



Qualikems Lifesciences Pvt. Ltd

(Formerly known as Qualikems fine chem Pvt Ltd)

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Material Safety Data Sheet

Nickel(II) nitrate hexahydrate

Section 1 - Chemical Product and Company Identification

MSDS Name: Nickel(II) nitrate hexahydrate

Synonyms: Nickelous nitrate hexahydrate; Nitric acid, nickel(2+) salt, hexahydrate; Nickel dinitrate hexahydrate.

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
13478-00-7	Nickel dinitrate hexahydrate	99	unlisted

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: emerald green solid.

Danger! Strong oxidizer. Contact with other material may cause a fire. Causes eye, skin, and respiratory tract irritation. May cause allergic skin reaction. May be harmful if swallowed.

Target Organs: Central nervous system, eyes, skin, mucous membranes.

Potential Health Effects

Eye: Causes eye irritation.

Skin: Causes skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May cause dermatitis.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause liver and kidney damage.

Inhalation: Dust is irritating to the respiratory tract. May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, tachycardia, dyspnea (labored breathing), and death.

Chronic: Prolonged inhalation may cause respiratory tract inflammation and lung damage. Prolonged or repeated skin contact may cause sensitization dermatitis and possible destruction and/or ulceration. May cause respiratory tract cancer.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with other material may cause fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Substance is nonflammable. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Containers may explode if exposed to fire.

Extinguishing Media: Use water spray to cool fire-exposed containers. Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. For large fires flood fire with water from a distance. Do NOT use dry chemicals, CO₂, Halon or foams.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 1; Special Hazard: OX

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Avoid generating dusty conditions. Remove all sources of ignition. Carefully scoop up and place into appropriate disposal container. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Wash clothing before reuse. Do not breathe dust or fumes. Use only with adequate ventilation.

Storage: Do not store near combustible materials. Store in a tightly closed

container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from reducing agents.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Nickel dinitrate hexahydrate	0.1 mg/m ³ TWA (inhalable fraction, as Ni) (listed under Nickel, inorganic compounds, soluble).	0.015 mg/m ³ TWA (as Ni excluding Nickel carbonyl) (listed under Nickel compounds).10 mg/m ³ IDLH (as Ni except Nickel carbonyl) (listed under Nickel compounds).	1 mg/m ³ TWA (as Ni) (listed under Nickel soluble compounds).
Nickel dinitrate anhydrous	0.1 mg/m ³ TWA (inhalable fraction, as Ni) (listed under Nickel, inorganic compounds, soluble).	0.015 mg/m ³ TWA (as Ni excluding Nickel carbonyl) (listed under Nickel compounds).10 mg/m ³ IDLH (as Ni except Nickel carbonyl) (listed under Nickel compounds).	1 mg/m ³ TWA (as Ni) (listed under Nickel soluble compounds).

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Appearance: emerald green

Odor: odorless

pH: 4.0 (aqueous sol.)

Vapor Pressure: Negligible

Vapor Density: 10.0

Evaporation Rate:Not available.

Viscosity: Not available.

Boiling Point: 137 deg C

Freezing/Melting Point:56.7 deg C

Decomposition Temperature:200 deg C

Solubility: Soluble.

Specific Gravity/Density:2.05

Molecular Formula:Ni(NO3)2.6H2O
Molecular Weight:290.8

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Dust generation.

Incompatibilities with Other Materials: Combustible materials, flammable liquids, strong reducing agents.

Hazardous Decomposition Products: Nitrogen oxides, irritating and toxic fumes and gases, nickel oxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 13478-00-7: QR7300000

CAS# 13138-45-9: QR7200000

LD50/LC50:

CAS# 13478-00-7:

Oral, rat: LD50 = 1620 mg/kg;<BR.

CAS# 13138-45-9:<BR.

Carcinogenicity:

CAS# 13478-00-7:

- **ACGIH:** Not listed.
- **California:** carcinogen, initial date 5/7/04 (listed as Nickel compounds).
- **NTP:** Known carcinogen (listed as Nickel compounds).
- **IARC:** Group 1 carcinogen (listed as Nickel compounds).

CAS# 13138-45-9:

- **ACGIH:** Not listed.
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- **NTP:** Known carcinogen (listed as Nickel compounds).
- **IARC:** Group 1 carcinogen (listed as Nickel compounds).

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Mutagenicity: No information available.

Neurotoxicity: No information available.

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	IATA	
Shipping Name:	NICKEL NITRATE	
Hazard Class:	5.1	
UN Number:	UN2725	
Packing Group:	III	

Section 15 - Regulatory Information

Hazard Symbols:

XN O

Risk Phrases:

R 22 Harmful if swallowed.

R 40 Limited evidence of a carcinogenic effect.

R 8 Contact with combustible material may cause fire.

Safety Phrases:

S 17 Keep away from combustible material.

S 36/37 Wear suitable protective clothing and gloves.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Section 16 - Additional Information

MSDS Creation Date: 12/12/1997

Revision #6 Date: 08/29/2004

Revision #7 Date: 08/28/2009

Revision #8 Date: 08/27/2014

Revision #9 Date: 08/26/2019

Revision #10 Date: 08/25/2024

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