

## SAFETY DATA SHEET

Creation Date 21-Jan-2011

Revision Date 29-Mar-2024

Revision Number 5

### 1. Identification

**Product Name** Potassium cyanide

**Cat No. :** L13273

**CAS No** 151-50-8  
**Synonyms** Cyanide of potassium; Hydrocyanic acid, potassium salt; KCN.

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.

#### Details of the supplier of the safety data sheet

##### Company

Thermo Fisher Scientific Chemicals, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757

##### **Emergency Telephone Number**

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

### 2. Hazard(s) identification

#### **Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

|  |            |
|--|------------|
| Corrosive to metals                                  | Category 1 |
| Acute oral toxicity                                  | Category 1 |
| Acute dermal toxicity                                | Category 1 |
| Acute Inhalation Toxicity - Dusts and Mists          | Category 1 |
| Specific target organ toxicity - (repeated exposure) | Category 1 |
| Target Organs - Heart, Cardiovascular system.        |            |

#### Label Elements

##### **Signal Word**

Danger

##### **Hazard Statements**

May be corrosive to metals  
Causes damage to organs through prolonged or repeated exposure

Fatal if swallowed, in contact with skin or if inhaled



### Precautionary Statements

#### Prevention

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Do not get in eyes, on skin, or on clothing  
Wear protective gloves/protective clothing/eye protection/face protection  
Do not breathe dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
Wear respiratory protection  
Keep only in original container

#### Response

Get medical attention/advice if you feel unwell

#### Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
Immediately call a POISON CENTER or doctor/physician

#### Skin

Immediately call a POISON CENTER or doctor/physician  
IF ON SKIN: Gently wash with plenty of soap and water  
Remove/Take off immediately all contaminated clothing  
Wash contaminated clothing before reuse

#### Ingestion

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
Rinse mouth

#### Spills

Absorb spillage to prevent material damage

#### Storage

Store locked up  
Store in a well-ventilated place. Keep container tightly closed  
Store in corrosive resistant polypropylene container with a resistant inliner  
Store in a dry place

#### Disposal

Dispose of contents/container to an approved waste disposal plant

#### Hazards not otherwise classified (HNOC)

Very toxic to aquatic life with long lasting effects  
Contact with acids liberates very toxic gas  
WARNING. Reproductive Harm - <https://www.p65warnings.ca.gov/>.

## 3. Composition/Information on Ingredients

| Component         | CAS No   | Weight % |
|-------------------|----------|----------|
| Potassium cyanide | 151-50-8 | >95      |

## 4. First-aid measures

### General Advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

### Eye Contact

In the case of contact with eyes, rinse immediately with plenty of water and seek medical

|  |   |
|--|---|
|  | advice. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  |
| <b>Skin Contact</b>                        | Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.   |
| <b>Inhalation</b>                          | Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.                        |
| <b>Ingestion</b>                           | Do NOT induce vomiting. Call a physician or poison control center immediately.  |
| <b>Most important symptoms and effects</b> | Systemic Toxicity: Respiratory disorders: Symptoms may include tightness in the chest, flushing, headache, nausea, vomiting, respiratory depression, weakness, irregular heartbeat, abdominal pain, convulsions, and shock: May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood): Exposure may result in death |
| <b>Notes to Physician</b>                  | Treat symptomatically   |

## 5. Fire-fighting measures

|   |   |
|---|---|
| <b>Suitable Extinguishing Media</b>     | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| <b>Unsuitable Extinguishing Media</b>   | No information available  |
| <b>Flash Point</b>                      | No information available  |
| <b>Method -</b>                         | No information available  |
| <b>Autoignition Temperature</b>         | Not applicable  |
| <b>Explosion Limits</b>                 |   |
| <b>Upper</b>                            | No data available   |
| <b>Lower</b>                            | No data available   |
| <b>Sensitivity to Mechanical Impact</b> | No information available  |
| <b>Sensitivity to Static Discharge</b>  | No information available  |

### Specific Hazards Arising from the Chemical

Non-combustible. Do not allow run-off from fire-fighting to enter drains or water courses.

### Hazardous Combustion Products

Nitrogen oxides (NOx). Hydrogen cyanide (hydrocyanic acid). Potassium oxides.

