

SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

Sodium cyanide

Creation date 28th August 2019

Revision date 14th October 2022 Version 3.0

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

Product identifier

Sodium cyanide Substance / mixture substance Chemical name Sodium cyanide CAS number 143-33-9 Index number 006-007-00-5 EC (EINECS) number 205-599-4

01-2119480141-49-0005 Registration number

Other substance name Cyanogen natrium

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

Substance's intended use

Chemical production, analytical chemistry, laboratory synthesis, industrial applications.

Substance uses advised against

The product should not be used in ways other then those referred in Section 1.

1.3. Details of the supplier of the safety data sheet

Supplier

Name or trade name Ing. Petr Švec - PENTA s.r.o. Address Radiová 1122/1, Praha 10, 102 00

Czech Republic

Identification number (CRN) 02096013 VAT Reg No CZ02096013 Phone +420 226 060 681 E-mail info@pentachemicals.eu Web address www.pentachemicals.eu

Competent person responsible for the safety data sheet

Name Ing. Petr Švec - PENTA s.r.o. E-mail info@pentachemicals.eu

1.4. **Emergency telephone number**

112 European emergency number: 112

SECTION 2: Hazards identification

Classification of the substance or mixture

Classification of the substance in accordance with Regulation (EC) No 1272/2008

The substance is classified as dangerous.

Met. Corr. 1, H290

Acute Tox. 1, H300+H310+H330

Skin Irrit. 2, H315 Eye Irrit. 2, H319

STOT RE 1, H372 (thyroid gland)

Aquatic Chronic 1, H410

Full text of all classifications and hazard statements is given in the section 16.

Most serious adverse physico-chemical effects

May be corrosive to metals.

Most serious adverse effects on human health and the environment

Causes damage to thyroid gland through prolonged or repeated exposure. Causes skin irritation. Causes serious eye irritation. Fatal if swallowed, in contact with skin or if inhaled. Very toxic to aquatic life with long lasting effects.



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2.2. Label elements

Hazard pictogram



Signal word

Danger

Dangerous substance

Sodium cyanide

(Index: 006-007-00-5; CAS: 143-33-9)

natrii hydroxidum

(Index: 011-002-00-6; CAS: 1310-73-2)

Hazard statements

H290 May be corrosive to metals.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

H372 Causes damage to thyroid gland 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

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

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.

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

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

Supplemental information

EUH032 Contact with acids liberates very toxic gas.

Restricted to professional users.

2.3. Other hazards

The substance does not have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. Substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended.

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SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical characterization

The substance specified below.

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
Index: 006-007-00-5 CAS: 143-33-9 EC: 205-599-4 Registration number: 01-2119480141-49-0005	substance main component Sodium cyanide	98-100	Met. Corr. 1, H290 Acute Tox. 1, H300+H310+H330 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT RE 1, H372 (thyroid gland) Aquatic Acute 1, H400 Aquatic Chronic 1, H410 EUH032	1
Index: 011-002-00-6 CAS: 1310-73-2 EC: 215-185-5 Registration number: 01-2119457892-27- 00029	natrii hydroxidum	0,06-0,8	Met. Corr. 1, H290 Skin Corr. 1A, H314 Specific concentration limit: Skin Corr. 1B, H314: $2\% \le C < 5\%$ Skin Corr. 1A, H314: $C \ge 5\%$ Eye Irrit. 2, H319: $0,5\% \le C < 2\%$ Skin Irrit. 2, H315: $0,5\% \le C < 2\%$	

Notes

1 Substance with a Union workplace exposure limit.

Full text of all classifications and hazard statements is given in the section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet. If unconscious, put the person in the stabilized (recovery) position on his side with his head slightly bent backwards and make sure that airways are free; never induce vomiting. If the person vomits by himself, make sure that the vomit is not inhaled. In life threatening conditions first of all provide resuscitation of the affected person and ensure medical assistance. Respiratory arrest - provide artificial respiration immediately. Cardiac arrest - provide indirect cardiac massage immediately.

