

NICKEL ACETATE**PRODUCT IDENTIFICATION****Chemical Name and Synonyms:**

Nickel acetate, tetrahydrate

Chemical Family:

Acetates

Chemical Formula:

$Ni(OOCC_2H_5)_2 \cdot 4H_2O$

Product Use:

Laboratory reagent

Manufacturer's Name and Address:

Caledon Laboratories Ltd.

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HAZARDOUS INGREDIENTS OF MATERIALS

Ingredients	%	TLV Units	CAS No.
Nickel acetate	>97	0.1 mg/m ³	6018-89-9

(soluble Ni compounds)

PHYSICAL DATA**Physical State:**

Solid

Odour and Appearance:

Green, monoclinic crystals, weak acetic acid odour

Odour Threshold (ppm):

Not available

Vapour Pressure (mm Hg):

Not available

Vapour Density (Air = 1):

Not available

Evaporation Rate:

Not available

Boiling Point (degrees C):

250°C (decomposes)

Melting Point (degrees C):

230°C

pH:

6.0 to 7.0 (5%, aqueous)

Specific Gravity:

1.74

Coefficient of Water/Oil distribution:

Not available

SHIPPING DESCRIPTION**UN:**

Not regulated

T.D.G. Class:

Not regulated

Pkg. Group:

Not regulated

REACTIVITY DATA**Chemical Stability:**

Stable; effloresces in air.

Incompatibility with other substances:

May react vigorously or violently with strong oxidizing agents.

Reactivity:

Avoid excessive heat, moisture, ignition sources, all

incompatible materials, generation of dust.

Hazardous Decomposition Products:

CO_x, nickel fumes

FIRE AND EXPLOSION DATA**Flammability:**

Not combustible. However, as with most organic compounds, fine dust dispersed in air in the presence of an ignition source is a potential dust explosion hazard. Nickel fume, which may be produced in heat of a fire, is highly flammable.

Extinguishing Media:

Use an extinguisher appropriate to the surrounding material that is burning. Use water spray or fog to cool fire-exposed containers, disperse dust or fumes, and flush material away from fire. Fight fire from upwind, from a safe distance.

Firefighters must wear protective equipment and clothing sufficient to prevent inhalation of dusts or fumes, and contact with skin and eyes.

Flash Point (Method Used):

Not available

Autoignition Temperature:

Not available

Upper Flammable Limit (% by volume):

Not available

Lower Flammable Limit (% by volume):

Not available

Hazardous Combustion Products:

CO_x, nickel fumes

Sensitivity to Impact:

None identified

Sensitivity to Static discharge:

Under certain conditions, dust/air mixtures can probably explode if in contact with an electrostatic spark or other ignition source.

TOXICOLOGICAL PROPERTIES AND HEALTH DATA**Toxicological Data:****LD₅₀:**

(oral, rat) 350 mg/kg

LC₅₀:

Not available

Effects of Acute Exposure to Product:**Inhaled:**

Toxic. Mist, vapour or dust may irritate upper respiratory tract, causing sore throat, coughing, shortness of breath. May cause allergic reaction. Severe overexposure can cause severe lung damage, pulmonary pneumonitis or edema, and death.

In contact with skin:

Dust or mist can cause irritation, with itching, burning, swelling, and rash. May be absorbed through skin, but in small amounts that are unlikely to cause toxic effects. May cause skin sensitization ("nickel itch").

In contact with eyes:

Dust or fume can cause irritation, redness, tearing, and pain.

Ingested:

Harmful. May be cumulative. Can cause irritation, nausea, vomiting, abdominal pain, diarrhea.

Effects of Chronic Exposure to Product:

Risk of irreversible effects. Prolonged or repeated exposure to nickel compounds can cause liver, kidney, and lung damage. Nickel compounds are common causes of skin sensitization.

BENZENE

In sensitized persons, prolonged or repeated contact may cause severe, burning, swelling, and ulceration of large areas of the body, with recovery taking a few days to several weeks. Such effects do not occur in non-sensitized people. Two cases of nickel-induced asthma have been reported.

