

Safety Data Sheet

according to Regulation (EC) No 1907/2006

21223-26 Alkaline Cyanide Reagent

Print date: 19.07.2015

Product code: 2122326

Page 1 of 9

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

1.1. Product identifier

21223-26 Alkaline Cyanide Reagent

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

Use of the substance/mixture

Water analysis

1.3. Details of the supplier of the safety data sheet

Company name: HACH LANGE GmbH
Street: Willstätterstr. 11
Place: D-40549 Düsseldorf
Telephone: +49 (0)211 5288-383
e-mail: SDS@hach.com
Internet: www.de.hach.com
Responsible Department: HACH LANGE Ltd.
Pacific Way
Salford Manchester M50 1DL - United Kingdom
Tel. +44 (0) 161 872 1487
e-Mail: info@hach-lange.co.uk

HACH LANGE Ltd.
Unit 1, Chestnut Road Western Industrial Estate
IRL-Dublin 12
Tel. +353 (0)1 4602522
e-Mail: info@hach-lange.ie

1.4. Emergency telephone number:

Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service -

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Hazard categories:
Acute toxicity: Acute Tox. 2
Acute toxicity: Acute Tox. 3
Skin corrosion/irritation: Skin Corr. 1B
Serious eye damage/eye irritation: Eye Dam. 1
Hazardous to the aquatic environment: Aquatic Chronic 1
Hazard Statements:
Fatal in contact with skin or if inhaled.
Toxic if swallowed.
Causes severe skin burns and eye damage.
Very toxic to aquatic life with long lasting effects.

2.2. Label elements

Hazardous components which must be listed on the label

Sodium cyanide
Sodium hydroxide; caustic soda

Signal word: Danger

Safety Data Sheet

according to Regulation (EC) No 1907/2006

21223-26 Alkaline Cyanide Reagent

Print date: 19.07.2015

Product code: 2122326

Page 2 of 9

Pictograms:



Hazard statements

- H310+H330 Fatal in contact with skin or if inhaled.
H301 Toxic if swallowed.
H314 Causes severe skin burns and eye damage.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P501 Dispose of contents/container to Entsorgung.

Additional advice on labelling

Classification according to European directive on classification of hazardous preparations 1999/45/EC.
The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
7732-18-5	Water			85-90 %
	231-791-2			
143-33-9	Sodium cyanide			1-7 %
	205-599-4	006-007-00-5		
	Acute Tox. 1, Acute Tox. 2, Acute Tox. 2, Aquatic Acute 1 (M-Factor = 10), Aquatic Chronic 1 (M-Factor = 1); H310 H300 H330 H400 H410 EUH032			
1310-73-2	Sodium hydroxide; caustic soda			1-5 %
	215-185-5	011-002-00-6		
	Skin Corr. 1A; H314			

Full text of H and EUH phrases: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Safety Data Sheet

according to Regulation (EC) No 1907/2006

21223-26 Alkaline Cyanide Reagent

Print date: 19.07.2015

Product code: 2122326

Page 3 of 9

General information

Take off all contaminated clothing immediately.
Consult a physician. Show this safety data sheet to the doctor in attendance.

After inhalation

Call a physician or poison control centre immediately. Show this safety data sheet to the doctor in attendance.

After contact with skin

Wash off immediately with plenty of water for at least 15 minutes. Consult a physician. Show this safety data sheet to the doctor in attendance.

After contact with eyes

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Show this safety data sheet to the doctor in attendance.

After ingestion

Call a physician or poison control centre immediately. Show this safety data sheet to the doctor in attendance.

4.2. Most important symptoms and effects, both acute and delayed

irritant effects, Cough, Shortness of breath, Unconsciousness, Spasm

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

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

5.2. Special hazards arising from the substance or mixture

Fire may liberate hazardous vapours. (Cyanides)

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

Additional information

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste.

