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SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and company/undertaking

1.1 Product identifiers

Product name: Potassium Ferricyanide

CAS number: 13746-66-2

Synonyms: Potassium hexacyanoferrate (III); Prussian red; Tripotassium hexaferrocyanate

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Material for use in industrial and commercial formulation applications

1.3 Details of the supplier of the safety data sheet

Company

Lab Alley, LLC

12501 Pauls Valley Road, Suite A,
Austin, TX 78737 U.S.A

Telephone 512-668-9918

Fax 512-886-4008

1.4 Emergency telephone

Emergency Phone # US & Canada: 1-800-535-5053 INFOTRACK
International 1-352-323-3500 INFOTRACK

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute Toxicity, Oral - Category 4 [H302]

Skin Irritation - Category 2 [H315]

Eye Irritation - Category 2A [H319]

Specific Target Organ Toxicity, Single Exposure - Category 3; STOT SE 3 [H335]

2.2 GHS label elements including precautionary statements.

Pictogram



Signal word: Warning

Hazard Statement

H302 - Harmful if swallowed

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

Precautionary Statements

Prevention

P261 - Avoid breathing dust, fumes and vapors.

P264 - Wash hands and other exposed skin areas 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 and eye protection.

Response

P301 + P330 + P313 - IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor if you feel unwell.

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321 + P312 - Specific treatment: Call a POISON CENTER or doctor if you feel unwell. Refer to Section 4 of this SDS.

P332 + P337 + P313 - If skin irritation occurs or eye irritation persists: Get medical attention.

P362 - Take off contaminated clothing and wash before reuse.

P370 + P378 - In case of fire: Use water fog, foam, dry chemical or carbon dioxide for extinction.

Storage

P405 + P403 + P235 - Store locked up in a well-ventilated place. Keep container tightly closed.

Disposal

P501 - Dispose of contents and containers in accordance with national and local regulations.

2.3 Hazards not otherwise classified (HNOC)

Contact with acids liberates very toxic gases.

SECTION 3: Composition/information on ingredients

Chemical name	Common name	CAS number	Concentration by weight
Potassium Ferricyanide		13746-66-2	98-100%

EC Number: 237-323-3

SECTION 4: First aid measures

4.1 Description of first-aid measures

Inhalation: If product dust causes respiratory irritation or distress, move the exposed person to fresh air immediately. If breathing is difficult or irregular, administer oxygen; if respiratory arrest occurs, start artificial respiration by trained personnel. If unconscious, maintain an open airway.

Loosen tight clothing such as a collar, tie, belt or waistband. If symptoms persist or if the victim feels unwell, seek medical attention.

Eyes: DO NOT RUB EYES. Immediately flush your eyes with large amounts of water or saline solution for at least 15 minutes, occasionally lifting the upper and lower lids. Remove contact lenses, if present and easy to do, after the first 2 minutes and continue rinsing. If irritation persists seek medical attention, preferably from an ophthalmologist.

Skin: Flush skin with large amounts of water while removing contaminated clothing. Wash the affected area with soap and water followed by thorough rinsing. Wash contaminated clothing and shoes before reuse. If irritation persists, seek medical attention.

Ingestion: Rinse mouth with water if the victim is conscious. Remove dentures if present. DO NOT induce vomiting unless directed to do so by medical personnel. Vomiting may occur spontaneously. To prevent aspiration of material into the lungs, lay the victim on one side with the head lower than the waist. Never give anything by mouth to an unconscious or convulsing person. Do not leave the victim unattended. Seek medical attention.

4.2 Most Important Symptoms and Effects, Acute and Delayed

Potential health symptoms and effects

Eyes: Causes serious eye irritation with redness, itching and discomfort. Particulates can cause mechanical irritation of the eye and surrounding tissue.

Skin: May cause skin irritation with localized redness, itching and discomfort.

Inhalation: May cause respiratory irritation. Symptoms may include cough, sore throat and difficulty breathing.

