

Sodium Cyanide

SECTION 1. IDENTIFICATION

Product Identifier	Sodium Cyanide
Other Means of Identification	Hydrocyanic acid sodium salt, NaCN, White cyanide
Product Code(s)	SO2810, SO2815, SO2820
Product Family	Inorganic Solid
Recommended Use	Industrial.
Restrictions on Use	None known.
Supplier Identifier	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
Emergency Phone No.	Infotrac, 1-800-535-5053, 24 Hours
SDS No.	0647

SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

Classification

Acute toxicity (Oral) - Category 2; Acute toxicity (Dermal) - Category 1; Skin corrosion - Category 1; Serious eye damage - Category 1

Label Elements



Signal Word:
Danger

Hazard Statement(s):

Fatal if swallowed.
Fatal in contact with skin.
Causes serious eye damage.
Causes damage to organs.
May cause respiratory irritation.
Causes damage to organs through prolonged or repeated exposure.

Precautionary Statement(s):

Wear protective gloves/protective clothing/eye protection/face protection.
Use only outdoors or in a well-ventilated area.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear respiratory protection.

Response:

IF SWALLOWED: Immediately call a POISON CENTRE or doctor.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN: Wash with plenty of water/

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.

Storage:

Store locked up.

Disposal:

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

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance:

Chemical Name	CAS No.	%	Other Identifiers
Sodium cyanide	143-33-9	> 95	Hydrocyanic acid sodium salt, NaCN, White cyanide

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. Keep at rest in a position comfortable for breathing. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor. Immediately call a Poison Centre or doctor.

Skin Contact

Immediately rinse skin with lukewarm, gently flowing water for at least 30 minutes. Immediately call a Poison Centre or doctor.

Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice or attention.

Ingestion

Rinse mouth with water. Do not induce vomiting. If vomiting occurs, have person lie on side in the recovery position. Rinse mouth with water again. Immediately call a Poison Centre or doctor.

First-aid Comments

Some of the first-aid procedures recommended here require advanced first-aid training. If exposed or concerned, get medical advice or attention.

Most Important Symptoms and Effects, Acute and Delayed

If inhaled: can cause severe irritation of the nose and throat. Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest. In severe cases, death can result.

Immediate Medical Attention and Special Treatment

Special Instructions

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Not combustible. Use extinguishing agent suitable for surrounding fire. Use water to keep non-leaking, fire-exposed containers cool.

Unsuitable Extinguishing Media

DO NOT use carbon dioxide, or other agents that smother the flames. CO₂ reacts to produce hydrogen cyanide if water is present.

Specific Hazards Arising from the Product

Forms toxic chemicals on contact with water. Heating increases the release of toxic vapour. Closed containers may rupture violently when heated releasing contents.

In a fire, the following hazardous materials may be generated: extremely hazardous hydrogen cyanide; corrosive, flammable ammonia.

Special Protective Equipment and Precautions for Fire-fighters

Evacuate area. Fight fire from a protected, explosion-resistant location or maximum distance possible. Approach fire from upwind to avoid hazardous vapours or gases. Knock down vapours or gases with water fog or fine water spray. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles. Dike and recover contaminated water for appropriate disposal. Before entry, especially into confined areas, use an appropriate monitor to check for: toxic gases or vapours.

Chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Evacuate downwind locations. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Remove or isolate incompatible materials as well as other hazardous materials. Eliminate all ignition sources if safe to do so.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Stop or reduce leak if safe to do so.

Solid spills: avoid generating dust. Contain spill with earth, sand, or absorbent material which does not react with spilled material. Collect using shovel/scoop or approved HEPA vacuum and place in a suitable container for disposal.

Small spills of solutions: contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal.

Large spills or leaks: contact emergency services and manufacturer/supplier for advice.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Wear personal protective equipment to avoid direct contact with this chemical. Do not breathe in this product. Only use where there is adequate ventilation. Avoid generating vapours or mists. Avoid generating dusts. Avoid release to the environment. Prevent uncontrolled release of product. Immediately report leaks, spills or failures of the safety equipment (e.g. ventilation system). Keep smallest practical amount in work area. Prevent accidental contact with incompatible chemicals. Keep containers tightly closed when not in use or empty. Never return unused or contaminated product to its original container. Wash hands thoroughly after handling this material.