6.4. Reference to other sections

13. Disposal considerations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Use only in well-ventilated areas. Do not breathe vapours/dust.

according to Regulation (EC) No 1907/2006

21223-26 Alkaline Cyanide Reagent

Print date: 19.07.2015

Product code: 2122326

Page 4 of 9

7.2. Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels

Keep tightly closed in a dry, cool and well-ventilated place. Accessible only for authorized persons.

7.3. Specific end use(s)

Reagent for analysis

SECTION 8: Exposure controls/personal protection
8.1. Control parameters
Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
1310-73-2	Sodium hydroxide	-	-		TWA (8 h)	WEL
		-	2		STEL (15 min)	WEL

8.2. Exposure controls
Appropriate engineering controls

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Protective and hygiene measures

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Wash hands before breaks and after work.

Eye/face protection

Safety glasses with side-shields

Hand protection

Use barrier skin cream.

Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374. In full contact: Gloves material: Viton, Layer thickness: 0.70 mm, Breakthrough time: >480 min. In splash contact: Glove material: nitrile rubber, Layer thickness 0,20 mm, Breakthrough time: > 30 min

Skin protection

Remove and wash contaminated clothing before re-use.

Respiratory protection

Breathing apparatus only if aerosol or dust is formed.

Recommended Filter type: ABEK-filter

SECTION 9: Physical and chemical properties
9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	colourless
Odour:	odourless

Test method

pH-Value (at 20 °C):	12,3
----------------------	------

Changes in the physical state

Melting point:	no data available
Initial boiling point and boiling range:	92 °C
Sublimation point:	not applicable
Softening point:	not applicable

Safety Data Sheet

according to Regulation (EC) No 1907/2006

21223-26 Alkaline Cyanide Reagent

Print date: 19.07.2015

Product code: 2122326

Page 5 of 9

Pour point: not applicable

Flash point: not applicable

Flammability

Solid: not applicable

Gas: not applicable

Explosive properties

not applicable

Lower explosion limits: not applicable

Upper explosion limits: not applicable

Ignition temperature: not applicable

Auto-ignition temperature

Solid: not applicable

Gas: not applicable

Decomposition temperature: not applicable

Oxidizing properties

not applicable

Vapour pressure: no data available

Density (at 20 °C): 1,112 g/cm³

Bulk density: not applicable

Water solubility:
(at 20 °C) completely soluble

Solubility in other solvents

soluble

Partition coefficient: no data available

Viscosity / dynamic: no data available

Viscosity / kinematic: no data available

Flow time: no data available

Vapour density: no data available

Evaporation rate:
(at 20 °C) 0,57

Solvent separation test: no data available

Solvent content: no data available

9.2. Other information

Solid content: not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Hazard: Acids

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Reacts with the following substances: Acids

10.4. Conditions to avoid

Extremes of temperature and direct sunlight.

according to Regulation (EC) No 1907/2006

21223-26 Alkaline Cyanide Reagent

Print date: 19.07.2015

Product code: 2122326

Page 6 of 9

10.5. Incompatible materials

Acids, Oxidizing agents

10.6. Hazardous decomposition products

Contact with acids liberates toxic gas.

SECTION 11: Toxicological information
11.1. Information on toxicological effects
Acute toxicity

LD50/oral/rat = 69 mg/kg

ATEmix calculated

ATE (oral) 70,6 mg/kg; ATE (dermal) 113,2 mg/kg; ATE (inhalative vapour) 1,18 mg/l; ATE (inhalative aerosol) 0,735 mg/l

CAS No	Chemical name			
	Exposure routes	Method	Dose	Species
143-33-9	Sodium cyanide			
	oral	LD50	4,8 mg/kg	rat
	dermal	LD50	7,7 mg/kg	rabbit
	inhalative (1 h) vapour	LC50	0,16 mg/l	rat
	inhalative aerosol	ATE	0,05 mg/l	

Irritation and corrosivity

The product causes burns of eyes, skin and mucous membranes.

Sensitising effects

No sensitisation responses were observed.

