

## Safety Data Sheet

acc. to OSHA HCS

Printing date 08/16/2019

Reviewed on 08/16/2019

### 1 Identification

- **Product identifier**
- **Trade name:** Cyanide 100µg/mL in 2%KOH
- **Article number:** IC-CN
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 High-Purity Standards  
 PO Box 41727 Charleston, SC 29423 United States  
 Telephone: +1-843-767-7900  
 Fax: +1-843-767-7906  
 highpuritystandards.com  
 Email: info@highpuritystandards.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
 INFOTRAC  
 Emergency telephone numbers 1-800-535-5053  
 Other emergency telephone numbers 1-352-323-3500

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
 potassium hydroxide
- **Hazard statements**  
 H314 Causes severe skin burns and eye damage.
- **Precautionary statements**  
 Do not breathe dusts or mists.  
 Wash thoroughly after handling.  
 Wear protective gloves/protective clothing/eye protection/face protection.  
 If swallowed: Rinse mouth. Do NOT induce vomiting.  
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
 Continue rinsing.

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Immediately call a poison center/doctor.

Specific treatment (see on this label).

Wash contaminated clothing before reuse.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

|                                                             |                                                     |        |
|-------------------------------------------------------------|-----------------------------------------------------|--------|
| 1310-58-3                                                   | potassium hydroxide                                 | 2.0%   |
| <b>Chemical identification of the substance/preparation</b> |                                                     |        |
| 7732-18-5                                                   | water, distilled, conductivity or of similar purity | 97.99% |
| 151-50-8                                                    | potassium cyanide                                   | 0.01%  |

### 4 First-aid measures

· **Description of first aid measures**

· **General information:** Immediately remove any clothing soiled by the product.

· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:** Drink copious amounts of water and provide fresh air. Immediately call a doctor.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

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### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**  
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Mount respiratory protective device.  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

#### · PAC-1:

|           |                     |                        |
|-----------|---------------------|------------------------|
| 1310-58-3 | potassium hydroxide | 0.18 mg/m <sup>3</sup> |
| 151-50-8  | potassium cyanide   | 5.3 mg/m <sup>3</sup>  |

#### · PAC-2:

|           |                     |                      |
|-----------|---------------------|----------------------|
| 1310-58-3 | potassium hydroxide | 2 mg/m <sup>3</sup>  |
| 151-50-8  | potassium cyanide   | 19 mg/m <sup>3</sup> |

#### · PAC-3:

|           |                     |                      |
|-----------|---------------------|----------------------|
| 1310-58-3 | potassium hydroxide | 54 mg/m <sup>3</sup> |
| 151-50-8  | potassium cyanide   | 40 mg/m <sup>3</sup> |

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.

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- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

**1310-58-3 potassium hydroxide**

REL Ceiling limit value: 2 mg/m<sup>3</sup>

TLV Ceiling limit value: 2 mg/m<sup>3</sup>

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
  - Keep away from foodstuffs, beverages and feed.
  - Immediately remove all soiled and contaminated clothing.
  - Wash hands before breaks and at the end of work.
  - Avoid contact with the eyes.
  - Avoid contact with the eyes and skin.
- **Breathing equipment:**
  - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

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### 9 Physical and chemical properties

|                                                                |                                               |
|----------------------------------------------------------------|-----------------------------------------------|
| · <b>Information on basic physical and chemical properties</b> |                                               |
| · <b>General Information</b>                                   |                                               |
| · <b>Appearance:</b>                                           |                                               |
| <b>Form:</b>                                                   | Liquid                                        |
| <b>Color:</b>                                                  | colorless                                     |
| · <b>Odor:</b>                                                 | Characteristic                                |
| · <b>Odor threshold:</b>                                       | Not determined.                               |
| · <b>pH-value:</b>                                             | Not determined.                               |
| · <b>Change in condition</b>                                   |                                               |
| <b>Melting point/Melting range:</b>                            | Undetermined.                                 |
| <b>Boiling point/Boiling range:</b>                            | 100 °C (212 °F)                               |
| · <b>Flash point:</b>                                          | Not applicable.                               |
| · <b>Flammability (solid, gaseous):</b>                        | Not applicable.                               |
| · <b>Decomposition temperature:</b>                            | Not determined.                               |
| · <b>Auto igniting:</b>                                        | Product is not selfigniting.                  |
| · <b>Danger of explosion:</b>                                  | Product does not present an explosion hazard. |
| · <b>Explosion limits:</b>                                     |                                               |
| <b>Lower:</b>                                                  | Not determined.                               |
| <b>Upper:</b>                                                  | Not determined.                               |
| · <b>Vapor pressure at 20 °C (68 °F):</b>                      | 23 hPa (17.3 mm Hg)                           |
| · <b>Density at 20 °C (68 °F):</b>                             | 1.02086 g/cm <sup>3</sup> (8.51908 lbs/gal)   |
| · <b>Bulk density:</b>                                         | 1,021 kg/m <sup>3</sup>                       |
| · <b>Relative density</b>                                      | Not determined.                               |
| · <b>Vapor density</b>                                         | Not determined.                               |
| · <b>Evaporation rate</b>                                      | Not determined.                               |
| · <b>Solubility in / Miscibility with</b>                      |                                               |
| <b>Water:</b>                                                  | Fully miscible.                               |
| · <b>Partition coefficient (n-octanol/water):</b>              | Not determined.                               |
| · <b>Viscosity:</b>                                            |                                               |
| <b>Dynamic:</b>                                                | Not determined.                               |
| <b>Kinematic:</b>                                              | Not determined.                               |
| · <b>Solvent content:</b>                                      |                                               |
| <b>Water:</b>                                                  | 98.0 %                                        |
| <b>VOC content:</b>                                            | 0.00 %                                        |
|                                                                | 0.0 g/l / 0.00 lb/gal                         |
| <b>Solids content:</b>                                         | 2.0 %                                         |
| · <b>Other information</b>                                     | No further relevant information available.    |

