



Safety Data Sheet

Sodium Cyanide Solution

Version 1.00

Revision Date 09.09.2022

SECTION 1. Identification of the substance/mixture and of the company/undertaking

Product identifier

Trade name

Sodium Cyanide Solution

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

Use

Industrial use.

Manufacturer or supplier's details

Company

Sasol Chemicals, a division of Sasol South Africa Ltd

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SECTION 2. Hazards identification

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Classification

Acute oral toxicity	Category 2
Acute inhalation toxicity	Category 2
Acute dermal toxicity	Category 1
Skin irritation	Category 2
Eye irritation	Category 2

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Long-term (chronic) aquatic hazard

Category 1

Label elements

REGULATION (EC) No 1272/2008

Hazard pictograms



Signal word

: Danger

Hazard statements

- : H300 + H310 + H330 Fatal if swallowed, in contact with skin or if inhaled.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H410 Very toxic to aquatic life with long lasting effects.

Supplemental Hazard Statements

: EUH032 Contact with acids liberates very toxic gas.

Precautionary statements

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Prevention

- P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
- P262 Do not get in eyes, on skin, or on clothing.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P264 Wash the contact area thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.

Response

- P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.
- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
- P304 + P340 + P317 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical help.
- P319 Get medical help if you feel unwell.
- P391 Collect spillage.

Storage

- P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
- P405 Store locked up.

Disposal

- P501 Dispose of contents/ container to an approved facility in accordance with local, regional, national and international regulations.

SECTION 3. Composition/information on ingredients

HAZARDOUS INGREDIENTS

Sodium cyanide

Contents: ≥ 28.00 - < 34.00 %W/W

CAS-No. 143-33-9

Index-No. 006-007-00-5

EC-No. 205-599-4

Hazard statements *H330 H300 H310 H410*



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Sodium Hydroxide; Caustic Soda

Contents: 1.50 %W/W

CAS-No. 1310-73-2

Index-No. 011-002-00-6

EC-No. 215-185-5

Hazard statements *H314 H290*

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SECTION 4. First aid measures

Description of necessary first-aid measures

Inhalation	Ensure Important Considerations are also applied: See general information above. Do not use direct mouth to mouth resuscitation to prevent also being contaminated. Make use of mouthpiece, positive pressure face mask and bag resuscitator. Administer 100% medical Oxygen by facial mask at a feed rate of 12L/min to 15L/min. Get medical attention immediately
Skin contact	Ensure Important Considerations are also applied: See general information above. Immediately remove all contaminated clothing and contain in plastic dust bags. Flush the affected skin with large amounts of water for 5-15 minutes and observe/treat as for inhalation.
Eye contact	Ensure above Important Considerations are also applied. See general information: Immediately wash the eye(s) with clean water including under the eyelids, for at least 5 to 15 minutes. Take care not to contaminate unaffected eye with contaminated water and constantly observe/treat as for inhalation.
Ingestion	Ensure Important Considerations are also applied: See general information above. Never give anything by mouth to an unconscious person. Maintain airway and respiration and observe/treat as for inhalation. If vomiting occurs, keep head lower than the hips to help prevent aspiration. Get medical attention immediately

Most important symptoms/effects, acute and delayed

Refer to SECTION 11



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Treatment

The product user must agree to the principle treatment protocol to be used with medical doctor in charge. The recommended Cyanide anti-dote kit to be kept by user for use: Tripac-Cyano Cyanide Anti-dote Kit.

SECTION 5. Firefighting measures

Suitable extinguishing media

Dry sodium carbonate BC powder Large fire: Water spray, fog or fire-fighting foam

Special hazards arising from the substance or mixture

Although non-combustible, flammable and toxic hydrogen cyanide gas and ammonia are produced when heated to decomposition.

Special protective equipment for firefighters

An approved positive pressure self-contained breathing apparatus must be worn. Although it will provide little or no thermal protection, chemical protective clothing must be worn when handling this substance.

SECTION 6. Accidental release measures

Personal precautions

Ensure fully encapsulating, vapour-protective clothing during removal of spillage. Cordon off the area and deny entry to non-protected persons and the public. Evacuate to an area away from and upwind of the incident, if possible, to higher ground. Always work upwind of any spill. Do not touch or walk through spilled material. Stop leaks if you can do so without risk. Avoid the use of Ferrous Sulphate on any spilled product. Ferrous Sulphate does not neutralize cyanide and is acidic when dissolved and results in poisonous hydrogen cyanide fumes being emit Do not try to neutralise the spilled product by means of chemical treatment.

Environmental precautions

Do not allow product/runoff from fire or spillage control to enter sewers, drains or watercourses. Do not spread this substance to other areas - keep contained and isolated. Any product spillages or contaminated runoff into sewers, water courses or storm water drains must be reported -Product supplier, Local

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Authority, Department of Water Affairs and other appropriate regulatory bodies.