STOT-single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Severe effects after repeated or prolonged exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Carcinogenic/mutagenic/toxic effects for reproduction

Contains no ingredient listed as a carcinogen

Aspiration hazard

No aspiration toxicity classification

Specific effects in experiment on an animal

No data is available on the product itself.

Further information

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information
12.1. Toxicity

No data is available on the product itself.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

21223-26 Alkaline Cyanide Reagent

Print date: 19.07.2015

Product code: 2122326

Page 7 of 9

CAS No	Chemical name				
	Aquatic toxicity	Method	Dose	[h] [d]	Species
143-33-9	Sodium cyanide				
	Acute fish toxicity	LC50	0,083 mg/l	96 h	Lepomis macrochirus (Bluegill sunfish)
1310-73-2	Sodium hydroxide; caustic soda				
	Acute fish toxicity	LC50	45,4 mg/l	96 h	Onchorhynchus mykiss

12.2. Persistence and degradability

No data is available on the product itself.

12.3. Bioaccumulative potential

No data is available on the product itself.

12.4. Mobility in soil

no data available

12.5. Results of PBT and vPvB assessment

no data available

12.6. Other adverse effects

May cause long-term adverse effects in the aquatic environment.

Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

In accordance with local and national regulations.

Waste disposal number of waste from residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals
Classified as hazardous waste.

Waste disposal number of used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals
Classified as hazardous waste.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number:

UN 2922

14.2. UN proper shipping name:

Corrosive liquid, toxic, n.o.s. (Sodium hydroxide/sodium cyanide solution)

14.3. Transport hazard class(es):

8

14.4. Packing group:

II

Hazard label:

8, 6.1



Inland waterways transport (ADN)

Safety Data Sheet

according to Regulation (EC) No 1907/2006

21223-26 Alkaline Cyanide Reagent

Print date: 19.07.2015

Product code: 2122326

Page 8 of 9

Other applicable information (inland waterways transport)

Not tested

Marine transport (IMDG)

14.1. UN number: UN 2922
14.2. UN proper shipping name: Corrosive liquid, toxic, n.o.s. (Sodium hydroxide/sodium cyanide solution)/IATA*/
14.3. Transport hazard class(es): 8
14.4. Packing group: II
Hazard label: 8, 6.1



Marine pollutant: --
EmS: F-A,S-B

Air transport (ICAO)

14.1. UN number: UN 2922
14.2. UN proper shipping name: Corrosive liquid, toxic, n.o.s. (Sodium hydroxide/sodium cyanide solution)/IATA*/
14.3. Transport hazard class(es): 8
14.4. Packing group: II
Hazard label: 8, 6.1



14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: yes



Danger releasing substance: Sodium cyanide

14.6. Special precautions for user

Use personal protective equipment.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not relevant

Other applicable information

Additional Information: This product may be shipped as part of a chemical kit composed of various compatible dangerous goods for analytical or testing purposes. This kit would have the following classification: Proper Shipping Name: Chemical Kit, Hazard Class: 9, UN Number 3316, Package group II, EMS Code: F-A, S-P These transport data apply to the entire pack

SECTION 15: Regulatory information

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

National regulatory information

Employment restrictions: Observe employment restrictions for young people. Observe employment restrictions for child bearing mothers and nursing.
Water contaminating class (D): 3 - highly water contaminating

Safety Data Sheet

according to Regulation (EC) No 1907/2006

21223-26 Alkaline Cyanide Reagent

Print date: 19.07.2015

Product code: 2122326

Page 9 of 9

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

Revision: 27.05.2015

Revision: 2, 11

Revision: 05.09.2013

Revision: 4-16

Relevant H- and EUH-phrases (Number and full text)

H300	Fatal if swallowed.
H301	Toxic if swallowed.
H310	Fatal in contact with skin.
H310+H330	Fatal in contact with skin or if inhaled.
H314	Causes severe skin burns and eye damage.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
EUH032	Contact with acids liberates very toxic gas.

Further Information

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)