Ingestion: May cause irritation of the gastrointestinal system with nausea, vomiting, abdominal pain and diarrhea.

Chronic: Persons with pre-existing skin disorders or impaired respiratory function may be more susceptible to the effects of this substance.

4.3. Medical Attention or Special Treatment Needed

Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1. Extinguishing Media

Suitable methods of extinction: Use extinguishing media suitable for the surrounding fire.

Unsuitable methods of extinction: None known.

5.2. Specific Hazards Arising from the Substance or Mixture

Closed containers may rupture due to the buildup of pressure when exposed to extreme heat. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent or may be delayed. Obtain medical attention.

Explosion hazards: This product is not considered to be an explosion hazard.

5.3. Special Protective Equipment for Firefighters

Full protective equipment including self-contained breathing apparatus should be used. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion when exposed to extreme heat. If possible, water contaminated by this material should be contained from being discharged to any waterway, sewer or drain to prevent environmental contamination.

5.4 NFPA Rating

Health 1

Flammability 0

Reactivity 0

5.5 Further Information

Not available

SECTION 6: Accidental release measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Evacuate non-essential personnel. Wear appropriate protective clothing and equipment designated in Section 8.2. Ventilate the area. Remove all sources of ignition. No smoking. Clean up spills immediately.

6.2 Environmental Precautions

Avoid dispersal of spilled material or runoff and prevent contact with soil and entry into drains, sewers or waterways. Use water sparingly to minimize environmental contamination and reduce disposal requirements.

6.3 Methods and materials for containment and Cleaning up

Approach spill from upwind direction. Cover drains and contain spills. Do not flush large spills down the drain. Minimize dust generation during cleanup. Carefully collect material and place it into an approved container for proper disposal. Observe possible material restrictions (Sections 7.2 and 10.5). Clean contaminated area with soap and water. Do not allow material or runoff from rinsing contaminated areas to enter floor drains or storm drains and ditches that lead to waterways. Dispose of material via a licensed waste disposal contractor.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Wear all appropriate personal protective equipment specified in Section 8.2. Avoid dust generation and accumulation during storage and handling. Do not get in eyes or on skin or clothing. Do not breathe dust. No smoking. If normal use of material presents a respiratory hazard, use only adequate ventilation or wear an appropriate respirator. Wash contaminated clothing and shoes thoroughly before reuse.

Advice on protection against fire and explosion

Product does not present a fire or explosion hazard.

7.2 Conditions for safe storage, including any incompatibilities.

Store in dry, well-ventilated areas away from incompatible materials (see Section 10.5), food and drink. Transfer only to approved containers having correct labeling. Keep container tightly closed when not in use. Protect containers from physical damage. Containers that have been

opened must be carefully resealed and kept upright to prevent spillage. Containers are hazardous when empty as they contain product residues.

Use appropriate containment to avoid environmental contamination. Ventilate closed areas. Keep out of reach of children.

7.3 Specific end uses

Apart from the uses mentioned in Section 1.2, no other specific uses are stipulated.

SECTION 8. Exposure controls/personal protection

8.1 Occupations Exposure Guidelines

Contains no substances with occupational exposure limit values.

Component	TLV-TWA	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)

ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

8.2 Exposure Controls

Engineering measures: Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. Use adequate ventilation. Local exhaust is preferable. Refer to Section 7.1.

Individual protection measures: Wear protective clothing to prevent repeated or prolonged contact with the product. Protective clothing needs to be selected specifically for the workplace, depending on the concentrations and quantities of hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the representative supplier.

Engineering measures: Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. Use adequate ventilation. Local exhaust is preferable. Refer to Section 7.1.

Individual protection measures: Wear protective clothing to prevent repeated or prolonged contact with the product. Protective clothing needs to be selected specifically for the workplace, depending on the concentrations and quantities of hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the representative supplier.