Methods for cleaning up Absorb spilled product with sand or other non-combustible absorbant material. Sweep up and shovel into suitable containers for disposal. Use only non-sparking tools. Disposal may only be done by trained personnel. Contact the supplier for information and assistance before clean up and disposal is attempted.

Reference to other sections Refer to section 8 and 13

SECTION 7. Handling and storage

Safe handling advice Avoid contact with skin and eyes. Keep away from fire, sparks and heated surfaces. Always pre-assess the risk and wear the Personal Protective Equipment appropriate to the task/situation. Never work alone and do not breathe any product related mist/fumes. Use only in well ventilated areas and never enter vessels, which contain sodium cyanide. Use in well-ventilated areas and keep container closed. Do not eat, drink or smoke when using this product. Always wash hands before after use, before eating, drinking and or smoking. During maintenance atmospheric levels should be monitored and controlled in compliance to occupational exposure limits. Eye wash fountains and quick drench showers must be provided within the immediate work area for emergency site. Keep away from acids, oxidizing agents and flammable substances

Advice on protection against fire and explosion No data available.

Requirements for storage areas and containers Sodium Cyanide should be stored under strictly controlled conditions in designated areas and in accordance to legal requirements.SA Chamber of mines Guidelines on Cyanide



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Management, and the standard practice SANS 310-1.

Advice on common storage No data available.

container material Unsuitable materials: Zinc Aluminium.

SECTION 8. Exposure controls/personal protection

Components with workplace control parameters

NATIONAL OCCUPATIONAL EXPOSURE LIMITS

Components	Type	Control parameters	Update	Basis
	TWA	5 mg/m ³	1995	South Africa RELs
SODIUM HYDROXIDE	STEL	2 mg/m ³	1995	South Africa RELs

Exposure controls

Engineering measures

Provide sufficient air exchange and/or exhaust in work rooms.

Eye wash fountains and quick drench showers must be provided within the immediate work area for emergency use.

Personal protective equipment

Respiratory protection

Self-contained breathing apparatus (EN 133) is likely to occur or in the event of hydrogen cyanide gas being evolved. Negative pressure canister type respirator masks should be used for escape or short term rescue purposes. Cannisters should be compatible to cyanide fumes.

Hand protection

Impervious gloves

Eye protection

Safety goggles and a full-face shield to be worn.

Skin and body protection

It is recommended that a hooded chemical resistant(plastic) body suit be worn during operations where there is high risk of exposure.SABS approved acid repellent type overall is recommended.Overalls must be buttoned to the neck and sleeves worn over the gloves.Wear acid resistant impervious

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gloves when handling the product.-they must be of long type which reach to the elbow and are worn underneath the sleeve.Full length chemically resistant boots must be worn when handling this substance.STANSA(Standards SA, previously SABS) approved hard hats should be used to protect against falling objects and possible product spray

Hygiene measures

Wash hands before breaks and immediately after handling the product. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Keep away from food, drink and animal feedingstuffs.

SECTION 9. Physical and chemical properties

Information on basic physical and chemical properties

Form	Liquid
State of matter	Liquid; at 20 ° C; 1,013 hPa
Colour	Light to dark red
Odour	bitter almond Ammoniacal
Odour Threshold	No data available.
pH	> 11
Melting point/range	-2 - 12 ° C; 1,013 hPa
Boiling point/boiling range	112 ° C; 1,013 hPa
Flash point	Flammable hydrogen cyanide gas is released in the presence of acids, acid salts and carbon dioxide.
Evaporation rate	No data available.
Flammability (solid, gas)	No data available.
Auto-ignition temperature	No data available.
Lower explosion limit	No data available.
Upper explosion limit	No data available.
Vapour pressure	17.33 hPa; 20 ° C
Relative vapour density	No data available.
Density	1.15 g/cm ³ ; 25 ° C
Water solubility	Completely soluble
Partition coefficient: n-	No data available.

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octanol/water

Viscosity, kinematic

No data available.

SECTION 10. Stability and reactivity

Reactivity	Stable under normal conditions. It can absorb CO ₂ from air to liberate highly toxic and flammable hydrocyanic gas. May react violently with strong oxidizing and acidic agents. Ammonia gas may be liberated at high temperatures.
Chemical stability	No data available.
Possibility of hazardous reactions	Sodium Cyanide solutions are incompatible with acids. In the presence of acid, acid salts and carbon dioxide, hydrocyanic gas is released which is toxic and highly flammable. Concentrated sodium cyanide solutions react violently with fluorine, magnesium, nitrates, nitric acid, and nitrites.
Conditions to avoid	Direct sources of heat. Contact with acids liberates toxic gas
Materials to avoid	Carbon dioxide. Acids. Oxidizing agents. Zinc Aluminium. Brass
Hazardous decomposition products	ammoniaHydrogen cyanide (hydrocyanic acid)

SECTION 11. Toxicological information

Skin irritation	Very toxic when in contact with the skin and adverse effects similar to inhalation will occur. Acute exposure can cause skin irritation and burns. Repeated or prolonged exposure
Eye irritation	Sodium cyanide: Irritating
Eye irritation	Sodium Hydroxide; Caustic Soda: Rat: Causes serious eye damage.

