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Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Nickel(II) phthalocyanine-tetrasulfonic acid tetrasodium salt

sc-236173



The Power is Question

Material Safety Data Sheet

Hazard Alert Code Key:

EXTREME

HIGH

MODERATE

LOW

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

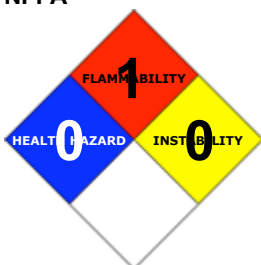
PRODUCT NAME

Nickel(II) phthalocyanine-tetrasulfonic acid tetrasodium salt

STATEMENT OF HAZARDOUS NATURE

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

NFPA



SUPPLIER

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EMERGENCY

ChemWatch
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Outside the US & Canada: +800 2436 2255
(1-800-CHEMCALL) or call +613 9573 3112

SYNONYMS

C32H12N8Na4NiO12S4, "tetra-sulfonic acid, salt", "tetrasodium nickel phthalocyanine tetrasulfonate"

Section 2 - HAZARDS IDENTIFICATION

CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability	1	
Toxicity	2	
Body Contact	0	
Reactivity	1	
Chronic	4	

Min/Nil=0
Low=1
Moderate=2
High=3
Extreme=4



CANADIAN WHMIS SYMBOLS



EMERGENCY OVERVIEW

RISK

May cause CANCER by inhalation.

May cause SENSITISATION by inhalation and skin contact.

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

■ The material has NOT been classified as "harmful by ingestion".

This is because of the lack of corroborating animal or human evidence.

EYE

■ Although the material is not thought to be an irritant, direct contact with the eye may cause transient discomfort characterized by tearing or conjunctival redness (as with windburn).

Slight abrasive damage may also result.

SKIN

■ The material is not thought to produce adverse health effects or skin irritation following contact (as classified using animal models).

Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.

■ Open cuts, abraded or irritated skin should not be exposed to this material.

■ Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.

Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED

■ The material is not thought to produce respiratory irritation (as classified using animal models).

Nevertheless inhalation of dusts, or fume, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.

■ Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.

■ Regular exposure to nickel fume, as the oxide, may result in "metal fume fever" a sometimes debilitating upper respiratory tract condition resembling influenza.

Symptoms include malaise, fever, weakness, nausea and may appear quickly if operations occur in closed or poorly ventilated areas.

■ Inhalation of vapors or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.

CHRONIC HEALTH EFFECTS

■ On the basis of epidemiological data, it has been concluded that prolonged inhalation of the material, in an occupational setting, may produce cancer in humans.

Inhaling this product is more likely to cause a sensitization reaction in some persons compared to the general population.

Skin contact with the material is more likely to cause a sensitization reaction in some persons compared to the general population.

Nickel causes a skin sensitization which may produce a chronic eczema. At first an itch appears followed one week later by a red skin eruption with ulcers which discharge and become crusted.

Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung.

Nickel dusts, fumes and salts are potent contact allergens and sensitizers producing a dermatitis known as "nickel" rash.

In the absence of properly designed ventilation systems or where respiratory protective devices are inadequate,

up to 10% of exposed workers are expected to be symptomatic.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
nickel(II) phthalocyaninetetrasulfonic acid.4Na	27835-99-0	>98

Section 4 - FIRST AID MEASURES

SWALLOWED

- Immediately give a glass of water.
- First aid is not generally required. If in doubt, contact a Poisons Information Center or a doctor.

EYE

If this product comes in contact with the eyes

- Wash out immediately with fresh running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

SKIN

If skin contact occurs

- Immediately remove all contaminated clothing, including footwear
- Flush skin and hair with running water (and soap if available).

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.

NOTES TO PHYSICIAN

- Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

Vapour Pressure (mmHG)	Negligible
Upper Explosive Limit (%)	Not available
Specific Gravity (water=1)	Not available
Lower Explosive Limit (%)	Not available

EXTINGUISHING MEDIA

- Foam.
- Dry chemical powder.