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

### NFPA

**Health**  
4

**Flammability**  
0

**Instability**  
1

**Physical hazards**  
N/A

## 6. Accidental release measures

|   |   |
|---|---|
| <b>Personal Precautions</b>                 | Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. |
| <b>Environmental Precautions</b>            | Should not be released into the environment.  |
| <b>Methods for Containment and Clean Up</b> | Sweep up and shovel into suitable containers for disposal. Avoid dust formation.  |

## 7. Handling and storage

|                 |  |
|-----------------|--|
| <b>Handling</b> | Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/face protection. Avoid dust formation. Use only under a chemical fume hood. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance.   |
| <b>Storage.</b> | Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep locked up. Keep away from acids. Keep away from combustible material. Do not store in aluminum containers. Incompatible Materials. Acids. Strong oxidizing agents. Bases. Finely powdered metals. Aldehydes. Peroxides. Metals. |

## 8. Exposure controls / personal protection

### Exposure Guidelines

| Component         | ACGIH TLV                            | OSHA PEL                           | NIOSH  | Mexico OEL (TWA)             |
|-------------------|--------------------------------------|------------------------------------|--|------------------------------|
| Potassium cyanide | Ceiling: 5 mg/m <sup>3</sup><br>Skin | (Vacated) TWA: 5 mg/m <sup>3</sup> | IDLH: 25 mg/m <sup>3</sup><br>Ceiling: 4.7 ppm<br>Ceiling: 5 mg/m <sup>3</sup> | Ceiling: 5 mg/m <sup>3</sup> |

### Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH: NIOSH - National Institute for Occupational Safety and Health

|                             |   |
|-----------------------------|---|
| <b>Engineering Measures</b> | Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. |
|-----------------------------|---|

### Personal Protective Equipment

|                                 |   |
|---------------------------------|---|
| <b>Eye/face Protection</b>      | Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.   |
| <b>Skin and body protection</b> | Wear appropriate protective gloves and clothing to prevent skin exposure.   |
| <b>Respiratory Protection</b>   | Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. |
| <b>Recommended Filter type:</b> | Particulates filter conforming to EN 143.   |
| <b>Hygiene Measures</b>         | Handle in accordance with good industrial hygiene and safety practice.  |

## 9. Physical and chemical properties

|   |                            |
|---|----------------------------|
| <b>Physical State</b>                   | Powder Solid               |
| <b>Appearance</b>                       | White                      |
| <b>Odor</b>                             | bitter almonds             |
| <b>Odor Threshold</b>                   | No information available   |
| <b>pH</b>                               | 11-12 20 g/l aq.sol.(20°C) |
| <b>Melting Point/Range</b>              | 634 °C / 1173.2 °F         |
| <b>Boiling Point/Range</b>              | 1625 °C / 2957 °F          |
| <b>Flash Point</b>                      | No information available   |
| <b>Evaporation Rate</b>                 | Not applicable             |
| <b>Flammability (solid,gas)</b>         | No information available   |
| <b>Flammability or explosive limits</b> |                            |
| <b>Upper</b>                            | No data available          |
| <b>Lower</b>                            | No data available          |

|  |                          |
|--|--------------------------|
| Vapor Pressure                         | No information available |
| Vapor Density                          | Not applicable           |
| Specific Gravity                       | 1.52 @ 16°C              |
| Solubility                             | Soluble in water         |
| Partition coefficient; n-octanol/water | No data available        |
| Autoignition Temperature               | Not applicable           |
| Decomposition Temperature              | No information available |
| Viscosity                              | Not applicable           |
| Molecular Formula                      | C K N                    |
| Molecular Weight                       | 65.12                    |

## 10. Stability and reactivity

|                                  |   |
|----------------------------------|---|
| Reactive Hazard                  | Yes   |
| Stability                        | Moisture sensitive.   |
| Conditions to Avoid              | Excess heat. Burning produces obnoxious and toxic fumes. Incompatible products. Exposure to light. Exposure to moist air or water. Exposure to air. |
| Incompatible Materials           | Acids, Strong oxidizing agents, Bases, Finely powdered metals, Aldehydes, Peroxides, Metals   |
| Hazardous Decomposition Products | Nitrogen oxides (NOx), Hydrogen cyanide (hydrocyanic acid), Potassium oxides  |
| Hazardous Polymerization         | Hazardous polymerization does not occur.  |
| Hazardous Reactions              | None under normal processing.   |

