



Material Safety Data Sheet Sodium Cyanide, 2.5% w/v

Section 1 - Chemical Product and Company Identification

MSDS Name:

Sodium Cyanide, 2.5% w/v

Catalog Numbers:

LC23700

Synonyms:

None

Company Identification:

LabChem Inc
200 William Pitt Way
Pittsburgh, PA 15238

Company Phone Number:

(412) 826-5230

Emergency Phone Number:

(800) 424-9300

CHEMTREC Phone Number:

(800) 424-9300

Section 2 – Composition, Information on Ingredients

CAS#	Chemical Name:	Percent
7732-18-5	Water	balance
143-33-9	Sodium cyanide	2.5
1310-73-2	Sodium hydroxide	0.5

Section 3 - Hazards Identification

Emergency Overview

Appearance: Clear, colorless solution

Danger! Toxic! Corrosive. May be fatal if swallowed, swallowed, or absorbed through the skin. May cause irritation or burns by all exposure routes. Contact with acids liberates hydrogen cyanide, a very toxic, flammable gas. May cause central nervous system effects.

Target Organs: Central nervous system, lungs, eyes, thyroid, skin

Potential Health Effects

Eye:

May cause irritation, chemical conjunctivitis, or burns. Cyanide can be absorbed through the eyes, causing symptoms similar to those of inhalation.

Skin:

May cause irritation or burns. May be fatal if absorbed through the skin. If absorbed, causes symptoms similar to those of ingestion.



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Ingestion:

May be fatal if swallowed. May cause severe gastrointestinal tract irritation with nausea, vomiting, and possible burns. May cause tissue anoxia, characterized by weakness, headache, dizziness, confusion, cyanosis, weak and irregular heartbeat, collapse, unconsciousness, convulsions, coma, and death. Human fatalities have been reported from acute poisoning. Contact with stomach acid releases poisonous hydrogen cyanide.

Inhalation:

May be fatal if inhaled. May be metabolized to hydrogen cyanide, which in turn acts by inhibiting cytochrome oxidase, impairing cellular respiration. Inhalation may result in tachypnea, abnormally rapid or deep breathing, or labored breathing, followed rapidly by respiratory depression. Pulmonary edema may occur.

Chronic:

May interfere with iodine uptake of the thyroid gland and enlarge it. Chronic exposure to cyanide solutions may lead to the development of a "cyanide rash", with itching and skin eruptions, and may be accompanied by secondary infections. Exposure to small amounts of cyanide compounds over long periods of time is reported to cause loss of appetite, headache, weakness, nausea, dizziness, and irritation of the upper respiratory tract and eyes.

Section 4 - First Aid Measures

Eyes:

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid at once. Do NOT allow victim to rub or keep eyes closed. Treat patient as for inhalation.

Skin:

SPEEDY ACTION IS CRITICAL! Get medical aid at once. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

Ingestion:

SPEEDY ACTION IS CRITICAL! Notify a doctor at once. If swallowed, give 2-4 glasses of water and induce vomiting. Never give anything by mouth to an unconscious person. Get medical aid at once.

Inhalation:

SPEEDY ACTION IS CRITICAL! Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician:

Exposure should be treated as a cyanide poisoning.

Section 5 - Fire Fighting Measures

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear to prevent contact with hazardous thermal decomposition products. Decomposes on heating to form hydrogen cyanide gas. Runoff from fire control or dilution water may cause pollution.

Extinguishing Media:

For small fires, use dry chemical, sand, soda ash, or lime. Do not use carbon dioxide.



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Autoignition Temperature:

Not applicable.

Flash Point:

Not applicable.

NFPA Rating:

CAS# 7732-18-5: Health- 0, Flammability- 0, Instability- 0.

CAS# 143-33-9: Health- 4, Flammability- 0, Instability- 0.

CAS# 1310-73-2: Health- 3, Flammability- 0, Instability- 1.

Explosion Limits:

Lower: n/a Upper: n/a

Section 6 - Accidental Release Measures

General Information:

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Contain if possible, absorb with sand or inert absorbent, and scoop into labeled disposal container. For large spills, dike far ahead of spill for later disposal. Ventilate closed areas before entering.

Section 7 - Handling and Storage

Handling:

Wash thoroughly after handling. Avoid breathing dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Acids should not be used around sodium cyanide. Hydrogen cyanide formation is the greatest potential hazard in using sodium cyanide. Use only with adequate ventilation or respiratory protection. Change contaminated clothing promptly.

Storage:

Store tightly closed in a cool, dry area away from acids and other incompatible substances. Should be stored in locked poison storage.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use process enclosure, local exhaust ventilation, or other engineering controls to keep airborne concentrations below the permissible exposure limits.