FIRE FIGHTING

- Alert Emergency Responders and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.

GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS

- Combustible solid which burns but propagates flame with difficulty.
- Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust may burn rapidly and fiercely if ignited.

Combustion products include carbon monoxide (CO), carbon dioxide (CO₂), nitrogen oxides (NO_x), sulfur oxides (SO_x), metal oxides, other pyrolysis products typical of burning organic material.

May emit poisonous fumes.

May emit corrosive fumes.

FIRE INCOMPATIBILITY

Avoid contamination with oxidizing agents i.e. nitrates, oxidizing acids, chlorine bleaches, pool chlorine etc. as

ignition may result.

EXTINGUISHING MEDIA

- Foam.
- Dry chemical powder.

FIRE FIGHTING

- Alert Emergency Responders and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.

GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS

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May emit poisonous fumes.

May emit corrosive fumes.

FIRE INCOMPATIBILITY

Avoid contamination with oxidizing agents i.e. nitrates, oxidizing acids, chlorine bleaches, pool chlorine etc. as ignition may result.

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Control personal contact by using protective equipment.
- Use dry clean up procedures and avoid generating dust.
- Place in a suitable, labelled container for waste disposal.

MAJOR SPILLS

Moderate hazard.

- CAUTION Advise personnel in area.
- Alert Emergency Responders and tell them location and nature of hazard.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.

Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source.

- Do NOT cut, drill, grind or weld such containers.
- In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.

RECOMMENDED STORAGE METHODS

- Polyethylene or polypropylene container.
- Check all containers are clearly labelled and free from leaks.

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Peak ppm	Peak mg/m ³	TWA F/CC	Notes
Canada - Northwest Territories Occupational Exposure Limits (English)	nickel(II) phthalocyaninetetrasulfonic acid.4Na (Nickel sulfide roasting, fume and dust (as Ni))		1		3				
US NIOSH Recommended Exposure Limits (RELs)	nickel(II) phthalocyaninetetrasulfonic acid.4Na (Nickel metal and other compounds (as Ni))		0.015						See Appendix A [*Note The REL and PEL do not apply to Nickel carbonyl.]; Ca
US - Idaho - Limits for Air Contaminants	nickel(II) phthalocyaninetetrasulfonic acid.4Na (Nickel, metal and insoluble compounds, (as Ni))		1						
US - Minnesota Permissible Exposure Limits (PELs)	nickel(II) phthalocyaninetetrasulfonic acid.4Na (Nickel, metal and insoluble compounds (as Ni))		1						
US OSHA Permissible Exposure Levels (PELs) - Table Z1	nickel(II) phthalocyaninetetrasulfonic acid.4Na (Nickel, metal and insoluble compounds (as Ni))		1						
US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants	nickel(II) phthalocyaninetetrasulfonic acid.4Na (Nickel, soluble compounds (as Ni))		0.1						
US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants	nickel(II) phthalocyaninetetrasulfonic acid.4Na (Nickel, metal and insoluble compounds (as Ni))		1						
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	nickel(II) phthalocyaninetetrasulfonic acid.4Na (Nickel, metal and insoluble compounds (as Ni))		1						

