2 Chemical safety assessment:	Chemical assessment has not been carried out.

SECTION 16: Other information

The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and limitations of our knowledge, this document is only for reference. Users should make their independent judgment suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.