

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**Trade name **Sodium cyanide**

Stock number: L13278

CAS Number:

143-33-9

EC number:

205-599-4

Index number:

006-007-00-5

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

Identified use: SU24 Scientific research and development

**1.3 Details of the supplier of the safety data sheet**

Manufacturer/Supplier:

Thermo Fisher (Kandel) GmbH

Zeppelinstr. 7b

76185 Karlsruhe / Germany

Tel: +49 (0) 721 84007 280

Fax: +49 (0) 721 84007 300

Email: tech@alfa.com

www.alfa.com

Informing department: Product safety Tel + +049 (0) 7275 988687-0

**1.4 Emergency telephone number:**

Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)

Poison Information Center Mainz

www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008



GHS06 skull and crossbones

Acute Tox. 2 H300 Fatal if swallowed.

Acute Tox. 1 H310 Fatal in contact with skin.

Acute Tox. 2 H330 Fatal if inhaled.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

Other hazards that do not result in classification No information known.

**2.2 Label elements**

Labelling according to Regulation (EC) No 1272/2008 The substance is classified and labelled according to the CLP regulation.

**Hazard pictograms**

GHS06 GHS09

Signal word Danger

**Hazard statements**

H300 Fatal if swallowed.

H310 Fatal in contact with skin.

H330 Fatal if inhaled.

H410 Very toxic to aquatic life with long lasting effects.

**Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P284 Wear respiratory protection.

P320 Specific treatment is urgent (see on this label).

P361 Remove/Take off immediately all contaminated clothing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Additional information:**

EUH032 Contact with acids liberates very toxic gas.

**2.3 Other hazards****Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

**SECTION 3: Composition/information on ingredients****3.1 Substances**

CAS# Designation:

143-33-9 Sodium cyanide

Identification number(s):

EC number: 205-599-4

Index number: 006-007-00-5

**SECTION 4: First aid measures****4.1 Description of first aid measures****General information**

Instantly remove any clothing soiled by the product.

Remove breathing apparatus only after soiled clothing has been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

**After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

Seek immediate medical advice.

**After skin contact**

Instantly wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

**After eye contact** Rinse opened eye for several minutes under running water. Then consult doctor.

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**After swallowing** Do not induce vomiting; instantly call for medical help.  
**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.  
**4.3 Indication of any immediate medical attention and special treatment needed** No further relevant information available.

### SECTION 5: Firefighting measures

**5.1 Extinguishing media**  
**Suitable extinguishing agents** CO<sub>2</sub>, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.  
**5.2 Special hazards arising from the substance or mixture**  
If this product is involved in a fire, the following can be released:  
Nitrogen oxides (NO<sub>x</sub>)  
Sodium oxide  
Hydrogen cyanide (HCN)  
**5.3 Advice for firefighters**  
**Protective equipment:**  
Wear self-contained breathing apparatus.  
Wear full protective suit.

### SECTION 6: Accidental release measures

**6.1 Personal precautions, protective equipment and emergency procedures**  
Put on breathing apparatus.  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation.  
**6.2 Environmental precautions:** Do not allow material to be released to the environment without proper governmental permits.  
**6.3 Methods and material for containment and cleaning up:**  
Dispose of contaminated material as waste according to section 13.  
Ensure adequate ventilation.  
**Prevention of secondary hazards:** No special measures required.  
**6.4 Reference to other sections**  
See Section 7 for information on safe handling  
See section 8 for information on personal protection equipment.  
See Section 13 for information on disposal.