Carcinogenicity:

IARC Group 1 (known animal carcinogen, probable human carcinogen). NTP (known carcinogen, as Nickel compounds)

Teratogenicity:

High doses of nickel salts caused toxic effects in animal testing. No human information available.

Reproductive Effects:

Long term ingestion of nickel salts caused degenerative changes in reproductive organs in animal testing. No human information available.

Mutagenicity:

No human information available. Tests with nickel salts microorganisms negative.

Synergistic Products:

Some nickel salts may increase the potency of benz(a)pyrene as a carcinogen.

PREVENTIVE MEASURES

Engineering Controls:

Local exhaust ventilation required.

Respiratory Protection:

Dust/mist mask. Up to TLV, or the maximum use specified by the respirator supplier, whichever is lowest, NIOSH/OSHA approved full face-piece dust/mist filter respirator. Higher or unknown concentrations, or for fire or spill conditions, self-contained breathing apparatus, or full face-piece, positive-pressure supplied-air respirator.

Eye Protection:

Chemical safety goggles. If splashing or dusting is possible, face shield.

Skin Protection:

Rubber or plastic gloves. Other protective clothing, apron, sleeves, coveralls, boots sufficient to prevent contact.

Other Personal Protective Equipment:

Safety shower and eye-wash fountain in work area.

Leak and Spill Procedure:

Evacuate and ventilate area. Do not touch spilled material. Cleanup personnel must be trained in the hazards of the material and its safe handling, and must wear protective equipment and clothing sufficient to prevent inhalation of dust or mists and contact with skin and eyes. Mix with inert adsorbent, gather up carefully, without generating dust, and transfer carefully into container for disposal. Wash site of spillage thoroughly with water and detergent.

Waste Disposal:

Follow all federal, provincial and local regulations for disposal.

Handling Procedures and Equipment:

TOXIC, COMBUSTIBLE DUST. Workers using this chemical must be properly trained in its hazards and its safe use. Avoid generating dust. If there is dust, keep away from heat, sparks, and all sources of ignition; avoid the accumulation of static charge, use anti-sparking tools and ground and bond equipment and containers. Use the smallest amount possible for the purpose, in a designated area with adequate ventilation. Use good housekeeping to prevent accumulations of dust. Avoid contact with skin and eyes. Avoid inhalation. Wash thoroughly after handling. Empty containers may contain hazardous residues; treat with caution.

Storage Requirements:

Store in suitable, labelled containers, in a cool, dry, well-ventilated area, out of direct sunlight. Store away from combustible or incompatible materials, and all ignition sources. Keep containers tightly closed when not in use and when empty. Protect from damage, and inspect frequently for signs of damage or leaking.

FIRST AID MEASURES

Specific Measures:

Eyes:

Flush thoroughly with gently running water for at least fifteen (15) minutes, holding eyelids open while flushing. Get medical advice.

Skin:

Remove contaminated clothing (including rings, watches, belts, and shoes). Flush skin with plenty of running water for at least fifteen (15) minutes. Get medical attention. Decontaminate clothing before reuse, or discard.

Inhalation:

Remove to fresh air. Give oxygen and get medical attention immediately for any breathing difficulty.

Ingestion:

If the victim is alert and not convulsing, rinse mouth thoroughly with water and give 2 to 4 glasses of water to drink to dilute. Do not induce vomiting. Get medical attention immediately.

REFERENCES USED

CCINFO disc

Budavari: The Merck Index, 12th ed., 1997

Sax, Lewis: Hawley's Condensed Chemical Dictionary, 11th ed., 1987

Sax: Dangerous Properties of Industrial Materials, 5th ed., 1979

Suppliers' Material Safety Data Sheets

ADDITIONAL INFORMATION

Date Issued:

May 20, 1999

Revision:

April 2012

MSDS:

4910-1

Proposed WHMIS Designation:

D1B; D2A (suspected carcinogen); D2B (skin sensitizer)

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