

Common Name: **NICKEL NITRATE**

Synonyms: Nickel Dinitrate; Nickelous Nitrate

CAS No: 13138-45-9

Molecular Formula: Ni(NO₃)₂

RTK Substance No: 1347

Description: Odorless, yellow to green, crystalline solid

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
3 - Health 0 - Fire 0 - Reactivity DOT#: UN 2725 ERG Guide #: 140 Hazard Class: 5.1 (Oxidizer)	<p>Nickel Nitrate is not combustible, but it is a STRONG OXIDIZER that enhances the combustion of other substances.</p> <p>Use water only. DO NOT USE CHEMICAL or CO₂ as extinguishing agents.</p> <p>POISONOUS GASES ARE PRODUCED IN FIRE, including <i>Nitrogen Oxides</i> and <i>Nickel Oxides</i>.</p> <p>Use water spray to keep fire-exposed containers cool.</p> <p>Nickel Nitrate may ignite combustibles (wood, paper and oil).</p>	<p>Nickel Nitrate may react violently with REDUCING AGENTS (such as LITHIUM, SODIUM, ALUMINUM and their HYDRIDES); MAGNESIUM; TIN II CHLORIDE; TETRAHYDRAZINE; and TETRAMINES.</p> <p>Nickel Nitrate is not compatible with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE); CYANIDES; STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC); ESTERS; PHOSPHORUS; and BORON PHOSPHIDE.</p>

SPILL/LEAKS

Isolation Distance:

Spill: 25 meters (75 feet)

Fire: 800 meters (1/2 mile)

Moisten spilled material first or use a HEPA-filter vacuum for clean-up and place into sealed containers for disposal.

DO NOT wash into sewer.

Nickel Nitrate is very toxic to aquatic organisms.

PHYSICAL PROPERTIES

Odor Threshold:	Odorless
Flash Point:	Noncombustible
Specific Gravity:	2.05 (water = 1)
Water Solubility:	Soluble
Boiling Point:	278°F (136.7°C)
Melting Point:	134°F (56.7°C)
Molecular Weight:	182.7

EXPOSURE LIMITS

OSHA: 1 mg/m³, 8-hr TWA

NIOSH: 0.015 mg/m³, 10-hr TWA

ACGIH: 0.1 mg/m³, 8-hr TWA (*inhalable fraction*)

IDLH: 10 mg/m³

(All of the above are for *Nickel*)

The Protective Action Criteria values are:

PAC-1 = 1.5 mg/m³ PAC-2 = 12.5 mg/m³

PAC-3 = 31.1 mg/m³

PROTECTIVE EQUIPMENT

Gloves:	Nitrile and Natural Rubber
Coveralls:	Tyvek®
Respirator:	<1 mg/m ³ - full facepiece APR with <i>High efficiency filter</i> >1 mg/m ³ - SCBA

HEALTH EFFECTS

Eyes:	Irritation
Skin:	Irritation
Inhalation:	Nose and throat irritation with coughing and wheezing
Chronic:	<i>Nickel compounds</i> cause cancer (lung, nose) in humans

FIRST AID AND DECONTAMINATION

Remove the person from exposure.

Flush eyes with large amounts of water for at least 15 minutes. Remove contact lenses if worn.

Quickly remove contaminated clothing. Immediately wash contaminated skin with large amounts of water.

Begin artificial respiration if breathing has stopped and CPR if necessary.

Transfer to a medical facility.