Exposure Limits:

Chemical Name:	ACGIH	NIOSH	OSHA
Water	none listed	none listed	none listed
Sodium cyanide	5 mg/m ³ Ceiling (as Cyanide, listed as Hydrogen cyanide and cyanide salts)	25 mg/m ³ IDLH (as Cyanide)	5 mg/m ³ TWA (listed as Cyanide anion)
Sodium hydroxide	2 mg/m ³ Ceiling	10 mg/m ³ IDLH	2 mg/m ³ TWA

OSHA Vacated PELs:

None listed.



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Personal Protective Equipment

Eyes:

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.

Skin:

Wear appropriate gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

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.

Section 9 - Physical and Chemical Properties

Physical State:	Liquid
Color:	Colorless
Odor:	Odorless to faint odor of bitter almond
pH:	Alkaline
Vapor Pressure:	Not available
Vapor Density:	Not available
Evaporation Rate:	Not available
Viscosity:	Not available
Boiling Point:	Not available
Freezing/Melting Point:	Not available
Decomposition Temperature:	Not available
Solubility in water:	Soluble
Specific Gravity/Density:	1.05
Molecular Formula:	Not applicable
Molecular Weight:	Not applicable

Section 10 - Stability and Reactivity

Chemical Stability:

May react with carbon dioxide in the air to form toxic hydrogen cyanide gas. Reacts with acids to form hydrogen cyanide gas.

Conditions to Avoid:

Incompatible materials, high temperatures.

Incompatibilities with Other Materials:

Acids, oxidizing agents, chlorates, nitrites, nitrates, metals.

Hazardous Decomposition Products:

Hydrogen cyanide, sodium hydroxide, sodium oxide, oxides of nitrogen.

Hazardous Polymerization:

Has not been reported.



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Section 11 - Toxicological Information

RTECS:

CAS# 7732-18-5: ZC0110000

CAS# 143-33-9: VZ7525000

CAS# 1310-73-2: WB4900000

LD50/LC50:

CAS# 7732-18-5:

Oral, rat: LD50 = >90 mL/kg

CAS# 143-33-9:

Oral, rat: LD50 = 6440 ug/kg

Skin, rabbit: LD50 = 300 mg/kg

CAS# 1310-73-2:

Draize test, rabbit, eye: 50 ug/24H Severe

Draize test, rabbit, skin: 500 mg/24H Severe

Carcinogenicity:

CAS# 7732-18-5: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.

CAS# 143-33-9: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.

CAS# 1310-73-2: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.

Epidemiology:

Individuals exposed to cyanide long-term experienced headache, weakness, changes in taste and smell, irritation of the throat, vomiting, and effort dyspnea. Enlargement of the thyroid was reported in 50% of the workers.

Teratogenicity:

Teratogenic effects have occurred in experimental animals.

Reproductive:

Adverse reproductive effects have occurred in experimental animals.

Mutagenicity:

Mutagenic effects have occurred in experimental animals.

Neurotoxicity:

Neurotoxic effects have occurred in humans.

Section 12 - Ecological Information

Sodium cyanide is a marine pollutant.

Section 13 - Disposal Considerations

Dispose of in accordance with Federal, State, and local regulations.



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Section 14 - Transport Information

US DOT

Shipping Name: Sodium cyanide solution
Hazard Class: 6.1
UN Number: UN3414
Packing Group: III

Section 15 - Regulatory Information

US Federal

TSCA:

CAS# 7732-18-5 is listed on the TSCA Inventory.
CAS# 143-33-9 is listed on the TSCA Inventory.
CAS# 1310-73-2 is listed on the TSCA inventory.

SARA Reportable Quantities (RQ):

CAS# 143-33-9: final RQ = 10 pounds (4.54 kg)
CAS# 1310-73-2: final RQ = 1000 pounds (454 kg)

CERCLA/SARA Section 313:

None of the chemicals in this product are listed.

OSHA - Highly Hazardous:

None of the chemicals in this product are considered highly hazardous by OSHA.

US State

State Right to Know:

Sodium cyanide can be found on the following state Right-to-Know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

Sodium hydroxide can be found on the following state Right-to-Know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

California Regulations:

None listed.

European/International Regulations

Canadian DSL/NDSL:

CAS# 7732-18-5 is listed on Canada's DSL List.
CAS# 143-33-9 is listed on Canada's DSL List.
CAS# 1310-73-2 is listed on Canada's DSL List.

Canada Ingredient Disclosure List:

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.
CAS# 143-33-9 is listed on Canada's Ingredient Disclosure List as Cyanide Compounds, inorganic, n.o.s.
CAS# 1310-73-2 is listed on the Canadian Ingredient Disclosure List.



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Section 16 - Other Information

MSDS Creation Date: November 22, 1998
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