Hygiene measures: Facilities storing or using this material should be equipped with an eyewash station and safety shower. Change contaminated clothing. Preventive skin protection

is recommended. Wash hands thoroughly after use, before eating, drinking, smoking or using the lavatory.

Eye/face protection: Wear safety glasses with unperforated side shields or protective splash goggles during use.

Hand protection: Wear gloves recommended by glove supplier for protection against materials in Section 3. Gloves should be impermeable to chemicals and oil. Breakthrough time of selected gloves must be greater than the intended use period.

Skin protection: Wear protective clothing. Wear protective boots if the situation requires.

Respiratory protection: Wear an approved filter type dust respirator when handling this product. Always use an approved respirator when vapor/aerosols exceed permissible exposure limits. Where risk assessment shows air-purifying respirators are appropriate use a half-mask respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Follow OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149.

Environmental exposure controls: Do not empty drains.

SECTION 9: Physical and chemical properties

Appearance: Dark red crystalline solid

Odor: Odorless

Odor: Threshold No data available

Molecular Weight: 329.25 g/mol

Chemical Formula: $K_3Fe(CN)_6$

pH: 6.0 @ 20 °C (50 g/l)

Melting Point: No data available

Boiling Point: No data available

Evaporation Rate: No data available

Flammability: (solid, gas) Non-flammable

Flash Point: No data available

Autoignition Temperature: No data available

Decomposition Temperature: > 300 °C (> 572 °F)

Lower Explosive Limit (LEL): No data available

Upper Explosive Limit (UEL): No data available

Vapor Pressure: No data available

Vapor Density: No data available

Specific Gravity: 1.85 @ 17 °C

Viscosity: No data available

Solubility in Water Soluble

Partition Coefficient (n-octanol/water) log Pow: - 0.58 (anhydrous)

Oxidizing Properties: Not applicable

Explosive Properties: Not applicable

Volatiles by Weight @ 21°C: 0%

SECTION 10: Stability and reactivity

10.1 Reactivity and Chemical Stability

No special reactivity has been reported during normal conditions of handling and use. This material is stable under recommended conditions of storage and handling. This material is light sensitive.

10.2 Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

10.3 Conditions to Avoid and Incompatible Materials

Extreme heat, incompatible materials, dust generation and accumulation, exposure to light.

10.4 Incompatible materials

Strong acids, strong oxidizing agents, ammonia, hydrochloric acid, cyanides

10.5 Hazardous Decomposition Products

Thermal decomposition products may include oxides of carbon, nitrogen oxides, potassium oxides and iron oxides.

SECTION 11: Toxicological information

11.1 Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

LD50, rat: 1,600 mg/kg

Acute Toxicity - Dermal Exposure:

No data available

Acute Toxicity - Inhalation Exposure:

No data available

Acute Toxicity - Other Information:

Skin irritation

Causes skin irritation.

Eye irritation

Causes serious eye irritation.

Sensitization

No data available

Genotoxicity in vitro

No data available

Mutagenicity

No data available

Specific organ toxicity - single exposure

May cause respiratory irritation.

Specific organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Further information

This product contains no substances present at levels greater than or equal to the 0.1% threshold (de minimis) that are identified as a probable, possible, potential or confirmed carcinogens by ACGIH, IARC, NTP or OSHA. No data is available regarding the mutagenicity or teratogenicity of this product, nor is there any available data that indicates that it causes adverse developmental or fertility effects. Handle in accordance with good industrial hygiene and safety practice

SECTION 12. Ecological information**12.1. Ecotoxicity**

Large spills or discharges of this material may be harmful to aquatic life and the environment.
Acute toxicity to fish: LC50 - *Poecilia reticulata* (Guppy), 96 h: 2.8 mg/l

12.2. Persistence and Degradability

No data available

12.3. Bio-accumulative Potential

No data available

12.4. Mobility in Soil

No data available

12.5. Other Adverse Ecological Effects

Do not allow material to enter surface waters, wastewater or soil. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13. Disposal considerations