### SECTION 7: Handling and storage

**7.1 Precautions for safe handling**  
Keep containers tightly sealed.  
Store in cool, dry place in tightly closed containers.  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle container with care.  
**Information about protection against explosions and fires:** No information known.  
**7.2 Conditions for safe storage, including any incompatibilities**  
**Storage**  
**Requirements to be met by storerooms and containers:** No special requirements.  
**Information about storage in one common storage facility:**  
Store away from oxidising agents.  
Do not store together with acids.  
**Further information about storage conditions:**  
Keep container tightly sealed.  
Store in cool, dry conditions in well sealed containers.  
Store in a locked cabinet or with access restricted to technical experts or their assistants.  
**7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

**Additional information about design of technical systems:**  
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

#### 8.1 Control parameters

**Components with critical values that require monitoring at the workplace:**

#### 143-33-9 Sodium cyanide (100,0%)

MAK (Germany)	Long-term value: 3,8 E mg/m <sup>3</sup>
PEL (USA)	Long-term value: 5 mg/m <sup>3</sup> as CN; Skin
REL (USA)	Ceiling limit: 5* mg/m <sup>3</sup> , 4,7* ppm as CN; *10-min
TLV (USA)	Ceiling limit: 5 mg/m <sup>3</sup> , 4,7 ppm as CN; Skin

**Additional information:** No data

#### 8.2 Exposure controls

##### Personal protective equipment

##### General protective and hygienic measures

The usual precautionary measures should be adhered to in handling the chemicals.

Keep away from foodstuffs, beverages and food.

Instantly remove any soiled and impregnated garments.

Wash hands during breaks and at the end of the work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

**Breathing equipment:** Use self-contained respiratory protective device in emergency situations.

##### Recommended filter device for short term use:

Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.

##### Protection of hands:

Check protective gloves prior to each use for their proper condition.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

**Material of gloves** Nitrile rubber, NBR

**Penetration time of glove material (in minutes)** 480

**Glove thickness** 0.11 mm

**Eye protection:** Safety glasses

**Body protection:** Protective work clothing.

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### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

##### General Information

##### Appearance:

Form: Solid in various forms:  
Colour: White  
Smell: Not determined  
Odour threshold: Not determined.

pH-value: Not applicable.

##### Change in condition

Melting point/Melting range: 563 °C  
Boiling point/Boiling range: ca 1500 °C  
Sublimation temperature / start: Not determined  
Inflammability (solid, gaseous): Not determined.  
Ignition temperature: Not determined  
Decomposition temperature: Not determined  
Self-inflammability: Not determined.

Danger of explosion: Product is not explosive.

##### Critical values for explosion:

Lower: Not determined  
Upper: Not determined  
Steam pressure at 817 °C: 1 hPa  
Density: Not determined  
Relative density: Not determined.  
Vapour density: Not applicable.  
Evaporation rate: Not applicable.

##### Solubility in / Miscibility with

Water: Insoluble  
Partition coefficient (n-octanol/water): Not determined.

##### Viscosity:

dynamic: Not applicable.  
kinematic: Not applicable.

#### 9.2 Other information

No further relevant information available.

### SECTION 10: Stability and reactivity

**10.1 Reactivity** Contact with acids liberates very toxic gas.

**10.2 Chemical stability** Stable under recommended storage conditions.

**Thermal decomposition / conditions to be avoided:** No decomposition if used and stored according to specifications.

**10.3 Possibility of hazardous reactions** Contact with acids liberates very toxic gas.

**10.4 Conditions to avoid** No further relevant information available.

#### 10.5 Incompatible materials:

Oxidising agents

Acids

#### 10.6 Hazardous decomposition products:

Nitrogen oxides (NOx)

Sodium oxide

Hydrogen cyanide (prussic acid)

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### Acute toxicity:

Fatal if inhaled.

Fatal in contact with skin.

Fatal if swallowed.

Danger by skin resorption.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

#### LD/LC50 values that are relevant for classification:

Oral	LD50	6,44 mg/kg (rat)
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Dermal	LD50	10,4 mg/kg (rabbit)
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**Skin irritation or corrosion:** Irritant for skin and mucous membranes.

