



SAFETY DATA SHEET

1. Identification

Product identifier Cyanide Standard, 4 ppm CN⁻

Other means of identification

Product code 254040

Recommended use Laboratory reagent

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company name YSI, a Xylem brand

Address 1725 Brannum Lane
Yellow Springs, OH 45387
United States of America

Telephone 937-767-7241

Emergency telephone CHEMTREC (24 hour)
1-800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2A

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement Causes skin irritation. Causes serious eye irritation.

Precautionary statement

Prevention Wash thoroughly after handling. Wear protective gloves/eye protection/face protection.

Response If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Sodium hydroxide	1310-73-2	1
Potassium cyanide	151-50-8	< 0.001

All concentrations are in percent by weight.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Use any media suitable for the surrounding fires.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	The product is non-combustible.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist/vapors/spray. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to mist or vapors at levels exceeding the exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Absorb in vermiculite, dry sand or earth and place into containers. Shovel the material into waste container. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store in a well-ventilated place. Refrigeration recommended. Store away from incompatible materials (see Section 10 of the SDS). Protect from freezing. Protect against physical damage.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Potassium cyanide (CAS 151-50-8)	PEL	5 mg/m ³

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m ³

US. ACGIH Threshold Limit Values

Components	Type	Value
Potassium cyanide (CAS 151-50-8)	Ceiling	5 mg/m ³
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m ³

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Potassium cyanide (CAS 151-50-8)	Ceiling	5 mg/m ³ 4.7 ppm
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m ³

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines**US - California OELs: Skin designation**

Potassium cyanide (CAS 151-50-8) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Potassium cyanide (CAS 151-50-8) Skin designation applies.

US ACGIH Threshold Limit Values: Skin designation

Potassium cyanide (CAS 151-50-8) Danger of cutaneous absorption

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Potassium cyanide (CAS 151-50-8) Can be absorbed through the skin.

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of vapors/mists below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Face shield is recommended.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Skin protection

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties**Appearance**

Physical state Liquid.
Form Liquid.

Color	Colorless.
Odor	Not available.
Odor threshold	Not available.
pH	Alkaline
Melting point/freezing point	32 °F (0 °C) Approximately
Initial boiling point and boiling range	212 °F (100 °C) Approximately
Flash point	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not applicable.
Explosive limit - upper (%)	Not applicable.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	1
Solubility(ies)	
Solubility (water)	Miscible
Partition coefficient (n-octanol/water)	Not applicable for mixtures.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not available.
Viscosity	Same as water
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Contact with acids generates toxic cyanide gas.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Avoid contact with acids and strong oxidizers. Peroxides. Acid salts.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	May cause discomfort if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity	Not expected to be acutely toxic.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Reproductive toxicity Not classified.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
Sodium hydroxide (CAS 1310-73-2)		
Aquatic		
<i>Acute</i>		
Crustacea	EC50 Ceriodaphnia dubia	40.4 mg/l, 48 Hours

Persistence and degradability The product solely consists of inorganic compounds which are not biodegradable.

Bioaccumulative potential No data available.

Mobility in soil This product is miscible in water.

Other adverse effects This product contains one or more substances identified as hazardous air pollutants (HAPs) per the US Federal Clean Air Act (see section 15).

13. Disposal considerations

Disposal instructions Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

US RCRA Hazardous Waste P List: Reference

Potassium cyanide (CAS 151-50-8) P098

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.**15. Regulatory information****US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)Potassium cyanide (CAS 151-50-8) Listed.
Sodium hydroxide (CAS 1310-73-2) Listed.**SARA 304 Emergency release notification**

Potassium cyanide (CAS 151-50-8) 10 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Toxic Substances Control Act (TSCA) All components of the mixture on the TSCA 8(b) inventory are designated "active".**Superfund Amendments and Reauthorization Act of 1986 (SARA)****SARA 302 Extremely hazardous substance**

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
Potassium cyanide	151-50-8	10	100		

SARA 311/312 Hazardous chemical Yes**Classified hazard categories** Skin corrosion or irritation
Serious eye damage or eye irritation**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Potassium cyanide	151-50-8	< 0.001

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Potassium cyanide (CAS 151-50-8)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Contains component(s) regulated under the Safe Drinking Water Act.**US state regulations****US. Massachusetts RTK - Substance List**Potassium cyanide (CAS 151-50-8)
Sodium hydroxide (CAS 1310-73-2)**US. New Jersey Worker and Community Right-to-Know Act**Potassium cyanide (CAS 151-50-8)
Sodium hydroxide (CAS 1310-73-2)**US. Pennsylvania Worker and Community Right-to-Know Law**Potassium cyanide (CAS 151-50-8)
Sodium hydroxide (CAS 1310-73-2)**US. Rhode Island RTK**Potassium cyanide (CAS 151-50-8)
Sodium hydroxide (CAS 1310-73-2)

California Proposition 65

WARNING: This product can expose you to Potassium cyanide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Male reproductive toxin

Potassium cyanide (CAS 151-50-8)

Listed: July 5, 2013

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Potassium cyanide (CAS 151-50-8)

Sodium hydroxide (CAS 1310-73-2)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 21-March-2022
Revision date -
Version # 01
HMIS® ratings Health: 2
 Flammability: 0
 Physical hazard: 0
 Personal protection: D

NFPA ratings**Disclaimer**

YSI, a Xylem brand cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.