13.1 Waste Disposal Method

The generation of waste should be avoided or minimized whenever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should always comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

RCRA F-Series: No listings above the reportable threshold (de minimis)

RCRA U-Series: No listings above the reportable threshold (de minimis)

SECTION 14: Transport information

DOT(US)

Not regulated

TDG

Not regulated

IATA

Not regulated

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for substance or mixture

U. S. Federal Regulations

OSHA Hazard Communication Standard: This material is not classified as hazardous in accordance with OSHA 29 CFR 1910-1200.

OSHA Process Safety Management Standard: This product is not regulated under OSHA PSM Standard 29 CFR 1910.119.

EPA Risk Management Planning Standard: This product is not regulated under EPA RMP Standard (RMP) 40 CFR Part 68.

EPA Federal Insecticide, Fungicide and Rodenticide Act: This product is not a registered Pesticide under the FIFRA, 40 CFR Part 150.

Toxic Substance Control Act (TSCA) Inventory: All components of this product are listed on the TSCA Inventory. This product is not subject to TSCA 12(b) Export Notification.

Drug Enforcement Administration (DEA) List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.4(f)(2)) and Chemical Code Number: No listings

Drug Enforcement Administration (DEA) Lists 1 & 2, Exempt Chemical Mixtures (21 CFR 1310.12(c)) and Code Number: No listings

Department of Homeland Security (DHS) Chemical Facility Anti-Terrorism Standards (CFATS) Chemicals: No listings

Superfund Amendments and Reauthorization Act (SARA)

SARA Section 311/312 Hazard Categories: Acute Health Hazard

SARA 313 Information: None of the components of this product are subject to the reporting levels established by Section 313 of the Emergency

Planning and Community Right-to Know Act of 1986.

SARA 302/304 Extremely Hazardous Substance: None of the components of this product exceed the threshold (de minimis) reporting levels established by these sections of Title III of SARA.

SARA 302/304 Emergency Planning & Notification: None of the components of this product exceed the threshold (de minimis) reporting levels established by these sections of Title III of SARA.

Comprehensive Response Compensation and Liability Act (CERCLA): This product contains no CERCLA reportable substances.

Clean Air Act (CAA)

This product does not contain Hazardous Air Pollutants (HAPs) designated in CAA Section 112 (b).

This product does not contain Class 1 ozone depletors.

This product does not contain Class 2 ozone depletors.

Clean Water Act (CWA)

This product does not contain Hazardous Substances listed under the CWA.

This product does not contain Priority Pollutants.

This product does not contain Toxic pollutants.

U.S. State Regulations

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986

This product contains no chemical(s) known to the state of California to cause cancer birth defects or reproductive harm in concentrations that exceed the threshold (de minimis) reporting levels established under Proposition 65.

Other U.S. State Inventories

This material is not listed on any State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists.

Canada

WHMIS Hazard Classification

Not a dangerous product according to HPR classification criteria

Canadian National Pollutant Release Inventory (NPRI): This material is not listed on the NPRI.

European Economic Community

WGK, Germany (Water danger/protection): 2 (hazardous to waters)

International Inventories

Country	Inventory Name	Listed
Canada	Domestic Substance List (DSL)	Yes
Canada	Non-Domestic Substance List (NDSL)	No
Europe	Inventory of New and Existing Chemicals (EINECS)	Yes
United States	Toxic Substance Control Act (TSCA)	Yes
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (KECI)	Yes
Philippines	Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Yes

Component	TSCA	DSL	NDSL	EINECS	NZIoC	NLP	PICCS	ENCS	AICS	IECSC	KECI
	X	X		Y	Y		Y	Y	Y	Y	Y

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

Other International Regulations

Not available

SECTION 16: Other information

Date of issue: 12/29/2023

Revision: None

SECTION 17: Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.