



SAFETY DATA SHEET

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SECTION 1 PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: **Potassium Tetracyanonickelate (II) Hydrate**
PRODUCT NUMBER: 2945
CAS NUMBER: 339527-86-5
SYNONYMS: Dipotassium nickel tetracyanide hydrate, potassium nickel cyanide hydrate
MANUFACTURER:

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SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION OF SUBSTANCE OR MIXTURE

Pictogram



Signal Word

Danger

Hazard Statements

H300+H310+H330	Fatal if swallowed, in contact with skin, or if inhaled.
H317	May cause an allergic skin reaction.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H350	May cause cancer.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary Phrases

P260	Do not breathe dust or mist.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink, or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release into the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P361	Remove/take off immediately all contaminated clothing

SECTION 2 HAZARDS IDENTIFICATION (Cont.)

P363	Wash contaminated clothing before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

HMIS CLASSIFICATION:

Health: 4 Chronic: * Fire: 0 Reactivity Hazard: 0

NFPA RATING:

Health: 4 Flammability: 0 Reactivity Hazard: 0

EYE CONTACT: May cause irritation of the eyes, redness, and pain.

SKIN CONTACT: May cause irritation of the skin with redness or rash. Prolonged contact with nickel salts may lead to dermatitis.

INHALATION: Dust may be irritating to the nose, mucous membranes, and respiratory tract.

INGESTION: Harmful if swallowed. Ingestion may lead to dizziness, abdominal cramps, vomiting, bloody diarrhea, weakness, and convulsions.

ACUTE HEALTH EFFECTS: Nickel salts may be irritating to skin, eyes, and respiratory tract, causing intestinal disorders, convulsions, asphyxia, sensitization dermatitis, allergic asthma, and pneumonitis.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Formula: $K_2Ni(CN)_4 \cdot xH_2O$

Molecular Weight: 240.99 (anhy.)

CHEMICAL NAME	CAS#	%
Potassium tetracyanonickelate (II) hydrate	339527-86-5	100

SECTION 4 FIRST AID MEASURES

EYE EXPOSURE: Immediately flush the eyes with copious amounts of water for at least 15 minutes. A victim may need assistance in keeping their eyelids open. Get immediate medical attention.

SKIN EXPOSURE: Wash the affected area with water. Remove contaminated clothes if necessary. Seek medical assistance if irritation persists.

INHALATION: Remove to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

INGESTION: Seek medical attention immediately. Keep the victim calm. Give the victim water (only if conscious). Induce vomiting only if directed by medical personnel.

SECTION 5 FIREFIGHTING MEASURES

FLASH POINT: Product is not flammable

AUTO IGNITION TEMPERATURE: Not available

EXPLOSION LIMITS: Not available

EXTINGUISHING MEDIUM: Use fire fighting measures that suit the surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.

HAZARDOUS COMBUSTION AND DECOMPOSITION PRODUCTS: Carbon oxides, potassium oxides, nickel oxides, and hydrogen cyanide.

SECTION 6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Wear all appropriate equipment when using this material. Ensure adequate ventilation. Avoid formation of dust. Avoid breathing dust.

ENVIRONMENTAL PRECAUTIONS: Prevent spillage from entering drains or allowing to be released into the environment.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Pick up and arrange disposal without creating dust. Sweep up and place in suitable container for proper disposal.

SECTION 7 HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Wear appropriate personal protective equipment. Ensure adequate ventilation. Avoid contact with skin and eyes. Avoid formation of dust.

CONDITIONS FOR SAFE STORAGE: Store in cool, dry, and well-ventilated area. Store away from oxidizing agents. Do not store together with acids.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE CONTROLS:

Component	Exposure Limits	Basis	Entity
Potassium tetracyanonickelate (II) hydrate	0.015mg/m ³	REL	NIOSH
(As CN)	5 mg/m ³	TLV	ACGIH
(As CN)	5 mg/m ³	PEL	OSHA
(As Ni)	0.1mg/m ³	TLV	ACGIH
(As Ni)	0.1 mg/m ³	PEL	OSHA

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

EYE PROTECTION: Wear chemical safety glasses or goggles and face shield.

SKIN PROTECTION: Wear nitrile or rubber gloves, and a complete suit protecting against chemicals.

VENTILATION: Provide local exhaust, preferably mechanical.

RESPIRATOR: Use an approved respirator.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

COLOR AND FORM: Yellow to orange crystalline

ODOR: None

MOLECULAR WEIGHT: 240.96

BOILING POINT: No data available

MELTING POINT: 100°C

SPECIFIC GRAVITY: 1.875 gm/ml

SOLUBILITY: Soluble

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: None

INCOMPATIBILITY: Strong oxidizing agents and acids

DECOMPOSITION PRODUCTS: Carbon oxides, potassium oxides, nickel oxides, and hydrogen cyanide

SECTION 11 TOXICOLOGICAL DATA

ACUTE TOXICITY: LD50 Oral – mouse – 275 mg/kg.

CARCINOGENIC EFFECTS: According to ACGIH, NTP, and OSHA, no components of this product present at levels greater than or equal to 0.1% is identified a carcinogen. According to IARC, this product is carcinogenic to humans.

MUTAGENIC EFFECTS: Not available

TETRAOGENIC EFFECTS: Not available

CHRONIC TOXICITY: Nickel and nickel compounds may cause a form of dermatitis known as nickel itch. They may also cause intestinal disorders, convulsions, and asphyxia. Airborne nickel contaminated dusts are regarded as carcinogenic to the respiratory tract. Cyanides may cause symptoms of salivation, nausea without vomiting, anxiety, confusion, vertigo, giddiness, lower jaw stiffness, convulsions, opisthoto, paralysis, coma, cardiac arrhythmias, and respiratory failure. They typically cause death through asphyxia. Skin contact may cause itching, macular, popular, and vesicular eruptions.

To the best of our knowledge the toxicological effects of this compound have not been fully investigated.

SECTION 12 ECOLOGICAL DATA

AQUATIC VERTEBRATE: LC50 – Poecilia reticulata (guppy) – 39 mg/L – 96h.

AQUATIC INVERTEBRATE: Not available

TERRESTRIAL: Not available

SECTION 13 DISPOSAL CONSIDERATIONS

Dispose of in according to local, state, and federal regulations.

SECTION 14 TRANSPORTATION DATA

UN1588

Cyanides, inorganic, solid, n.o.s.

(Potassium tetracyanonickelate (II) hydrate)

CLASS 6.1

PG II

Marine Pollutant: No

SECTION 15 REGULATORY INFORMATION

TSCA: Listed in the TSCA inventory

SARA 302/304: Not Listed

SARA 311/312: Acute Health Hazard, Chronic Health Hazard

SARA (TITLE 313): Potassium tetracyanonickelate (II) hydrate

CALIFORNIA PROP. 65: Potassium tetracyanonickelate (II) hydrate

WHMIS CANADA: Class D-1B: Toxic material causing immediate and serious toxic effects. Class D-2A: Very toxic material causing other toxic effects.

NEW JERSEY RIGHT TO KNOW COMPONENTS: Potassium tetracyanonickelate (II) hydrate

PENNSYLVANIA RIGHT TO KNOW COMPONENTS: Potassium tetracyanonickelate (II) hydrate

SECTION 16 OTHER INFORMATION

DISCLAIMER: The information herein is believed to be accurate and reliable as of the date compiled. However, Prochem, Inc. makes no representation, warranty, or guarantee of any kind with respect to the information in this document or any use of the product based on the information.

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