

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**
**Product Identifier**

Perihal Produk:

Product Description:

Cat No. :

Synonyms

CAS No

Molecular Formula

**Sodium cyanide**
**Sodium cyanide**

S283I-250, S283I-500

Hydrocyanic acid, sodium salt; Prussiate of soda; Cyanide of sodium

143-33-9

C N Na

**Relevant identified uses of the substance or mixture and uses advised against**

Recommended Use

Laboratory chemicals.

Uses advised against

No Information available

**Company**

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 CHEMTREC Malaysia (Kuala Lumpur) **+(60)-327884561** (Malay)

**SECTION 2: HAZARDS IDENTIFICATION**
**Classification of the substance or mixture**

Substances/mixtures corrosive to metal	Category 1 (H290)
Acute oral toxicity	Category 1 (H300)
Acute dermal toxicity	Category 1 (H310)
Acute Inhalation Toxicity - Dusts and Mists	Category 1 (H330)
Specific target organ toxicity - (repeated exposure)	Category 1 (H372)
Acute aquatic toxicity	Category 1 (H400)
Chronic aquatic toxicity	Category 1 (H410)

**Label Elements**


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## Signal Word

## Danger

### Hazard Statements

H290 - May be corrosive to metals

H372 - Causes damage to organs through prolonged or repeated exposure

H410 - Very toxic to aquatic life with long lasting effects

H300 + H310 + H330 - Fatal if swallowed, in contact with skin or if inhaled

### Precautionary Statements

#### Prevention

P234 - Keep only in original packaging

P262 - Do not get in eyes, on skin, or on clothing

P264 - Wash face, hands and any exposed skin thoroughly after handling

P270 - Do not eat, drink or smoke when using this product

P271 - Use only outdoors or in a well-ventilated area

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P284 - Wear respiratory protection

#### Response

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P310 - Immediately call a POISON CENTER or doctor

P330 - Rinse mouth

P390 - Absorb spillage to prevent material damage

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P361 + P364 - Take off immediately all contaminated clothing and wash it before reuse

#### Storage

P402 - Store in a dry place

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

P406 - Store in corrosion resistant polypropylene container with a resistant inliner

P405 - Store locked up

#### Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

### Other Hazards

EUH032 - Contact with acids liberates very toxic gas

Toxic to terrestrial invertebrates

Toxicity to Soil Dwelling Organisms

Toxic to terrestrial vertebrates

This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
Sodium cyanide	143-33-9	>95

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

#### General Advice

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

#### Eye Contact

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.

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<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or poison control center immediately.
<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>Self-Protection of the First Aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

## **Most important symptoms and effects, both acute and delayed**

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.

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

**Notes to Physician** Symptoms may be delayed. Treat as cyanide poisoning. Exposure may result in death. The effects may be delayed therefore medical observation is essential.

## **SECTION 5: FIREFIGHTING MEASURES**

### **Extinguishing media**

#### **Suitable Extinguishing Media**

Water spray, carbon dioxide (CO<sub>2</sub>), dry chemical, alcohol-resistant foam.

#### **Extinguishing media which must not be used for safety reasons**

Do not use water or foam.

### **Special hazards arising from the substance or mixture**

Non-combustible. Do not allow run-off from fire-fighting to enter drains or water courses.

### **Hazardous Combustion Products**

Nitrogen oxides (NO<sub>x</sub>), Hydrogen cyanide (hydrocyanic acid).

### **Advice for fire-fighters**

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.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

### **Personal Precautions, Protective Equipment and Emergency Procedures**

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.

### **Environmental precautions**

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.

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## Methods and Material for Containment and Cleaning Up

Provide adequate ventilation. Wear self-contained breathing apparatus and protective suit. Avoid dust formation. Sweep up and shovel into suitable containers for disposal. Do not expose spill to water.

Keep in suitable, closed containers for disposal. Prevent contact with water. Do NOT use water for clean-up. Use personal protective equipment as required.

## Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### Precautions for Safe Handling

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.

### Conditions for Safe Storage, Including any Incompatibilities

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep locked up. Keep away from acids. Keep away from combustible material. Do not store in aluminum containers.

### Specific End Uses

Use in laboratories.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Component	Malaysia	ACGIH TLV	OSHA PEL
Sodium cyanide		Ceiling: 5 mg/m <sup>3</sup> Skin	(Vacated) TWA: 5 mg/m <sup>3</sup>

Component	European Union	The United Kingdom	Germany
Sodium cyanide	TWA: 1 mg/m <sup>3</sup> (8h) STEL: 5 mg/m <sup>3</sup> (15min) Skin	STEL: 5 mg/m <sup>3</sup> 15 min TWA: 1 mg/m <sup>3</sup> 8 hr Skin	TWA: 1 mg/m <sup>3</sup> (8 Stunden). AGW - exposure factor 5 TWA: 3.8 mg/m <sup>3</sup> (8 Stunden). MAK TWA: 2 mg/m <sup>3</sup> (8 Stunden). MAK Höhepunkt: 3.8 mg/m <sup>3</sup> Höhepunkt: 2 mg/m <sup>3</sup> Haut

### Exposure Controls

#### Engineering Measures

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

#### Personal protective equipment

##### Eye Protection

Goggles

##### Hand Protection

Protective gloves

##### Skin and body protection

Long sleeved clothing

Inspect gloves before use.