US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants	nickel(II) phthalocyaninetetrasulfonic acid.4Na (Nickel, metal and insoluble compounds (as Ni))	1			
US - Hawaii Air Contaminant Limits	nickel(II) phthalocyaninetetrasulfonic acid.4Na (Nickel, metal and insoluble compounds (as Ni))	1			
US - Washington Permissible exposure limits of air contaminants	nickel(II) phthalocyaninetetrasulfonic acid.4Na (Nickel (as Ni) - Metal and insoluble compounds)	1		3	
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	nickel(II) phthalocyaninetetrasulfonic acid.4Na (Nickel metal and insoluble compounds (as Ni))	-	1	-	3
US - Oregon Permissible Exposure Limits (Z-1)	nickel(II) phthalocyaninetetrasulfonic acid.4Na (Nickel, metal and insoluble compounds, as Ni)	-	1		
US - Michigan Exposure Limits for Air Contaminants	nickel(II) phthalocyaninetetrasulfonic acid.4Na (Nickel, Metal and insoluble compounds (as Ni))		1		
US - Alaska Limits for Air Contaminants	nickel(II) phthalocyaninetetrasulfonic acid.4Na (Nickel Metal and insoluble compounds (as Ni))		1		
Canada - Ontario Occupational Exposure Limits	nickel(II) phthalocyaninetetrasulfonic acid.4Na (Insoluble compounds, as Ni / Composés insolubles, en Ni)		0.2 (I)		
US - California Permissible Exposure Limits for Chemical Contaminants	nickel(II) phthalocyaninetetrasulfonic acid.4Na (Nickel, insoluble compounds, as Ni)		0.1		
Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)	nickel(II) phthalocyaninetetrasulfonic acid.4Na (Nickel Insoluble compounds (as Ni))		1		
Canada - Alberta Occupational Exposure Limits	nickel(II) phthalocyaninetetrasulfonic acid.4Na (Nickel - Insoluble compounds, as Ni)		0.2		

PERSONAL PROTECTION



RESPIRATOR

•Particulate. (AS/NZS 1716 & 1715, EN 1432000 & 1492001, ANSI Z88 or national equivalent)

EYE

- Safety glasses with side shields.
- Chemical goggles.

HANDS/FEET

NOTE The material may produce skin sensitization in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- Contaminated gloves should be replaced.

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.

- polychloroprene
- nitrile rubber
- butyl rubber
- fluorocautchouc
- polyvinyl chloride

Gloves should be examined for wear and/ or degradation constantly.

OTHER

- Overalls.
- P.V.C. apron.
- Barrier cream.
- Skin cleansing cream.
- Eye wash unit.

ENGINEERING CONTROLS

- Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.
- Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Solid.

Does not mix with water.

State	Divided solid	Molecular Weight	979.40
Melting Range (°F)	Not available	Viscosity	Not Applicable
Boiling Range (°F)	Not available	Solubility in water (g/L)	Immiscible
Flash Point (°F)	Not Available	pH (1% solution)	Not applicable
Decomposition Temp (°F)	Not available	pH (as supplied)	Not applicable
Autoignition Temp (°F)	Not available	Vapour Pressure (mmHG)	Negligible
Upper Explosive Limit (%)	Not available	Specific Gravity (water=1)	Not available
Lower Explosive Limit (%)	Not available	Relative Vapor Density (air=1)	Not applicable
Volatile Component (%vol)	Negligible	Evaporation Rate	Not applicable

APPEARANCE

Powder; does not mix with water.

Section 10 - CHEMICAL STABILITY

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.

STORAGE INCOMPATIBILITY

- **WARNING** Avoid or control reaction with peroxides. All transition metal peroxides should be considered as potentially explosive. For example transition metal complexes of alkyl hydroperoxides may decompose explosively.
- The pi-complexes formed between chromium(0), vanadium(0) and other transition metals (haloarene-metal complexes) and mono-or poly-fluorobenzene show extreme sensitivity to heat and are explosive.
- Avoid reaction with borohydrides or cyanoborohydrides

Avoid reaction with oxidizing agents.

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

nickel(II) phthalocyaninetetrasulfonic acid.4Na

TOXICITY AND IRRITATION

NICKEL(II) PHTHALOCYANINETETRASULFONIC ACID.4NA

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's edema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type.

Allergic reactions involving the respiratory tract are usually due to interactions between IgE antibodies and allergens and occur rapidly. Allergic potential of the allergen and period of exposure often determine the severity of symptoms.

Attention should be paid to atopic diathesis, characterized by increased susceptibility to nasal inflammation, asthma and eczema.

Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. Such allergy is of the delayed type with onset up to four hours following exposure.

No significant acute toxicological data identified in literature search.