## 11. Toxicological information

### Acute Toxicity

#### Product Information Component Information

| Component         | LD50 Oral                 | LD50 Dermal                  | LC50 Inhalation              |
|-------------------|---------------------------|------------------------------|------------------------------|
| Potassium cyanide | LD50 = 7.49 mg/kg ( Rat ) | LD50 = 22.3 mg/kg ( Rabbit ) | LC50 = 0.16 mg/L ( Rat ) 1 h |

**Toxicologically Synergistic Products** No information available

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

|                 |  |
|-----------------|--|
| Irritation      | Irritating to eyes, respiratory system and skin  |
| Sensitization   | No information available   |
| Carcinogenicity | The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Component         | CAS No   | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|-------------------|----------|------------|------------|------------|------------|------------|
| Potassium cyanide | 151-50-8 | Not listed | Not listed | Not listed | Not listed | Not listed |

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known  
**STOT - repeated exposure** Heart Cardiovascular system

|   |   |
|---|---|
| <b>Aspiration hazard</b>                          | No information available  |
| <b>Symptoms / effects, both acute and delayed</b> | Systemic Toxicity: Respiratory disorders: Symptoms may include tightness in the chest, flushing, headache, nausea, vomiting, respiratory depression, weakness, irregular heartbeat, abdominal pain, convulsions, and shock: May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood): Exposure may result in death |
| <b>Endocrine Disruptor Information</b>            | No information available  |
| <b>Other Adverse Effects</b>                      | The toxicological properties have not been fully investigated.  |

## 12. Ecological information

### Ecotoxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

| Component         | Freshwater Algae | Freshwater Fish  | Microtox   | Water Flea |
|-------------------|------------------|--|------------|------------|
| Potassium cyanide | Not listed       | LC50: 0.31 - 0.37 mg/L, 96h static (Pimephales promelas)<br>LC50: = 0.0588 mg/L, 96h flow-through (Poecilia reticulata)<br>LC50: 0.45 - 0.57 mg/L, 96h flow-through (Lepomis macrochirus)<br>LC50: = 0.45 mg/L, 96h (Lepomis macrochirus)<br>LC50: 0.01 - 0.08 mg/L, 96h static (Lepomis macrochirus)<br>LC50: 0.044 - 0.084 mg/L, 96h static (Oncorhynchus mykiss)<br>LC50: 0.04 - 0.046 mg/L, 96h flow-through (Oncorhynchus mykiss) | Not listed | Not listed |

**Persistence and Degradability** Soluble in water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its water solubility.

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

| Component                    | RCRA - U Series Wastes | RCRA - P Series Wastes  |
|------------------------------|------------------------|-------------------------|
| Potassium cyanide - 151-50-8 | -                      | not otherwise specified |

## 14. Transport information

### DOT

|                             |                          |
|-----------------------------|--------------------------|
| <b>UN-No</b>                | UN1680                   |
| <b>Proper Shipping Name</b> | POTASSIUM CYANIDE, SOLID |
| <b>Hazard Class</b>         | 6.1                      |
| <b>Packing Group</b>        | I                        |

### TDG

|                             |                          |
|-----------------------------|--------------------------|
| <b>UN-No</b>                | UN1680                   |
| <b>Proper Shipping Name</b> | POTASSIUM CYANIDE, SOLID |

|                             |                          |
|-----------------------------|--------------------------|
| <b>Hazard Class</b>         | 6.1                      |
| <b>Packing Group</b>        | I                        |
| <b>IATA</b>                 |                          |
| <b>UN-No</b>                | UN1680                   |
| <b>Proper Shipping Name</b> | POTASSIUM CYANIDE, SOLID |
| <b>Hazard Class</b>         | 6.1                      |
| <b>Packing Group</b>        | I                        |
| <b>IMDG/IMO</b>             |                          |
| <b>UN-No</b>                | UN1680                   |
| <b>Proper Shipping Name</b> | POTASSIUM CYANIDE, SOLID |
| <b>Hazard Class</b>         | 6.1                      |
| <b>Packing Group</b>        | I                        |

