Material Safety Data Sheet

Version:02
Revision Date 22/5/2025

Section 1. Product Information and Company Identification			
Product name	Sodium Cyanide		
Mol. formula	NaCN	**CAS No.**	143-33-9
Mol.wt	49,01 g/mol		
Manufacturer name	Pioneers for laboratory chemicals		
Brand name	Piochem		
Address	Area 540, Industrial Zone 6th October city Giza, Egypt.		
Website	www.piochem.com		
E-mail	info@piochem.com		
Phone number	+201225728304 , +201023932115		

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Corrosive to Metals, (Category 1)	H290: May be corrosive to metals.
Acute toxicity, (Category 1)	H300: Fatal if swallowed.
Acute toxicity, (Category 1)	H330: Fatal if inhaled.

Acute toxicity, (Category 1)	H310: Fatal in contact with skin.
Specific target organ toxicity - repeated exposure, (Category 1), Thyroid	H372: Causes damage to organs through prolonged or repeated exposure.
Short-term (acute) aquatic hazard, (Category 1)	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, (Category 1)	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal Word	Danger
Hazard Statements	
H290	May be corrosive to metals.
H300 + H310 + H330	Fatal if swallowed, in contact with skin or if inhaled.
H372	Causes damage to organs (Thyroid) through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.
Precautionary Statements	
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash skin thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing.
P302 + P352 + P310	IF ON SKIN: Wash with plenty of water. Immediately call a POISON CENTER/ doctor.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
Supplemental Hazard information (EU)	
EUH032	Contact with acids liberates very toxic gas.

Reduced Labeling (<= 125 ml)

Pictogram

Signal Word	Danger
Hazard Statements	
H372	Causes damage to organs through prolonged or repeated exposure.
H300 + H310 + H330	Fatal if swallowed, in contact with skin or if inhaled.
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P262	Do not get in eyes, on skin, or on clothing.

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P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

Supplemental Hazard information (EU)

EUH032	Contact with acids liberates very toxic gas.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Toxicological information:
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Formula	:	CNNa
Molecular weight	:	49,01 g/mol
CAS-No.	:	143-33-9
EC-No.	:	205-599-4
Index-No.	:	006-007-00-5

Component		Classification	Concentration
sodium cyanide			
CAS-No. EC-No. Index-No.	143-33-9 205-599-4 006-007-00-5	Met. Corr. 1; Acute Tox. 1; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1; H290, H300, H330, H310, H372, H400, H410 M-Factor - Aquatic Acute: 10 - Aquatic Chronic: 1	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice
First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled
After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact
After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed
If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
Carbon dioxide (CO2) Water Foam

5.2 Special hazards arising from the substance or mixture
Carbon oxides
Sodium oxides
Not combustible.
Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information
Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling
Work under hood. Do not inhale substance/mixture.

Hygiene measures
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions
No metal containers.
Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.
Do not store near acids.

Storage class
Storage class (TRGS 510): 6.1A: Combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

8.2 Exposure controls

Personal protective equipment

Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection
This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Full contact
Material: Nitrile rubber
Minimum layer thickness: 0,11 mm
Break through time: 480 min
Material tested:KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0,11 mm
Break through time: 480 min
Material tested:KCL 741 Dermatril® L

Body Protection
protective clothing

Respiratory protection
Recommended Filter type: Filter B-(P3)

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure
Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a)	Physical state	crystalline
b)	Color	white
c)	Odor	odorless
d)	Melting point/freezing point	Melting point/range: 563,7 °C - lit.
e)	Initial boiling point and boiling range	1.500 °C at 1,013 hPa
f)	Flammability (solid, gas)	No data available
g)	Upper/lower flammability or explosive limits	No data available
h)	Flash point	No data available
i)	Autoignition temperature	No data available
j)	Decomposition temperature	No data available
k)	pH	11,0 - 12,0 at 49,0 g/l at 25 °C
l)	Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
m)	Water solubility	370 g/l at 20 °C - completely soluble
n)	Partition coefficient: n-octanol/water	Not applicable for inorganic substances
o)	Vapor pressure	1 hPa at 817 °C
p)	Density	1,59 kg/m3 at 20 °C
	Relative density	No data available
q)	Relative vapor density	No data available
r)	Particle characteristics	No data available
s)	Explosive properties	Not classified as explosive.
t)	Oxidizing properties	none

