MSDS: NICKEL CHLORIDE

SECTION 1 CHEMICAL PRODUCT

SUBSTANCE: NICKEL CHLORIDE

TRADE NAMES/SYNONYMS:

NICKELOUS CHLORIDE; NICKEL(II) CHLORIDE; NICKEL DICHLORIDE; NICKEL(2+)

CHLORIDE; NICKEL CHLORIDE (NICL2); NICKEL DICHLORIDE (NICL2); NICKEL
CHLORIDE,

ANHYDROUS; STCC 4966364; CL2NI; OHS16300; OHS16300; RTECS QR6475000

CHEMICAL FAMILY: metal, halides

SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: NICKEL CHLORIDE

CAS NUMBER: 7718-54-9

EC NUMBER (EINECS): 231-743-0

PERCENTAGE: 100.0

SECTION 3 HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=2 FIRE=0 REACTIVITY=0

EMERGENCY OVERVIEW:

CHANGE IN APPEARANCE: deliquescent

COLOR: yellow or brown

PHYSICAL FORM: flakes

MAJOR HEALTH HAZARDS: harmful if swallowed, respiratory tract irritation, eye

  irritation, allergic reactions, cancer hazard (in humans)

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: cancer

SKIN CONTACT:

SHORT TERM EXPOSURE: allergic reactions, rash, itching

LONG TERM EXPOSURE: same as effects reported in short term exposure

EYE CONTACT:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: same as effects reported in short term exposure

INGESTION:

SHORT TERM EXPOSURE: vomiting, digestive disorders, symptoms of drunkenness

LONG TERM EXPOSURE: no information on significant adverse effects

CARCINOGEN STATUS:

OSHA: No

NTP: No

IARC: Yes

SECTION 4 FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

SKIN CONTACT: Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

EYE CONTACT: Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

INGESTION: If swallowed, drink plenty of water, do NOT induce vomiting. Get immediate medical attention.

NOTE TO PHYSICIAN: For ingestion, consider gastric lavage.

SECTION 5 FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Negligible fire hazard.

EXTINGUISHING MEDIA: regular dry chemical, carbon dioxide, water, regular foam

Large fires: Use regular foam or flood with fine water spray.

FIRE FIGHTING: Move container from fire area if it can be done without risk. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

SECTION 6 ACCIDENTAL RELEASE MEASURES

SOIL RELEASE:

Dig holding area such as lagoon, pond or pit for containment. Cover with plastic sheet or tarp to minimize spreading and protect from contact with water.

WATER RELEASE:

Add an alkaline material (lime, crushed limestone, sodium bicarbonate, or soda ash). Neutralize. Collect spilled material using mechanical equipment. Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers.

OCCUPATIONAL RELEASE:

Do not touch spilled material. Stop leak if possible without personal risk.

Small spills: Absorb with sand or other non-combustible material. Collect with

absorbent into suitable container. Small dry spills: Collect spilled material in appropriate container for disposal. Move containers away from spill to a safe area. Large spills: Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ.

SECTION 7 HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances.

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

NICKEL CHLORIDE:

NICKEL, SOLUBLE COMPOUNDS (as Ni):

1 mg/m3 OSHA TWA

0.1 mg/m3 OSHA TWA (vacated by 58 FR 35338, June 30, 1993)

0.1 mg/m3 ACGIH TWA (inhalable fraction)

0.015 mg/m3 NIOSH recommended TWA 10 hour(s)

1 mg/m3 UK OES TWA (organic compounds)

3 mg/m3 UK OES STEL (organic compounds)

0.1 mg(Ni)/m3 UK MEL TWA (inorganic compounds)

MEASUREMENT METHOD: Particulate filter; Acid; Inductively coupled plasma;

NIOSH IV # 7300, Elements

VENTILATION: Provide local exhaust or process enclosure ventilation system.

Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear splash resistant safety goggles. Provide an emergency eye

wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear appropriate chemical resistant clothing.

GLOVES: Wear appropriate chemical resistant gloves.

RESPIRATOR: The following respirators and maximum use concentrations are drawn

from NIOSH and/or OSHA.

Measurement Element:

Nickel (Ni)

At any detectable concentration -

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.

Escape -

Any air-purifying respirator with a full facepiece and a high-efficiency particulate filter.

Any appropriate escape-type, self-contained breathing apparatus.

For Unknown Concentrations or Immediately Dangerous to Life or Health -

Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.

Any self-contained breathing apparatus with a full facepiece.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: solid

COLOR: yellow or brown

CHANGE IN APPEARANCE: deliquescent

PHYSICAL FORM: flakes

ODOR: Not available

MOLECULAR WEIGHT: 129.60

MOLECULAR FORMULA: NI-CL2

BOILING POINT: Not applicable

MELTING POINT: 1834 F (1001 C)

SUBLIMATION POINT: >1783 F (>973 C) (in vacuum)

VAPOR PRESSURE: 1 mmHg @ 671 C

VAPOR DENSITY: Not applicable

SPECIFIC GRAVITY (water=1): 3.55

WATER SOLUBILITY: 64.2% @ 20 C

PH: acidic in solution

VOLATILITY: Not applicable

ODOR THRESHOLD: Not available

EVAPORATION RATE: Not applicable

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

SOLVENT SOLUBILITY:

  Soluble: alcohol, ammonium hydroxide

  Insoluble: ammonia

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition.
Avoid generating dust. Keep out of water supplies and sewers.

INCOMPATIBILITIES: metals

NICKEL CHLORIDE:

POTASSIUM: Forms shock-sensitive mixture.

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: chlorine

POLYMERIZATION: Will not polymerize