## 15. Regulatory information

### United States of America Inventory

| Component         | CAS No   | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|-------------------|----------|------|---|-----------------------------|
| Potassium cyanide | 151-50-8 | X    | ACTIVE  | -                           |

#### Legend:

**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

#### TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)

Not applicable

#### TSCA 12(b) - Notices of Export

Not applicable

### International Inventories

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component         | CAS No   | DSL | NDL | EINECS    | PICCS | ENCS | ISHL | AICS | IECSC | KECL     |
|-------------------|----------|-----|-----|-----------|-------|------|------|------|-------|----------|
| Potassium cyanide | 151-50-8 | X   | -   | 205-792-3 | X     | X    | X    | X    | X     | KE-29092 |

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

### U.S. Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

| Component         | CAS No   | Weight % | SARA 313 - Threshold Values % | SARA 313 - Reporting thresholds |
|-------------------|----------|----------|-------------------------------|---------------------------------|
| Potassium cyanide | 151-50-8 | >95      | 1.0 %                         | -                               |

#### SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

### CWA (Clean Water Act)

| Component         | CWA - Hazardous Substances | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants |
|-------------------|----------------------------|-----------------------------|------------------------|---------------------------|
| Potassium cyanide | X                          | 10 lb                       | X                      | X                         |

### Clean Air Act

| Component | HAPS Data | Class 1 Ozone Depletors | Class 2 Ozone Depletors |
|-----------|-----------|-------------------------|-------------------------|
|-----------|-----------|-------------------------|-------------------------|

|                   |   |  |   |
|-------------------|---|--|---|
| Potassium cyanide | X |  | - |
|-------------------|---|--|---|

OSHA - Occupational Safety and Health Administration Not applicable

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

| Component         | Hazardous Substances RQs | CERCLA Extremely Hazardous Substances RQs | SARA Reportable Quantity (RQ) |
|-------------------|--------------------------|---|-------------------------------|
| Potassium cyanide | 10 lb                    | 10 lb                                     | 10 lb<br>4.54 kg              |

**California Proposition 65** This product contains the following Proposition 65 chemicals.

| Component         | CAS No   | California Prop. 65 | Prop 65 NSRL | Category      |
|-------------------|----------|---------------------|--------------|---------------|
| Potassium cyanide | 151-50-8 | Male Reproductive   | -            | Developmental |

**U.S. State Right-to-Know Regulations**

| Component         | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-------------------|---------------|------------|--------------|----------|--------------|
| Potassium cyanide | X             | X          | X            | X        | X            |

**U.S. Department of Transportation**

Reportable Quantity (RQ): Y  
DOT Marine Pollutant Y  
DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security**

This product contains the following DHS chemicals:  
**Legend** - STQs = Screening Threshold Quantities, APA = A placarded amount

| Component         | DHS Chemical Facility Anti-Terrorism Standard |
|-------------------|---|
| Potassium cyanide | APA   |

**Other International Regulations**

**Mexico - Grade** No information available

**Authorisation/Restrictions according to EU REACH**

| Component         | CAS No   | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|-------------------|----------|---|---|---|
| Potassium cyanide | 151-50-8 | -   | Use restricted. See item 75.<br>(see link for restriction details)            | -   |

**REACH links**

<https://echa.europa.eu/substances-restricted-under-reach>

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

| Component | CAS No | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous |
|-----------|--------|----------|------------------------------|---------------------------|--------------------------|
|-----------|--------|----------|------------------------------|---------------------------|--------------------------|



|                   |          |        |                |                | Substances (RoHS) |
|-------------------|----------|--------|----------------|----------------|-------------------|
| Potassium cyanide | 151-50-8 | Listed | Not applicable | Not applicable | Not applicable    |

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

#### Other International Regulations

| Component         | CAS No   | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|-------------------|----------|---|--|----------------------------|------------------------------------|
| Potassium cyanide | 151-50-8 | Not applicable  | Not applicable   | Not applicable             | Annex I - Y33                      |

### 16. Other information

**Prepared By** Health, Safety and Environmental Department  
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www.thermofisher.com

**Creation Date** 21-Jan-2011  
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**Print Date** 29-Mar-2024  
**Revision Summary** New emergency telephone response service provider.

#### Disclaimer

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text

**End of SDS**