

SAFETY DATA SHEET

ProChemOnline.com



SECTION 1 PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: **Potassium Hexacyanoruthenate (II) Hydrate**
PRODUCT NUMBER: 2911
CAS NUMBER: 339268-21-2
SYNONYMS: Potassium ruthenocyanide, Ruthenate(4-), hexakis(cyano-C)-, tetrapotassium.
MANUFACTURER:

Prochem, Inc.
826 Roosevelt Road
Rockford, IL 61109

PHONE: 815-398-1788
FAX: 815-398-1810
TOLL FREE: 800-795-8788

IN CASE OF TRANSPORTATION EMERGENCY CONTACT CHEM-TREC: 1-800-424-9300

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION OF SUBSTANCE OR MIXTURE

Pictogram



Signal Word

Danger

Hazard Statements

H301+H311+H331	Toxic if swallowed, in contact with skin, or if inhaled
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

Precautionary Phrases

P361	Remove-Take off immediately all contaminated clothing.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
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.
P280	Wear protective gloves/protective clothing/eye protection/face 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.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

SECTION 2 HAZARDS IDENTIFICATION (Cont.)

HMIS CLASSIFICATION:

Health: 2 Fire: 1 Reactivity Hazard: 1

NFPA RATING:

Health: 2 Flammability: 1 Reactivity Hazard: 1

EYE CONTACT: Causes slight to mild irritation of the eyes.

SKIN CONTACT: Causes slight to mild irritation of the skin.

INHALATION: Fatal if inhaled. Causes respiratory tract irritation.

INGESTION: Toxic if swallowed. Ingestion may lead dizziness, abdominal cramps, and vomiting.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Formula: $K_4Ru(CN)_6 \cdot xH_2O$

Molecular Weight: 413.57

CHEMICAL NAME	CAS#	%
Potassium hexacyanoruthenate	339268-21-2	100

SECTION 4 FIRST AID MEASURES

EYE EXPOSURE: Immediately flush the eyes with copious amounts of water for at least 10-15 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 if necessary.

INGESTION: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention if necessary.

SECTION 5 FIREFIGHTING MEASURES

FLASH POINT: Not applicable

AUTO IGNITION TEMPERATURE: Not available

EXPLOSION LIMITS: Not available

EXTINGUISHING MEDIUM: Use carbon dioxide, extinguishing powder, or water spray. Fight larger fires with water spray or alcohol-resistant foam.

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, nitrogen oxides, hydrogen cyanide, and ruthenium oxides.

SECTION 6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Wear all appropriate equipment when using this material. Ensure adequate ventilation.

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

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Small spills may be mixed with vermiculite and swept up and placed in proper container for disposal.

SECTION 7 HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Wear appropriate personal protective equipment. Avoid contact with skin and eyes. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of dusts and aerosols.

CONDITIONS FOR SAFE STORAGE: Store in cool, dry, and well-ventilated area. Handle and store in under inert gas. Store away from oxidizing agents and acids.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE CONTROLS: Contains no substances with occupational exposure limit values.

Component	Exposure Limits	Basis	Entity
Cyanides	5 mg/m ³	PEL	OSHA

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

ADDITIONAL PROTECTION: Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

COLOR AND FORM: Off-white crystalline powder

ODOR: No data available

MOLECULAR WEIGHT: 413.57 (anhy.)

BOILING POINT: No data available

MELTING POINT: No data available

SPECIFIC GRAVITY: No data available

VAPOR DENSITY: No data available

SOLUBILITY: Soluble

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: Very strong oxidizing agents such as nitric acid may produce toxic volatile ruthenium tetroxide.

INCOMPATIBILITY: Strong oxidizing agents, acids, and active metals.

DECOMPOSITION PRODUCTS: Carbon oxides, nitrogen oxides, hydrogen cyanide, and ruthenium oxides.

SECTION 11 TOXICOLOGICAL DATA

ACUTE TOXICITY: Not available

CARCINOGENIC EFFECTS: No components of this product present at levels greater than or equal to 0.1% is identified a carcinogen.

MUTAGENIC EFFECTS: Not available

TETRATOGENIC EFFECTS: Not available

CHRONIC TOXICITY: Cyanides may cause symptoms of salivation, nausea without vomiting, anxiety, confusion, vertigo, giddiness, lower jaw stiffness, convulsions, opisthotonos, 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

No data available.

SECTION 13 DISPOSAL CONSIDERATIONS

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

SECTION 14 TRANSPORTATION DATA

UN1588

Marine Pollutant: No

Cyanides, inorganic, solid, n.o.s.
(Potassium hexacyanoruthenate)

CLASS 6.1

PG III

SECTION 15 REGULATORY INFORMATION

TSCA: Listed in the TSCA inventory

DSCL (EEC): Listed on the DSCL inventory

SARA 302/304: Not Listed

SARA 311/312: Acute Health Hazard

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

CALIFORNIA PROP. 65: Potassium hexacyanoruthenate (II) hydrate – Male developmental toxicity

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

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

PENNSYLVANIA RIGHT TO KNOW COMPONENTS: Potassium hexacyanoruthenate (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.

DATE PREPARED: 08/14