If inhaled

Take care of your own safety, do not let the affected person walk! Terminate the exposure immediately; move the affected person to fresh air. Beware of the contaminated clothes. Depending on the situation, call the medical rescue service and ensure medical treatment considering the frequent need of further observation for at least 24 hours.

If on skin

Remove contaminated clothes. Take off any rings, watches, bracelets before or during washing if worn in the contaminated areas of the skin. Depending on the situation, call the medical rescue service and always ensure medical treatment. Rinse contaminated areas with a flow of water, lukewarm at best, for 10-30 minutes; do not use any brush, soap or neutralizers.

If in eyes

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. No neutralization should be performed in any case! Rinsing should be continued for 10-30 minutes from the inner to the outer eye corner to make sure that the other eye is not involved. Depending on the situation, call medical rescue service or ensure medical treatment as promptly as possible. Everyone must be referred for treatment even if affected only a little.



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If swallowed

INDUCE VOMITING! Vomiting should be induced in the person only if conscious, within 1 hour from ingestion. If in doubt whether vomiting should be induced, contact the Toxicological Information Centre and give information about the substances or composition of the product as provided on the original packaging or in the safety data sheet of the product. FOLLOWING INGESTION OF TOXIC OR HIGHLY TOXIC SUBSTANCES, GIVE 10-20 CRUSHED TABLETS OF ACTIVATED CARBON, MIXED IN WATER, WITHIN NO LATER THAN 5 MINUTES - irrespective of whether vomiting could be induced. Call medical rescue service.

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

If inhaled

Cough, headache.

If on skin

Causes skin irritation.

If in eyes

Causes serious eye irritation.

If swallowed

Irritation, nausea.

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

Immediate first aid is essential! Get medical attention immediately. Antidote (administered by a doctor) (information - national poison center), resuscitator, oxygen must be available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist.

Unsuitable extinguishing media

Water - full jet.

5.2. Special hazards arising from the substance or mixture

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

5.3. Advice for firefighters

Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit only where personal (close) contact is likely. Use a self-contained breathing apparatus and full-body protective clothing. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

May be corrosive to metals. Use personal protective equipment for work. Follow the instructions in the Sections 7 and 8. Do not inhale dust. Prevent contact with skin and eyes.

6.2. Environmental precautions

Do not allow to enter drains. Prevent contamination of the soil and entering surface or ground water.

6.3. Methods and material for containment and cleaning up

Place the product mechanically in an appropriate manner. Dispose of the collected material according to the instructions in the section 13.

6.4. Reference to other sections

See the Section 7, 8 and 13.



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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Prevent formation of gases and vapours in concentrations exceeding the occupational exposure limits. Do not inhale dust. Prevent contact with skin and eyes. Do not eat, drink or smoke when using this product. Wash hands and exposed parts of the body thoroughly after handling. Use only outdoors or in a well-ventilated area. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection. Avoid release to the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose. Do not expose to sunlight. Store locked up. Keep only in original container. Keep container tightly closed.

7.3. Specific end use(s)

not available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

European Union

Commission Directive (EU) 2017/164

Substance name (component)	Туре	Value	Note
	OEL 8 hours	1 mg/m ³	
Sodium cyanide (CAS: 143-33-9)	OEL 15 minutes	5 mg/m³	Skin

DNEL

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Workers / consumers	Route of exposure	Value	Effect	Value determination	Source
	Dermal	3.03 mg/kg			
	Inhalation	9.4 mg/kg			

PNEC

Sodium cyanide

Route of exposure	Value	Value determination	Source
Freshwater environment	1 μg/l		432/2003 Sb.,příloha 2
Seawater	0.2 μg/l		432/2003 Sb.,příloha 2
Soil (agricultural)	7 μg/kg		

8.2. Exposure controls

Follow the usual measures intended for health protection at work and especially for good ventilation. This can be achieved only by local suction or efficient general ventilation. Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

Eve/face protection

Closed goggles which are protected against dust penetration. Protective goggles or face shield (based on the nature of the work performed).