9.2 Other safety information

Dissociation constant	ca.9,36 at 20 °C - OECD Test Guideline 112

SECTION 10: Stability and reactivity

10.1 Reactivity
Contact with acids liberates very toxic gas.

10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions
Risk of explosion with:
chlorates
nitrites
nitrates
Oxidizing agents
Release of:
Hydrogen cyanide (hydrocyanic acid)
Violent reactions possible with:
Nitric acid
urea
Carbon dioxide (CO2)
(in the presence of atmospheric oxygen and/or moisture)
Release of:
Hydrogen cyanide (hydrocyanic acid)
Generates dangerous gases or fumes in contact with:
alkali salts
Acids
Water
Release of:
Hydrogen cyanide (hydrocyanic acid)
Generates dangerous gases or fumes in contact with:
Acids

10.4 Conditions to avoid
no information available

10.5 Incompatible materials
Aluminum, Metals, Zinc

10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - female - 5,09 mg/kg
Remarks: (ECHA)
LC50 Inhalation - Rat - male - 1 h - 63 ppm - gas

(OECD Test Guideline 403)
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: hydrogen cyanide

Acute toxicity estimate Inhalation - 32 ppm - gas

(ATE value derived from LD50/LC50 value)
LD50 Dermal - Rabbit - female - 7,35 mg/kg
Remarks: (ECHA)
LD50 Dermal - Rabbit - 10,4 mg/kg
Remarks: Behavioral:Somnolence (general depressed activity).
Behavioral:Tremor.
Lungs, Thorax, or Respiration:Dyspnea.
Acute toxicity estimate Dermal - 7,35 mg/kg
(ATE value derived from LD50/LC50 value)

Skin corrosion/irritation
Remarks: No data available

Serious eye damage/eye irritation
Remarks: No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: US-EPA
Result: negative

Test Type: Chromosome aberration test
Species: Rat

Application Route: Oral
Method: US-EPA
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
Causes damage to organs through prolonged or repeated exposure.
- Thyroid

Aspiration hazard
No data available

11.2 Additional Information

Endocrine disrupting properties

Product:

Assessment — The substance/mixture does not contain

components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

RTECS: VZ7525000
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish	flow-through test LC50 - Gasterosteus aculeatus - 0,0988 mg/l - 96 h Remarks: (referred to cyanide ions) (ECHA)
Toxicity to daphnia and other aquatic invertebrates	semi-static test EC50 - Chironomus riparius (harlequin fly) - 0,012 mg/l - 48 h (OECD Test Guideline 202)
	semi-static test NOEC - Chironomus riparius (harlequin fly) - 0,006 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	EC50 - Nitzschia closterium - 0,051 mg/l - 72 h
Toxicity to bacteria	EC50 - Bacteria - 4,9 mg/l - 6 h Remarks: (ECHA)
Toxicity to fish(Chronic toxicity)	mortality LOEC - Pimephales promelas (fathead minnow) - 0,126 mg/l - 17 d

12.2 Persistence and degradability

Biodegradability	aerobic - Exposure time 42 d Result: ca.99 % - Inherently biodegradable. Remarks: (ECHA)
Chemical Oxygen Demand (COD)	816 mg/g Remarks: (IUCLID)
Ratio BOD/ThBOD	6 %

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at

levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

SECTION 13: Disposal considerations

13.1 Waste treatment methods

No data available

SECTION 14: Transport information

14.1 UN number

ADR/RID: 1689 IMDG: 1689 IATA: 1689

14.2 UN proper shipping name

ADR/RID: SODIUM CYANIDE, SOLID
IMDG: SODIUM CYANIDE, SOLID
IATA: Sodium cyanide, solid

14.3 Transport hazard class(es)

ADR/RID: 6.1 IMDG: 6.1 IATA: 6.1

14.4 Packaging group

ADR/RID: I IMDG: I IATA: I

14.5 Environmental hazards

ADR/RID: yes IMDG Marine pollutant: yes IATA: no

14.6 Special precautions for user

Tunnel restriction code : (C/E)

Further information : No data available

SECTION 15: Regulatory information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	H1	ACUTE TOXIC
	E1	ENVIRONMENTAL HAZARDS
	H1	ACUTE TOXIC
	E1	ENVIRONMENTAL HAZARDS

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

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.
H330	Fatal if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
EUH032	Contact with acids liberates very toxic gas.