

# SAFETY DATA SHEET

Creation Date 19-Nov-2010

Revision Date 14-Feb-2020

Revision Number 3

## 1. Identification

**Product Name** Sodium cyanide

**Cat No. :** 12137

**CAS-No** 143-33-9  
**Synonyms** Hydrocyanic acid, sodium salt; Prussiate of soda; Cyanide of sodium

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.  
**Details of the supplier of the safety data sheet**

**Company**

Alfa Aesar  
Thermo Fisher Scientific Chemicals, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757  
**Email:** tech@alfa.com  
www.alfa.com

**Emergency Telephone Number**

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.  
After normal business hours, call Carechem 24 at (866) 928-0789.

## 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 - Thyroid.	

**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  
Call a POISON CENTER or doctor/physician if you feel unwell

#### 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 liner  
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 %
Sodium cyanide	143-33-9	>95

## 4. First-aid measures

### General Advice

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

<b>Eye Contact</b>	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>	None reasonably foreseeable. 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>	Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.
<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>	No information available
<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).

### 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

<b>Health</b>	<b>Flammability</b>	<b>Instability</b>	<b>Physical hazards</b>
4	0	1	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>	Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

**Methods for Containment and Clean Up** Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

## 7. Handling and storage

<b>Handling</b>	Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. 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. Refer product specification and/or product label for specific storage temperature requirement. Keep container tightly closed. Keep locked up. Keep away from acids. Keep away from combustible material. Do not store in aluminum containers.

## 8. Exposure controls / personal protection

### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Sodium cyanide	Ceiling: 5 mg/m <sup>3</sup> Skin	(Vacated) TWA: 5 mg/m <sup>3</sup>	IDLH: 25 mg/m <sup>3</sup> Ceiling: 4.7 ppm 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 IDLH: 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.
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### 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>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Physical State</b>	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
<b>Melting Point/Range</b>	562 °C / 1043.6 °F
<b>Boiling Point/Range</b>	1497 °C / 2726.6 °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>	
Upper	No data available
Lower	No data available

Vapor Pressure	1 hPa @ 817 °C
Vapor Density	Not applicable
Specific Gravity	No information available
Bulk Density	750 - 950 kg/m <sup>3</sup>
Solubility	No information available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	Not applicable
Molecular Formula	C N Na
Molecular Weight	49

## 10. Stability and reactivity

Reactive Hazard	Yes
Stability	Stable under normal conditions. Hygroscopic.
Conditions to Avoid	Incompatible products. Exposure to moist air or water.
Incompatible Materials	Acids, Strong oxidizing agents, Carbon dioxide (CO <sub>2</sub> ), Metals
Hazardous Decomposition Products	Nitrogen oxides (NO <sub>x</sub> ), Hydrogen cyanide (hydrocyanic acid)
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
Sodium cyanide	LD50 = 5.733 mg/kg ( Rat )	LD50 = 14.602 mg/kg ( Rabbit ) LD50 = 10.4 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	No information available
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
Sodium cyanide	143-33-9	Not listed	Not listed	Not listed	Not listed	Not listed

**Mutagenic Effects** Not mutagenic in AMES Test

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known  
**STOT - repeated exposure** Thyroid

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** 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

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** 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
Sodium cyanide	Not listed	LC50: = 0.17 mg/L, 96h static (Pimephales promelas) LC50: 0.066 - 0.0852 mg/L, 96h flow-through (Lepomis macrochirus) LC50: = 0.15 mg/L, 96h static (Lepomis macrochirus) LC50: 0.0391 - 0.0548 mg/L, 96h static (Oncorhynchus mykiss) LC50: 0.0712 - 0.0936 mg/L, 96h flow-through (Pimephales promelas) LC50: 0.0558 - 0.0586 mg/L, 96h flow-through (Oncorhynchus mykiss)	Not listed	EC50: = 0.17 mg/L, 96h (Gammarus pseudolimnaeus)

**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.

Component	log Pow
Sodium cyanide	-0.44

## 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
Sodium cyanide - 143-33-9	-	not otherwise specified

## 14. Transport information

### DOT

UN-No UN1689  
 Proper Shipping Name SODIUM CYANIDE, SOLID  
 Hazard Class 6.1  
 Packing Group I

### TDG

UN-No UN1689

<b>Proper Shipping Name</b>	SODIUM CYANIDE, SOLID
<b>Hazard Class</b>	6.1
<b>Packing Group</b>	I
<b>IATA</b>	
<b>UN-No</b>	UN1689
<b>Proper Shipping Name</b>	SODIUM CYANIDE, SOLID
<b>Hazard Class</b>	6.1
<b>Packing Group</b>	I
<b>IMDG/IMO</b>	
<b>UN-No</b>	UN1689
<b>Proper Shipping Name</b>	SODIUM CYANIDE, SOLID
<b>Hazard Class</b>	6.1
<b>Subsidiary Hazard Class</b>	P
<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
Sodium cyanide	143-33-9	X	ACTIVE	-

#### Legend:

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

X - Listed

'-' - Not Listed

**TSCA 12(b)** - Notices of Export Not applicable

### International Inventories

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

Component	CAS-No	DSL	NDSL	EINECS	PICCS	ENCS	AICS	IECSC	KECL
Sodium cyanide	143-33-9	X	-	205-599-4	X	X	X	X	KE-31401

### U.S. Federal Regulations

#### SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Sodium cyanide	143-33-9	>95	1.0

**SARA 311/312 Hazard Categories** See section 2 for more information

#### CWA (Clean Water Act)

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

#### Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Sodium 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)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Sodium cyanide	10 lb	10 lb

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

Component	CAS-No	California Prop. 65	Prop 65 NSRL	Category
Sodium cyanide	143-33-9	Male Reproductive	-	

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

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Sodium cyanide	X	X	X	X	X

**U.S. Department of Transportation**

Reportable Quantity (RQ): N  
DOT Marine Pollutant N  
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
Sodium cyanide	APA

**Other International Regulations**

**Mexico - Grade** No information available

## 16. Other information

**Prepared By** Health, Safety and Environmental Department  
Email: tech@alfa.com  
www.alfa.com

**Creation Date** 19-Nov-2010  
**Revision Date** 14-Feb-2020  
**Print Date** 14-Feb-2020  
**Revision Summary** SDS authoring systems update, replaces ChemGes SDS No. 143-33-9.

**Disclaimer**

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**End of SDS**