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### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

1310-58-3 potassium hydroxide

Oral LD50 273 mg/kg (rat)

- **Primary irritant effect:**

- **on the skin:** Caustic effect on skin and mucous membranes.

- **on the eye:**

Strong caustic effect.

Strong irritant with the danger of severe eye injury.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

### 12 Ecological information

- **Toxicity**

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability** No further relevant information available.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

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- **Additional ecological information:**
- **General notes:**  
Not hazardous for water.  
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

|                                     |                                                                                     |
|-------------------------------------|-------------------------------------------------------------------------------------|
| · <b>UN-Number</b>                  |                                                                                     |
| · <b>DOT, ADR, IMDG, IATA</b>       | UN1719                                                                              |
| · <b>UN proper shipping name</b>    |                                                                                     |
| · <b>DOT</b>                        | Caustic alkali liquids, n.o.s. (Potassium hydroxide)                                |
| · <b>ADR</b>                        | 1719 CAUSTIC ALKALI LIQUID, N.O.S. (POTASSIUM HYDROXIDE)                            |
| · <b>IMDG, IATA</b>                 | CAUSTIC ALKALI LIQUID, N.O.S. (POTASSIUM HYDROXIDE)                                 |
| · <b>Transport hazard class(es)</b> |                                                                                     |
| · <b>DOT</b>                        |                                                                                     |
|                                     |  |
| · <b>Class</b>                      | 8 Corrosive substances                                                              |
| · <b>Label</b>                      | 8                                                                                   |
| · <b>ADR, IMDG, IATA</b>            |                                                                                     |
|                                     |  |
| · <b>Class</b>                      | 8 Corrosive substances                                                              |
| · <b>Label</b>                      | 8                                                                                   |
| · <b>Packing group</b>              |                                                                                     |
| · <b>DOT, ADR, IMDG, IATA</b>       | II                                                                                  |

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|                                                                                   |                                                                                                                 |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| · <b>Environmental hazards:</b>                                                   | Not applicable.                                                                                                 |
| · <b>Special precautions for user</b>                                             | Warning: Corrosive substances                                                                                   |
| · <b>Danger code (Kemler):</b>                                                    | 80                                                                                                              |
| · <b>EMS Number:</b>                                                              | F-A,S-B                                                                                                         |
| · <b>Segregation groups</b>                                                       | Alkalis                                                                                                         |
| · <b>Stowage Category</b>                                                         | A                                                                                                               |
| · <b>Segregation Code</b>                                                         | SG22 Stow "away from" ammonium salts<br>SG35 Stow "separated from" SGG1-acids                                   |
| · <b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b> | Not applicable.                                                                                                 |
| · <b>Transport/Additional information:</b>                                        |                                                                                                                 |
| · <b>DOT</b>                                                                      |                                                                                                                 |
| · <b>Quantity limitations</b>                                                     | On passenger aircraft/rail: 1 L<br>On cargo aircraft only: 30 L                                                 |
| · <b>ADR</b>                                                                      |                                                                                                                 |
| · <b>Excepted quantities (EQ)</b>                                                 | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · <b>IMDG</b>                                                                     |                                                                                                                 |
| · <b>Limited quantities (LQ)</b>                                                  | 1L                                                                                                              |
| · <b>Excepted quantities (EQ)</b>                                                 | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · <b>UN "Model Regulation":</b>                                                   | UN 1719 CAUSTIC ALKALI LIQUID, N.O.S. (POTASSIUM HYDROXIDE), 8, II                                              |

### 15 Regulatory information

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

#### · Section 355 (extremely hazardous substances):

151-50-8 | potassium cyanide

#### · Section 313 (Specific toxic chemical listings):

151-50-8 | potassium cyanide

#### · TSCA (Toxic Substances Control Act):

All components have the value ACTIVE.

#### · Hazardous Air Pollutants

151-50-8 | potassium cyanide

#### · Proposition 65

#### · Chemicals known to cause cancer:

None of the ingredients is listed.

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· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

151-50-8 | potassium cyanide

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

151-50-8 | potassium cyanide

II

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS05

· **Signal word** Danger

· **Hazard-determining components of labeling:**

potassium hydroxide

· **Hazard statements**

H314 Causes severe skin burns and eye damage.

· **Precautionary statements**

Do not breathe dusts or mists.

Wash thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Rinse mouth. Do NOT induce vomiting.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a poison center/doctor.

Specific treatment (see on this label).

Wash contaminated clothing before reuse.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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- **Department issuing SDS:** Environment protection department.

- **Contact:**

High-Purity Standards

Tel: 843-767-7900

Fax: 843-767-7906

- **Date of preparation / last revision** 08/16/2019 / -

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Eye Dam. 1: Serious eye damage/eye irritation – Category 1