CARCINOGEN

Nickel, metallic and alloys	International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs	Group	2B
Nickel compounds	International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs	Group	1
nickel(II) phthalocyaninetetrasulfonic acid.4Na	US - Rhode Island Hazardous Substance List	IARC	C
NICKEL COMPOUNDS	US Environmental Defense Scorecard Recognized Carcinogens	Reference(s)	P65
INSOLUBLE NICKEL COMPOUNDS	US Environmental Defense Scorecard Recognized Carcinogens	Reference(s)	P65-MC
NICKEL COMPOUNDS	US Environmental Defense Scorecard Suspected Carcinogens	Reference(s)	P65
INSOLUBLE NICKEL COMPOUNDS	US Environmental Defense Scorecard Suspected Carcinogens	Reference(s)	P65-MC
Nickel (and compounds)	US Air Toxics Hot Spots TSD for Describing Available Cancer Potency Factors	IARC Class	1,2B(N2)
Nickel and its Compounds	US NIOSH Recommended Exposure Limits (RELs) - Carcinogens	Carcinogen	Ca
VPVB_(VERY~	US - Maine Chemicals of High Concern List	Carcinogen	CA Prop 65; IARC; NTP 11th ROC

Section 12 - ECOLOGICAL INFORMATION

No data

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Instructions

All waste must be handled in accordance with local, state and federal regulations.

! Puncture containers to prevent re-use and bury at an authorized landfill.

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

DO NOT allow wash water from cleaning equipment to enter drains. Collect all wash water for treatment before disposal.

- Recycle wherever possible.
- Consult manufacturer for recycling options or consult Waste Management Authority for disposal if no suitable treatment or disposal facility can be identified.

Section 14 - TRANSPORTATION INFORMATION

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: DOT, IATA, IMDG

Section 15 - REGULATORY INFORMATION

nickel(II) phthalocyaninetetrasulfonic acid.4Na (CAS: 27835-99-0) is found on the following regulatory lists;

"Canada - Northwest Territories Occupational Exposure Limits (English)", "Canada - Saskatchewan Occupational Health and Safety Regulations - Designated Chemical Substances", "Canada National Pollutant Release Inventory (NPRI)", "International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs", "US - California Air Toxics ""Hot Spots"" List (Assembly Bill 2588) Substances for which emissions must be quantified", "US - California Environmental Health Standards for the Management of Hazardous Waste - List of Inorganic Persistent and Bioaccumulative Toxic Substances and Their STLC & TTLC Values", "US - California Occupational Safety and Health Regulations (CAL/OSHA) - Hazardous Substances List", "US - California OEHHA/ARB - Acute Reference Exposure Levels and Target Organs (RELS)", "US - California OEHHA/ARB - Chronic Reference Exposure Levels and Target Organs (CRELs)", "US - California Proposition 65 - No Significant Risk Levels (NSRLs) for Carcinogens", "US - California Proposition 65 - Priority List for the Development of NSRLs for Carcinogens", "US - Massachusetts Oil & Hazardous Material List", "US - Minnesota Hazardous Substance List", "US - Rhode Island Hazardous Substance List", "US - Vermont Hazardous Constituents", "US - Washington Class A toxic air pollutants: Known and Probable Carcinogens", "US - Washington Dangerous waste constituents list", "US Clean Air Act - Hazardous Air Pollutants", "US CWA (Clean Water Act) - Priority Pollutants", "US CWA (Clean Water Act) - Toxic Pollutants", "US NIOSH Recommended Exposure Limits (RELs)", "US RCRA (Resource Conservation & Recovery Act) - Appendix IX to Part 264 Ground-Water Monitoring List 1", "US RCRA (Resource Conservation & Recovery Act) - Hazardous Constituents - Appendix VIII to 40 CFR 261", "US RCRA (Resource Conservation & Recovery Act) - List of Hazardous Inorganic and Organic Constituents 1"

Section 16 - OTHER INFORMATION

LIMITED EVIDENCE

■ Inhalation may produce health damage*.

* (limited evidence).

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■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net/references.

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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