SECTION 12. Ecological information

Toxicity to daphnia and other aquatic invertebrates	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Toxicity to algae	It can cause damage to aquatic plants., Sodium Cyanide is very toxic to algae, aquatic life and micro organisms at

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Biodegradability	concentrations >2 mg/l of cyanide in water The product is substantially biodegradable in water and soil over extended time.
Bioaccumulation	The product has low potential for bioaccumulation.
Other adverse effects	The substance is fatal to aquatic organisms if pH of natural water is higher than 8. The product is substantially removed by means of biological treatment processes. The no-effect level for biological treatment processes is 10 mg/l as CN ion. Large discharges may contribute to increased alkalinity in effluent treatment systems and injure sewage treatment organisms. Inform the Management Authorities on Sewage Works if this product enters the sewers.

SECTION 13. Disposal considerations

Product	Dispose of as special waste in compliance to local, national and international regulations. The product should not be allowed to enter drains, water courses or the soil. Waste must be classified and labelled prior to recycling or disposal. Contaminated absorbent must be removed and disposed via an authorised waste contractor.
Packaging	Dispose of spent product packaging responsibly and lawfully with due consideration for health, safety and the environment.

SECTION 14. Transport information

DG Pictogram



ADR

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UN number:	3414
Class:	6.1
Packaging group:	I; T4;
Proper shipping name:	SODIUM CYANIDE SOLUTION
RID	
UN number:	3414
Class:	6.1
Packaging group:	I; T4
Proper shipping name:	SODIUM CYANIDE SOLUTION
ADNR	
UN number:	3414
Class:	6.1
Packaging group:	I; T4
Proper shipping name:	SODIUM CYANIDE SOLUTION
IMDG	
UN number:	3414
Class:	6.1
EmS:	F-A, S-A
Packaging group:	I; Marine pollutant
Proper shipping name:	SODIUM CYANIDE SOLUTION
Marine pollutant	Marine pollutant
ICAO/IATA	
UN number :	3414
Class:	6.1
Packaging group:	I
Proper shipping name:	SODIUM CYANIDE SOLUTION
Further Information	Should not be released into the environment.

SECTION 15. Regulatory information

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

USA TSCA Inventory

All chemical constituents are listed in: USA TSCA Inventory
(See chapter 3)

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Canadian Domestic Substances List (DSL)	All chemical constituents are listed in: Canadian Domestic Substances List (DSL) (See chapter 3)
Australian Inv. of Chem. Substances (AICS)	All chemical constituents are listed in: Australian Inv. of Chem. Substances (AICS) (See chapter 3)
New Zealand Inventory of Chemicals (NZIoC)	All chemical constituents are listed in: New Zealand Inventory of Chemicals (NZIoC) (See chapter 3)
Jap. Inv. of Exist. & New Chemicals (ENCS)	All chemical constituents are listed in: Jap. Inv. of Exist. & New Chemicals (ENCS) (See chapter 3)
Japan. Industrial Safety & Health Law (ISHL)	All chemical constituents are listed in: Japan. Industrial Safety & Health Law (ISHL) (See chapter 3)
Korea. Existing Chemicals Inventory (KECI)	All chemical constituents are listed in: Korea. Existing Chemicals Inventory (KECI) (See chapter 3)
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	All chemical constituents are listed in: Philippines Inventory of Chemicals and Chemical Substances (PICCS) (See chapter 3)
China Inv. Existing Chemical Substances (IECSC)	All chemical constituents are listed in: China Inv. Existing Chemical Substances (IECSC) (See chapter 3)

SECTION 16. Other information

Full text of H-Statements

- H290 May be corrosive to metals.
H300 Fatal if swallowed.
H310 Fatal in contact with skin.
H314 Causes severe skin burns and eye damage.
H330 Fatal if inhaled.
H410 Very toxic to aquatic life with long lasting effects.

All reasonable efforts were exercised to compile this SDS in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). The SDS only provides information regarding the health, safety and environmental hazards at the date of issue, to facilitate the safe receipt, use and handling of this product in the workplace and does not replace any product information or product specifications. Since Sasol and its



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subsidiaries cannot anticipate or control all conditions under which this product may be handled, used and received in the workplace, it remains the obligation of each user, receiver or handler to, prior to usage, review this SDS in the context within which this product will be received, handled or used in the workplace. The user, handler or receiver must ensure that the necessary mitigating measures are in place with respect to health and safety. This does not substitute the need or requirement for any relevant risk assessments to be conducted. It further remains the responsibility of the receiver, handler or user to communicate such information to all relevant parties that may be involved in the receipt, use or handling of this product.

Although all reasonable efforts were exercised in the compilation of this SDS, Sasol does not expressly warrant the accuracy of, or assume any liability for incomplete information contained herein or any advice given. When this product is sold, risk passes to the purchaser in accordance with the specific terms and conditions of sale.