Safety Data Sheet ELECTROPLATING COMPOUND NICKEL Without additives

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SECTION 1: Identification

GHS Product identifier

Product name	ELECTROPLATING COMPOUND NICKEL Without additives

Recommended use of the chemical and restrictions on use

Nickel electroplating.

Supplier's details

Name	ChemSupply Australia Pty Ltd
Address	38-50 Bedford Street 5013 Gillman South Australia Australia
Telephone	08 8440 2000
email	www.chemsupply.com

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

General hazard statement

Not classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

Classified as Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Carcinogenicity, Cat. 2
- Respiratory sensitizer, Cat. 1B
- Specific target organ toxicity following repeated exposure, Cat. 1
- Hazardous to the aquatic environment, short-term (acute), Cat. 1
- Hazardous to the aquatic environment, long-term (chronic), Cat. 1

GHS label elements, including precautionary statements

Pictograms

Signal word	**Danger**

Hazard statement(s)

H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H351	Suspected of causing cancer
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	[In case of inadequate ventilation] wear respiratory protection.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P314	Get medical advice/attention if you feel unwell.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physcian
P391	Collect spillage.
P501	Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Other components either not classified as Hazardous under the GHS, or below cut-off concentrations to be classified as Hazardous.

Components

Component	CAS no.	Concentration
Nickel Compounds		**20 - 30 % (weight)**

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	First Aid Facilities: Maintain eyewash fountain, drench facilities and first aid kit in work area.
If inhaled	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Immediately obtain medical aid if cough or other symptoms appear.
In case of skin contact	Immediately remove contaminated clothing and wash affected area with water for at least 15 minutes. Ensure contaminated clothing is washed before re-use. If persistent irritation occurs, obtain medical attention.
In case of eye contact	mmediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be

	held open.In all cases of eye contamination it is a sensible precaution to seek medical advice.
If swallowed	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.

Most important symptoms/effects, acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed, if necessary
For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

SECTION 5: Fire-fighting measures

Suitable extinguishing media
Use extinguishing media most appropriate for the surrounding fire.

Specific hazards arising from the chemical
Material does not burn. Runoff may pollute waterways. Fire or heat may produce irritating, poisonous and/or corrosive fumes. Containers may explode when heated.

Special protective actions for fire-fighters
Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. Fight fire from safe location.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
Avoid inhalation, contact with skin, eyes and clothing. Wear protective clothing specified for normal operations (see Section 8)

Methods and materials for containment and cleaning up
Absorb or contain liquid with sand, earth or spill control material. Shovel up using non sparking tools and place in a labelled, sealable container for subsequent safe disposal. Put leaking containers in a labelled drum or overdrum.
Use appropriate containment to avoid environmental contamination.

SECTION 7: Handling and storage

Precautions for safe handling
Avoid ingestion and inhalation of liquid/vapours/aerosols/spray mists. Avoid contact with skin, eyes and clothing. Wear appropriate protective clothing.

Conditions for safe storage, including any incompatibilities
Store in tightly closed containers, in a cool, dry, well ventilated area away from incompatibles. Protect from physical damage.

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls
Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection
The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Skin protection
Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Hand Protection: Ensure hand protection complies with AS 2161, Occupational protective gloves - Selection, use and maintenance.

Body protection
Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.

Respiratory protection
If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/ mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference should be made to Australian Standards AS/ NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	Green liquid.
Color	No data available.
Odor	No data available.
Odor threshold	No data available.
Melting point/freezing point	No data available.
Boiling point or initial boiling point and boiling range	Approx. 100 °C.
Flammability	No data available.
Lower and upper explosion limit/flammability limit	No data available.
Flash point	No data available.
Explosive properties	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	No data available.
Kinematic viscosity	No data available.
Solubility	No data available.
Partition coefficient n-octanol/water (log value)	No data available.
Vapor pressure	As water (1 atm).
Evaporation rate	No data available.
Density and/or relative density	Specific Gravity: 1.01.
Relative vapor density	No data available.
Particle characteristics	No data available.

Supplemental information regarding physical hazard classes
No data available.

Further safety characteristics (supplemental)
No data available.

SECTION 10: Stability and reactivity

Reactivity

Stable under normal conditions of storage and handling.

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
Hazardous Polymerization: Will not occur.

Conditions to avoid
No data available.

Incompatible materials
No data available.

Hazardous decomposition products
No data available.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Ingestion: May cause nausea and transient nephrotoxic effects.

Inhalation: May cause irritation of soft mucous tissues and sneezing.

Skin corrosion/irritation
May cause mild irritation. May cause sensitisation by skin contact.

Serious eye damage/irritation
May cause irritation to eyes.

Respiratory or skin sensitization
Nickel and its salts are among the commonest causes of metal allergic contact dermatitis and the most common of all causes of human skin sensitization. [Chang, L.W. (ed.). Toxicology of Metals. Boca Raton, FL: Lewis Publishers, 1996, p. 827].

