

Nickel (II) sulfate hexahydrate
MSDS# 16410

Section 1 - Chemical Product and Company Identification

MSDS Name:

Nickel (II) sulfate hexahydrate

Catalog Numbers:

21108-0000, 21108-1000, 21108-5000, 41561-0000, 41561-0050, 41561-5000,
N/2000/50, N/2000/53, N/2000/60, N/2000/71, N/2051/50, N/2055/31

Synonyms:

Nickeous Sulfate Crystal; Single Nickel Salt; Sulfuric Acid Nickel
(II) Salt.

Company Identification: Fisher Scientific UK

Bishop Meadow Road, Loughborough
Leics. LE11 5RG

For information in Europe, call:(01509) 231166

Emergency Number, Europe:01509 231166

Section 2 - Composition, Information on Ingredients

CAS#: 10101-97-0
Chemical Name: Nickel (II) sulfate hexahydrate
%: >98%
EINECS#: unlisted

Hazard Symbols:

XN N

Risk Phrases:

22 40 42/43 50/53

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Harmful if swallowed. Limited evidence of a carcinogenic effect. May cause sensitization by inhalation and skin contact. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Potential Health Effects

Eye:

May cause eye irritation.

Skin:

Causes skin irritation. May cause dermatitis. May be harmful if absorbed through the skin. May cause sensitization by skin contact.

Ingestion:

Harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Inhalation:

Dust is irritating to the respiratory tract. Inhalation of vapor may

cause respiratory tract irritation. May cause lung damage. May be harmful if inhaled. May cause respiratory sensitization.

Chronic:

Prolonged or repeated skin contact may cause sensitization dermatitis and possible destruction and/or ulceration. May cause respiratory tract cancer. Laboratory experiments have resulted in mutagenic effects.

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.

Do

NOT allow victim to rub eyes or keep eyes closed.

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. Wash clothing before reuse.

Ingestion:

Do not induce vomiting. 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. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician:

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. Water runoff can cause environmental damage. Dike and collect water used to fight fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media:

Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

Section 6 - Accidental Release Measures

General Information:

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Wash area with soap and water. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Avoid generating dusty conditions. 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. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with skin and eyes.

Avoid

ingestion and inhalation.

Storage:

Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from strong acids.

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 ventilation to keep airborne concentrations low.

Exposure Limits

CAS# 10101-97-0:

United Kingdom, WEL - TWA: (nickel, inorganic compounds, soluble):

0.1 mg/m³ TWA (as Ni)

United Kingdom, WEL - STEL: (nickel, inorganic compounds, soluble):
0.3 mg/m³ STEL (as Ni)

United States OSHA: 1 mg/m³ TWA (as Ni) (Nickel soluble compounds).

Belgium - TWA: (nickel soluble compounds): 0.1 mg/m³ VLE (as Ni)

Malaysia: (nickel soluble compounds): 0.1 mg/m³ TWA (inhalable
fraction, as Ni)

Netherlands: (nickel soluble compounds): 0.1 mg/m³ MAC (as Ni)

Spain: (nickel soluble compounds): 0.1 mg/m³ VLA-ED (as Ni)

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.

Respirators:

Follow the OSHA respirator regulations found in 29
CFR 1910.134 or European Standard EN 149. Use a
NIOSH/MSHA or European Standard EN 149 approved
respirator if exposure limits are exceeded or if
irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State:

Crystals

Color:

blue-green

Odor:

none reported

pH:

4.5 in solution.

Vapor Pressure:

Negligible

Viscosity:

Not available

Boiling Point:

103 deg C (217.40°F)

Freezing/Melting Point:

53 deg C (127.40°F)

Autoignition Temperature:

Noncombustible

Flash Point:

Noncombustible

Explosion Limits: Lower:Not available

Explosion Limits: Upper:Not available

Decomposition Temperature:

Solubility in water: 625g/L @20C in water.

Specific Gravity/Density: 2.07 (water=1)

Molecular Formula: NiSO₄.6H₂O

Molecular Weight: 262.828

Section 10 - Stability and Reactivity

Chemical Stability:

Stable at room temperature in closed containers under normal
storage

and handling conditions.

Conditions to Avoid:

Dust generation.

Incompatibilities with Other Materials

Not available

Hazardous Decomposition Products

Oxides of sulfur, nickel oxide.

Hazardous Polymerization

Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 10101-97-0: QR9600000

LD50/LC50:

RTECS: CAS# 10101-97-0: Oral, rat: LD50 = 264 mg/kg;.

Carcinogenicity:

Nickel (II) sulfate hexahydrate -

California: carcinogen, initial date 5/7/04 (Nickel compounds).

NTP: Known carcinogen (Nickel compounds).

IARC: Group 1 carcinogen

Other:

See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity:

Not available

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

IATA

Shipping Name: Y HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Hazard Class: 9
UN Number: 3077
Packing Group: III

IMO

Shipping Name: Y HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Hazard Class: 9
UN Number: 3077
Packing Group: III

RID/ADR

Shipping Name: Y HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Hazard Class: 9
UN Number: 3077
Packing Group: III

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN N

Risk Phrases:

R 22 Harmful if swallowed.
R 40 Limited evidence of a carcinogenic effect.
R 42/43 May cause sensitization by inhalation and skin contact.
R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 22 Do not breathe dust.
S 36/37 Wear suitable protective clothing and gloves.
S 60 This material and its container must be disposed of as hazardous waste.
S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 10101-97-0: 2

Canada

US Federal

TSCA

CAS# 10101-97-0 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form in on the

Section 16 - Other Information

MSDS Creation Date:

8/07/1998

Revision #6 Date

3/16/2007

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