Skin protection

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Other protection: protective workwear. Contaminated skin should be washed thoroughly. Hand protection: Protective gloves resistant to the product (nitrile rubber).



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Respiratory protection

Mask with filter B2 or equivalent. Use insulating breathing apparatus when the exposition limits of the substances are exceeded or at the place with insufficient ventilation. In case of inadequate ventilation wear respiratory protection.

Thermal hazard

Not available.

Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2. Collect spillage.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state solid

Colour data not available
Odour without fragrance

Melting point/freezing point 561,7 °C Boiling point or initial boiling point and boiling range 1500 °C

Flammability non-inflammable
Lower and upper explosion limit data not available
Flash point data not available
Auto-ignition temperature data not available

Decomposition temperature data not available pH 11,7 (undiluted)
Kinematic viscosity data not available

Solubility in water 370 g/l 20°C
Partition coefficient n-octanol/water (log value) -0,25 20°C
Vapour pressure 0,1 kPa at 800 °C

Density and/or relative density

Relative density 1,595 20°C

9.2. Other information

not available

SECTION 10: Stability and reactivity

10.1. Reactivity

The substance is non-flammable.

10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

Unknown.

10.4. Conditions to avoid

The product is stable and no degradation occurs under normal use. Protect against flames, sparks, overheating and against frost.

10.5. Incompatible materials

Protect against strong acids, bases and oxidizing agents. May be corrosive to metals. Water.

10.6. Hazardous decomposition products

Not developed under normal uses. Dangerous outcomes such as carbon monoxide and carbon dioxide are formed at high temperature and in fire.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Inhalation of solvent vapors above values exceeding exposure limits for working environment may result in acute inhalation poisoning, depending on the level of concentration and exposure time. No toxicological data is available for the substance.



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Acute toxicity

Fatal if swallowed, in contact with skin or if inhaled.

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Route of exposure	Parameter	Value	Exposure time	Species	Sex
Oral	LD50	>2000 mg/kg		Rat	
Inhalation	LD50	>10 mg/l	4 hour	Rat	

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Route of exposure	Parameter	Value	Exposure time	Species	Sex
Oral	LD50	5.09 mg/kg		Rat	
Dermal	LD50	11.28 mg/kg		Rabbit	
Oral	LD50	5 mg/kg		Rat	
Dermal	LD50	11.8 mg/kg		Rabbit	
Inhalation	LC50	103 mg/kg	4 hour	Human	

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

Based on available data the classification criteria are not met.

Germ cell mutagenicity

Based on available data the classification criteria are not met.

Carcinogenicity

Based on available data the classification criteria are not met.

Reproductive toxicity

Based on available data the classification criteria are not met.

Toxicity for specific target organ - single exposure

Based on available data the classification criteria are not met.

Toxicity for specific target organ - repeated exposure

Causes damage to thyroid gland through prolonged or repeated exposure.

Aspiration hazard

Based on available data the classification criteria are not met.

11.2. Information on other hazards

The substance does not have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 12: Ecological information

12.1. Toxicity

Acute toxicity

Very toxic to aquatic life with long lasting effects.

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Parameter	Value	Exposure time	Species	Environment
LC50	15.8 μg		Fishes	
EC50	15.8 μg		Algae	
LC50	15.8 μg		Daphnia	
EC50	4.9 mg		Bacteria	
LC50	0.083 mg/kg	96 hour	Fishes (Oncorhynchus mykiss)	



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Parameter	Value	Exposure time	Species	Environment
IC50	0.03 mg/kg	72 hour	Algae (Selenastrum capricornutum)	

12.2. Persistence and degradability

Half-life of hydrolysis: 6,8 day at 30°C

12.3. Bioaccumulative potential

BCF: 3,162 **12.4. Mobility in soil**

Not available.