**Eye irritation or corrosion:** Irritant effect.

**Sensitization:** No sensitizing effect known.

**Germ cell mutagenicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.

**Carcinogenicity:** No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

**Reproductive toxicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.

**Specific target organ system toxicity - repeated exposure:** No effects known.

**Specific target organ system toxicity - single exposure:** No effects known.

**Aspiration hazard:** No effects known.

**Subacute to chronic toxicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

**Additional toxicological information:** To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

### SECTION 12: Ecological information

#### 12.1 Toxicity

**Aquatic toxicity:** No further relevant information available.

**12.2 Persistence and degradability** No further relevant information available.

**12.3 Bioaccumulative potential** No further relevant information available.

**12.4 Mobility in soil** No further relevant information available.

#### Ecotoxicological effects:

**Remark:** Very toxic for fish

#### Additional ecological information:

##### General notes:

Do not allow material to be released to the environment without proper governmental permits.

Water danger class 3 (Assessment by list): extremely hazardous for water.

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into soil.

Also poisonous for fish and plankton in water bodies.

May cause long lasting harmful effects to aquatic life.

Avoid transfer into the environment.

Very toxic for aquatic organisms

#### 12.5 Results of PBT and vPvB assessment

**PBT:** Not applicable.

**vPvB:** Not applicable.

**12.6 Other adverse effects** No further relevant information available.

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**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**Recommendation**

Hand over to disposers of hazardous waste.  
Must be specially treated under adherence to official regulations.  
Consult state, local or national regulations for proper disposal.

**Uncleaned packagings:**

**Recommendation:** Disposal must be made according to official regulations.

**SECTION 14: Transport information**

**UN-Number**

ADR, IMDG, IATA

UN1689

**14.2 UN proper shipping name**

ADR

IMDG

IATA

1689 SODIUM CYANIDE, SOLID  
SODIUM CYANIDE, SOLID, MARINE POLLUTANT  
SODIUM CYANIDE, SOLID

**14.3 Transport hazard class(es)**

ADR



Class  
Label  
IMDG

6.1 (T5) Toxic substances.  
6.1



Class  
Label  
IATA

6.1 Toxic substances.  
6.1



Class  
Label

6.1 Toxic substances.  
6.1

**Packing group**  
ADR, IMDG, IATA

I

**14.5 Environmental hazards:**  
**Marine pollutant:**

Environmentally hazardous substance, solid; Marine Pollutant  
Symbol (fish and tree)

**14.6 Special precautions for user**  
**Kemler Number:**

Warning: Toxic substances.  
66

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

Not applicable.

**Transport/Additional information:**

ADR

Excepted quantities (EQ):

Limited quantities (LQ)

Transport category

Tunnel restriction code

E5

0

1

C/E

**UN "Model Regulation":**

UN1689, SODIUM CYANIDE, SOLID, 6.1, I

**SECTION 15: Regulatory information**

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

**Australian Inventory of Chemical Substances** Substance is listed.

**Standard for the Uniform Scheduling of Medicines and Poisons** Substance is not listed.

**National regulations**

**Information about limitation of use:**

Employment restrictions concerning young persons must be observed.

For use only by technically qualified individuals.

**Classification according to VbF:** Not applicable

**Technical instructions (air):**

Class	Share in %
III	100.0

**Water hazard class:** Water danger class 3 (Assessment by list): extremely hazardous for water.

**Other regulations, limitations and prohibitive regulations**

**ELINCS (European List of Notified Chemical Substances)** Substance is not listed.

**Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.** Substance is not listed.

**The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.**

Substance is not listed.

**Annex XIV of the REACH Regulations (requiring Authorisation for use)** Substance is not listed.

**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**SECTION 16: Other information**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing SDS:** Global Marketing Department

**Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

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VbF: Verordnung über brennbare Flüssigkeiten, Österreich (Ordinance on the storage of combustible liquids, Austria)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
vPvB: very Persistent and very Bioaccumulative  
ACGIH: American Conference of Governmental Industrial Hygienists (USA)  
OSHA: Occupational Safety and Health Administration (USA)  
NTP: National Toxicology Program (USA)  
IARC: International Agency for Research on Cancer  
EPA: Environmental Protection Agency (USA)  
Acute Tox. 2: Acute toxicity, Hazard Category 2  
Acute Tox. 1: Acute toxicity, Hazard Category 1  
Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1  
Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

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