Germ cell mutagenicity
Nickel compounds are generally inactive in bacterial assays, but active in systems using eukaryotic organisms, and positive responses have been observed regardless of the nickel compounds used; particularly when these were compared at equitoxic concentrations (Hansen & Stern, 1983; Swierenga & McLean, 1985). The ability of nickel compounds to inhibit DNA synthesis and excision repair should also be noted.

Carcinogenicity
Nickel compounds is evaluated in the IARC Monographs (Vol. 49; 1990) as Group 1: Carcinogenic to humans.
There is limited evidence in experimental animals for the carcinogenicity of nickel alloys, nickelocene, nickel carbonyl, nickel salts, nickel arsenides, nickel antimonide, nickel selenides and nickel telluride. The Working Group made the overall evaluation on nickel compounds as a group on the basis of the combined results of epidemiological studies, carcinogenicity studies in experimental animals, and several types of other relevant data supported by the underlying concept that nickel compounds can generate nickel ions at critical sites in their target cells. (IARC Monographs (VOL.: 49 (1990) (p. 257)).

Reproductive toxicity
Nickel [resp/oral]: human-mutagen, decline in semen parameters, animal-embryolethal, increased rate of foetal growth retardation and skeletal anomalies (<qt>Reproductive Hazards of the Workplace<qt> by Linda M. Frazier, MD, MPH & Marvin L. Hage, MD).
Nickel [7440-02-0]: Suspected Developmental/Reproductive Toxicant (US EPA. Roadmaps to Sources of Information on Chemicals Listed in

the Emergency Planning Community and Community Right-to-Know Act (Also Known as SARA Title 3), Section 313 Toxic Release Inventory (for Microcomputers). (Report Number EPADFDK92040). 1991.)
Nickel Compounds: Suspected Developmental Toxicant (California's Proposition 65 list of chemicals <qt>known to the state of California to cause reproductive toxicity<qt>. Hazard identification based on an extension of a Proposition 65 listing.)
Nickel Compounds: Suspected Reproductive Toxicant (Jankovic, J. A Screening Method for Occupational Reproductive Health Risk. American Industrial Hygiene Association Journal. 57: 641-649. 1996.)
Soluble Nickel Compounds [7440-02-0](Sol): Suspected Developmental Toxicant (California's Proposition 65 list of chemicals <qt>known to the state of California to cause reproductive toxicity<qt>. Hazard identification based on an extension of a Proposition 65 listing.)

Specific target organ toxicity (STOT) - single exposure
No data available.

Specific target organ toxicity (STOT) - repeated exposure
Causes damage to organs through prolonged or repeated exposure

Aspiration hazard
No data available.

Additional information
Chronic Effects: Possible risk of irreversible effects. Repeated or prolonged skin contact may cause chronic dermatitis. Ingestion of large doses may cause intestinal disorders, convulsions and asphyxia.

SECTION 12: Ecological information

Toxicity
Ecological Information: Nickel is accumulated by plants. Growth retardation has been reported in some species exposed to high nickel concentrations.
There is no evidence that nickel undergoes biotransformation, though it does undergo complexation.
Nickel has been shown to be essential for the nutrition of many microorganisms, a variety of plants, and for some vertebrate animals.

Bioaccumulative potential
BCFs ranging from 40-100 suggest that the potential for bioconcentration in aquatic organisms is low to moderate.

Mobility in soil
Nickel is one of the most mobile of the heavy metals in the aquatic environment.
In general, the mobility of nickel compounds that are soluble in water, such as nickel chlorides and nickel nitrate, will tend to be greater than the mobility of insoluble compounds such as nickel oxides and nickel sulfides.

Other adverse effects
Environmental Fate: The majority of nickel compounds are not expected to volatilize from moist or dry soil surfaces, based on their low vapour pressures. Nickel compounds, which generally have low vapour pressures, are expected to exist in the particulate phase in the ambient atmosphere. If released into water, nickel compounds are expected to adsorb to sediment and suspended solids in water.

SECTION 13: Disposal considerations

Disposal methods

Product disposal
Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Waste treatment
Nickel from various industrial wastes may be recovered and recycled. Insoluble nickel compounds may be landfilled. Soluble nickel compounds should be treated to precipitate an insoluble nickel compound, solidified and landfilled.

Sewage disposal

BCFs ranging from 40-100 suggest that the potential for bioconcentration in aquatic organisms is low to moderate.

Other disposal recommendations
Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP
Poison Schedule: NS

SECTION 16: Other information

Further information/disclaimer
ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

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Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia
National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'
Safe Work Australia, 'National Code of Practice fot the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.
Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.
Safe Work Australia, Workplace Exposure Standards for Airbourne Contaminants, December 2019
Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au
IATA, Dangerous Goods Regulations (DGR)
IMO, International Maritime Dangerous Goods Code (IMDG)