12.5. Results of PBT and vPvB assessment

Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

12.6. Endocrine disrupting properties

not available

12.7. Other adverse effects

Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations. Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

SECTION 14: Transport information

14.1. UN number or ID number

UN 1689

14.2. UN proper shipping name

SODIUM CYANIDE, SOLID

14.3. Transport hazard class(es)

6.1 Toxic substances

14.4. Packing group

I - substances presenting high danger

14.5. Environmental hazards

not relevant

14.6. Special precautions for user

not available

14.7. Maritime transport in bulk according to IMO instruments

not relevant



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66 1689

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Additional information

Hazard identification No.

UN number

Classification code

Safety signs 6.1+hazardous for the environment



Air transport - ICAO/IATA

Packaging instructions passenger 666 Cargo packaging instructions 673

Marine transport - IMDG

EmS (emergency plan) F-A, S-A

SECTION 15: Regulatory information

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

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. Regulation (EC) No. 1272/2008 of the European Parliament and of the Council of 16th December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006, as amended.

15.2. Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

A list of standard risk phrases used in the safety data sheet

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H372 Causes damage to thyroid gland through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects. H300+H310+H330 Fatal if swallowed, in contact with skin or if inhaled.

Guidelines for safe handling used in the safety data sheet

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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

P273 Avoid release to the environment.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

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

A list of additional standard phrases used in the safety data sheet

EUH032 Contact with acids liberates very toxic gas. **Other important information about human health protection**



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The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

Key to abbreviations and acronyms used in the safety data sheet

ADR European agreement concerning the international carriage of dangerous goods by

road

BCF Bioconcentration Factor
CAS Chemical Abstracts Service

CLP Regulation (EC) No 1272/2008 on classification, labelling and packaging of

substance and mixtures

DNEL Derived no-effect level

EC50 Concentration of a substance when it is affected 50% of the population EINECS European Inventory of Existing Commercial Chemical Substances

EmS Emergency plan

ES Identification code for each substance listed in EINECS

EU European Union

EuPCS European Product Categorisation System
IATA International Air Transport Association

IBC International Code For The Construction And Equipment of Ships Carrying

Dangerous Chemicals

IC50 Concentration causing 50% blockade
ICAO International Civil Aviation Organization
IMDG International Maritime Dangerous Goods

INCI International Nomenclature of Cosmetic Ingredients
ISO International Organization for Standardization
IUPAC International Union of Pure and Applied Chemistry

LC50 Lethal concentration of a substance in which it can be expected death of 50% of the

population

LD50 Lethal dose of a substance in which it can be expected death of 50% of the

population

log Kow Octanol-water partition coefficient

MARPOL International Convention for the Prevention of Pollution from Ships

OEL Occupational Exposure Limits

PBT Persistent, Bioaccumulative and Toxic
PNEC Predicted no-effect concentration

ppm Parts per million

REACH Registration, Evaluation, Authorisation and Restriction of Chemicals

RID Agreement on the transport of dangerous goods by rail

UN Four-figure identification number of the substance or article taken from the UN

Model Regulations

UVCB Substances of unknown or variable composition, complex reaction products or

biological materials

VOC Volatile organic compounds

vPvB Very Persistent and very Bioaccumulative

Acute Tox. Acute toxicity

Aguatic Acute Hazardous to the aquatic environment

Aquatic Chronic Hazardous to the aquatic environment (chronic)

Eye Irrit.

Met. Corr.

Skin Corr.

Skin Irrit.

Eye irritation

Corrosive to metals

Skin corrosion

Skin irritation

STOT RE Specific target organ toxicity - repeated exposure

Training guidelines



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Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

Recommended restrictions of use

not available

Information about data sources used to compile the Safety Data Sheet

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

The changes (which information has been added, deleted or modified)

The version 3.0 replaces the SDS version from 06 January 2020. Changes were made in sections 1,2,4,5,6,8,9,11,13, 15 and 16.

More information

Classification procedure - calculation method.

Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.