Conditions for Safe Storage

Store in an area that is: cool, dry, well-ventilated, out of direct sunlight and away from heat and ignition sources, separate from incompatible materials (see Section 10: Stability and Reactivity). Keep amount in storage to a minimum. Store in the original, labelled, shipping container. Protect from conditions listed in Conditions to Avoid in Section 10 (Stability and Reactivity). Regularly inspect for physical changes or signs of crystallization, damage or leaks. Have escape-type respiratory protective equipment readily available, in case of leaks or spills.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA

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Sodium cyanide		5 mg/m3	Not established			
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Appropriate Engineering Controls

Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Exhaust directly to the outside, taking any necessary precautions for environmental protection. Use stringent control measures such as process enclosure to prevent product release into the workplace.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots. Wear a chemical splash suit and respiratory protection.

Suitable materials are: butyl rubber, natural rubber, neoprene rubber, nitrile rubber, polyvinyl chloride, Viton®, Viton®/butyl rubber, Tychem® SL (Saranex™).

Respiratory Protection

Wear a NIOSH approved air-purifying respirator with N100, R100, or P100 filter(s), wear a NIOSH approved air-purifying respirator with an appropriate cartridge. This respirator does not protect against oxygen-deficient atmospheres. If the oxygen content of the air is below acceptable limits, wear a NIOSH approved self-contained breathing apparatus (SCBA) or supplied air respirator.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	White flakes. Absorbs moisture from the air.
Odour	Odourless
Odour Threshold	0.6 - 4.5 ppm
pH	11.7 (10% solution)
Melting Point/Freezing Point	563 °C (1045 °F) (melting); 563 °C (1045 °F) (freezing)
Initial Boiling Point/Range	1496 °C (2725 °F)
Flash Point	Not applicable
Evaporation Rate	Not applicable
Flammability (solid, gas)	Will not burn.
Upper/Lower Flammability or Explosive Limit	Not applicable (upper); Not applicable (lower)
Vapour Pressure	~ 0 kPa (0 mm Hg) at 20 °C
Vapour Density (air = 1)	Not applicable
Relative Density (water = 1)	1.6 at 20 °C
Solubility	Very soluble in water; Mildly soluble in alcohols (e.g. ethanol).
Partition Coefficient, n-Octanol/Water (Log Kow)	-1.69
Auto-ignition Temperature	Not applicable
Decomposition Temperature	Not available
Viscosity	Not available (kinematic); Not applicable (dynamic)
Other Information	
Physical State	Solid

SECTION 10. STABILITY AND REACTIVITY

Reactivity

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In contact with water, releases flammable gas. In contact with water, releases a gas that presents a health hazard.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None known.

Conditions to Avoid

Heat. Water, moisture or humidity. Acidic conditions (low pH).

Incompatible Materials

Strong acids (e.g. hydrochloric acid), strong oxidizing agents (e.g. perchloric acid).

Hazardous Decomposition Products

Extremely hazardous hydrogen cyanide; corrosive, flammable ammonia. sodium hydroxide.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion; skin absorption.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Sodium cyanide	Not available	15 mg/kg (rat)	14.63 mg/kg (rabbit)

Skin Corrosion/Irritation

Contact can cause pain, redness, burns, and blistering. Permanent scarring can result.

Serious Eye Damage/Irritation

Causes serious eye damage based on skin corrosion information.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

Very toxic, can cause death.

May cause severe nose and throat irritation.

Skin Absorption

Very toxic, can cause death.

Ingestion

Very toxic, can cause death Causes severe irritation or burns to the mouth, throat and stomach.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

May cause effects on the central nervous system. Thyroid function tests may show abnormal results.

Respiratory and/or Skin Sensitization

Not known to be a respiratory sensitizer. Not known to be a skin sensitizer.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Sodium cyanide	Not Listed	Not designated	Not Listed	Not Listed

Reproductive Toxicity

Development of Offspring

Not known to harm the unborn child.

Sexual Function and Fertility

Conclusions cannot be drawn from the limited studies available.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

Not known to be a mutagen.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

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

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
US DOT	UN1689	SODIUM CYANIDE, SOLID	6.1	I
Canadian TDG	UN1689	SODIUM CYANIDE, SOLID	6.1	I

Special Precautions Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

Listed on the DSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

Listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

NFPA Rating	Health - 3	Flammability - 0	Instability - 0
SDS Prepared By	Alphachem Limited		
Phone No.	(905)-821-2995		
Date of Preparation	July 29, 2016		
Date of Last Revision	August 16, 2016		
References	CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).		
Disclaimer	This document is offered only as a guide in the safe handling of the above product, and has		

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