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Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.  
(Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

## Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

## Recommended Filter type:

Particulates filter conforming to EN 143

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

When RPE is used a face piece Fit Test should be conducted

## Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

## Environmental exposure controls

Prevent product from entering drains Do not allow material to contaminate ground water system Local authorities should be advised if significant spillages cannot be contained

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Appearance	White	
Physical State	Solid	
Odor	bitter almonds	
Odor Threshold	No data available	
pH	11-12	20 g/l aq. sol
Melting Point/Range	562 °C / 1043.6 °F	
Softening Point	No data available	
Boiling Point/Range	1497 °C / 2726.6 °F	
Flash Point	No information available	Method - No information available
Evaporation Rate	Not applicable	Solid
Flammability (solid,gas)	No information available	
Explosion Limits	No data available	
Vapor Pressure	1 hPa @ 817 °C	
Vapor Density	Not applicable	Solid
Specific Gravity / Density		
Bulk Density	750 - 950 kg/m <sup>3</sup>	
Water Solubility	370 g/l (20°C)	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Component	log Pow	
Sodium cyanide	-0.44	
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
Viscosity	Not applicable	Solid
Explosive Properties	No information available	

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**Oxidizing Properties** No information available

**Molecular Formula** C N Na  
**Molecular Weight** 49

## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

Yes. Contact with acids liberates very toxic gas.

### Chemical Stability

Stable under normal conditions. Hygroscopic.

### Possibility of Hazardous Reactions

**Hazardous Polymerization** Hazardous polymerization does not occur.  
**Hazardous Reactions** None under normal processing.

### 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).

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects

#### Product Information

##### (a) acute toxicity;

**Oral** Category 1  
**Dermal** Category 1  
**Inhalation** Category 1

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium cyanide	LD50 = 5.733 mg/kg ( Rat )	LD50 = 14.602 mg/kg ( Rabbit )	LC50 = 0.16 mg/L ( Rat ) 1 h

**(b) skin corrosion/irritation;** Based on available data, the classification criteria are not met

**(c) serious eye damage/irritation;** Based on available data, the classification criteria are not met

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**(d) respiratory or skin sensitization;**

Respiratory  
Skin

Based on available data, the classification criteria are not met  
Based on available data, the classification criteria are not met

**(e) germ cell mutagenicity;**

Based on available data, the classification criteria are not met  
Not mutagenic in AMES Test

**(f) carcinogenicity;**

Based on available data, the classification criteria are not met  
There are no known carcinogenic chemicals in this product

**(g) reproductive toxicity;**

Based on available data, the classification criteria are not met

**(h) STOT-single exposure;**

Based on available data, the classification criteria are not met

**(i) STOT-repeated exposure;**

Category 1

Target Organs

Thyroid, Blood.

**(j) aspiration hazard;**

Not applicable  
Solid

**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 Disrupting Properties**

Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity effects**

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 Fish	Water Flea	Freshwater Algae	Microtox
Sodium cyanide	LC50: 0.0558 - 0.0586 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: 0.0391 - 0.0548 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 0.15 mg/L, 96h static (Lepomis macrochirus) LC50: 0.0712 - 0.0936 mg/L, 96h flow-through (Pimephales promelas) LC50: = 0.17 mg/L, 96h static (Pimephales promelas) LC50: 0.066 - 0.0852 mg/L, 96h flow-through (Lepomis macrochirus)			

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## Persistence and degradability

**Persistence**  
**Degradability**  
**Degradation in sewage treatment plant**

Expected to be biodegradable  
Soluble in water, Persistence is unlikely, based on information available.  
Not relevant for inorganic substances.  
Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

## Bioaccumulative potential

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Sodium cyanide	-0.44	No data available

## Mobility in soil

The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils.

## Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

## Other adverse effects

No information available

## SECTION 13: DISPOSAL CONSIDERATIONS

### Waste treatment methods

**Waste from Residues/Unused Products**

Should not be released into the environment Waste is classified as hazardous Dispose of in accordance with the European Directives on waste and hazardous waste Dispose of in accordance with local regulations

### **Contaminated Packaging**

Dispose of this container to hazardous or special waste collection point.

### **Other Information**

Do not flush to sewer Waste codes should be assigned by the user based on the application for which the product was used Do not empty into drains Do not let this chemical enter the environment

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

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

### Road and Rail Transport

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

### IATA

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



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**Special Precautions for User** No special precautions required

## SECTION 15: REGULATORY INFORMATION

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

**International Inventories** X = listed

Component	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	IECSC	AICS	KECL
Sodium cyanide	205-599-4	X	X	X	X	X	X	X	KE-31401

Component	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Sodium cyanide				Annex I - Y33

### National Regulations

**Persistent Organic Pollutant** This product does not contain any known or suspected substance  
**Ozone Depletion Potential** This product does not contain any known or suspected substance

Component	Persistent Organic Pollutant	Ozone Depletion Potential	Pesticides Act 1974
Sodium cyanide			X

## SECTION 16: OTHER INFORMATION

### Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**POW** - Partition coefficient Octanol:Water

**TWA** - Time Weighted Average

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

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (Volatile Organic Compound)

### **Key literature references and sources for data**

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

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Revision Summary	Not applicable.

**In accordance with local and national regulations: Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013**

## Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**