



Safety Data Sheet

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

Product identifier:

Product name: Sodium cyanide

SDS No. : 71381E-1

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

Research and Development

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN

Division: Chemical Safety Management Department

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

Section 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

HEALTH HAZARDS

Acute toxicity (Oral): Category 2

Acute toxicity (Dermal): Category 1

Serious eye damage/eye irritation: Category 2

Reproductive toxicity: Category 2

Specific target organ toxicity – repeated exposure: Category 1 (adrenal gland, testis, spleen, central nervous system, kidneys)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment, short-term (acute): Category 1

Hazardous to the aquatic environment, long-term (chronic): Category 1

(Note) GHS classification without description: Not classified/Classification not possible

Label elements



Signal word: Danger

HAZARD STATEMENT

H300 Fatal if swallowed

H310 Fatal in contact with skin

H319 Causes serious eye irritation

H361 Suspected of damaging fertility or the unborn child

H372 Causes damage to organs through prolonged or repeated exposure (adrenal gland, testis, spleen, central nervous system, kidneys)

H410 Very toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

P202 Do not handle until all safety precautions have been read and understood.

P273 Avoid release to the environment.



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

P262 Do not get in eyes, on skin, or on clothing.

P264 Wash contaminated parts thoroughly after handling.

P280 Wear protective gloves or protective clothing.

P280 Wear eye protection/face protection.

P280 Use personal protective equipment as required.

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

Response

P391 Collect spillage.

P314 Get medical advice/attention if you feel unwell.

P308 + P313 IF exposed or concerned: Get medical advice/attention.

P310 Immediately call a POISON CENTER/doctor/physician.

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

P361 + P364 Take off immediately all contaminated clothing and wash it before reuse.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/attention.

P330 IF SWALLOWED: Rinse mouth.

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

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container in accordance with local/national regulation.

Specific adverse human health effects

See "11. Toxicological Information".

Section 3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name	Content (%)	CAS No.	ENCS	Chemical formula
Sodium cyanide	98(min)	143-33-9	1-158	NaCN

Note : The figures shown above are not the specifications of the product.

Impurities

Sodium hydroxide $\leq 0.80\%$ (CAS No.1310-73-2)

Section 4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical advice/attention if you feel unwell.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER/doctor/physician if you feel unwell.

IF ON SKIN

Take off immediately all contaminated clothing. Rinse skin with water or shower.

Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/attention.

**IF IN EYES**

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF SWALLOWED

Rinse mouth.

Immediately call a POISON CENTER/doctor/physician.

Call a POISON CENTER/doctor/physician if you feel unwell.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

Specific hazards arising from the substance or mixture

Fire may produce irritating, corrosive and/or toxic gases.

Runoff from fire control or dilution water may cause pollution.

See "10. Stability and Reactivity".

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.

Wear protective gloves/protective clothing/eye protection/face protection.

Firefighters should wear self-contained breathing apparatus with a full facepiece operated in the positive pressure mode.

Section 6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses, low areas or rivers. To be careful not discharged to the environment without being properly handled waste water contaminated.

Methods and materials for containment and cleaning up

Sweep up, place in a bag and hold for waste disposal.

Preventive measures for secondary accident

Collect spillage.

Section 7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)



Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Do not handle until all safety precautions have been read and understood.

Wear protective gloves/protective clothing/eye protection/face protection.

Wash hands et al thoroughly after handling.

When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity".

Advice on general occupational hygiene

Do not get in eyes, on skin, or on clothing.

Wash contaminated parts thoroughly after handling.

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

Take off immediately all contaminated clothing and wash it before reuse.

Storage

Conditions for safe storage

Keep container tightly closed.

Store locked up. (P405)

Store in a cool, dry place. Do not store in direct sunlight.

Storage in accordance with local/national regulation.

Container and packaging materials for safe handling

Use closed unbreakable containers.

Section 8. Exposure controls/personal protection

Control parameters

Control value and Concentration standard value

(Sodium cyanide)

Japan control value 3mg-CN/m³

Adopted value

(Sodium cyanide)

JSOH(2001) (ceiling) 5mg-CN/m³ (skin)

(Sodium hydroxide)

JSOH(1978) (ceiling) 2mg/m³

(Sodium cyanide)

ACGIH(1994) STEL: C 5mg-CN/m³ (URT irr; headache; nausea; thyroid eff)

(Sodium hydroxide)

ACGIH(1992) STEL: C 2mg/m³ (URT, eye & skin irr)

[ACGIH] Notation

(Sodium cyanide)

Skin

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.



Washing facilities should be available.

Individual protection measures

Recommend to use protective equipment in conformity with the standards.

Use appropriate protective equipment in accordance with local/national regulation.

Respiratory protection

Wear respiratory protection (dust-proof mask/gas mask). Select chemical cartridge corresponding to type of gases when using a gas mask.

Hand protection

Wear impervious protective glove.

Eye protection

Wear eye/face protection. Wear safety goggles in cases gas is generated.

Skin and body protection

Wear protective clothing.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Crystals or crystalline powder

Color: White to light yellow

Odor: Characteristic odor. Odorless when dry.

Melting point/Freezing point: 564°C

Boiling point or initial boiling point: (Sodium cyanide) 1496°C

Boiling range data is not available.

Flammability (gases, liquids and solids) data is not available.

Lower and upper explosion limit/flammability limit data is not available.

Flash point data is not available.

Auto-ignition temperature data is not available.

Decomposition temperature data is not available.

pH data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: 480–520 g/L (20°C)

Solubility in solvent data is not available.

n-Octanol/water partition coefficient data is not available.

Vapor pressure: 0.1 kPa (800°C), 12 kPa (1200°C)

Density and/or relative density: 1.6 g/cm³

Relative vapor density (Air=1) data is not available.

Particle characteristics data is not available.

Other information

Other information is not available.

Section 10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Deliquescent materials.

Possibility of hazardous reactions

Decomposes rapidly on contact with acids. Decomposes slowly on contact with moisture or water. This produces hydrogen cyanide. This generates toxic hazard. The solution is a



medium strong base. (ICSC 1118)
Conditions to avoid
Contact with incompatible materials.
Contact with fire source.
Incompatible materials
Acids, Water
Hazardous decomposition products
Hydrogen cyanide

Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Product]

Category 2, Fatal if swallowed

[Data for components of the product]

[GHS Cat. Japan, base data]

(Sodium cyanide)

rat LD50=5.733mg/kg

Acute toxicity (Dermal)

[Product]

Category 1, Fatal in contact with skin

[Data for components of the product]

[GHS Cat. Japan, base data]

(Sodium cyanide)

rabbit LD50=14.602mg/kg (CICAD 61, 2004)

Irritant properties

Skin corrosion/irritation

[Data for components of the product]

[GHS Cat. Japan, base data]

(Sodium hydroxide)

pig/rabbit severe necrosis (ACGIH 7th, 2001 et al)

Serious eye damage/irritation

[Product]

Category 2, Causes serious eye irritation

[Data for components of the product]

[GHS Cat. Japan, base data]

(Sodium cyanide)

conjunctival hyperaemia et al (CICAD, 2004)

(Sodium hydroxide)

rabbit corrosive (SIDS, 2009)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenic effects data is not available.

Reproductive toxicity

[Product]

Category 2, Suspected of damaging fertility or the unborn child

[Data for components of the product]

[GHS Cat. Japan, base data]



(Sodium cyanide)
cat. 2; CICAD 61, 2004
Specific target organ toxicity (STOT)
STOT-single exposure data is not available.
STOT-repeated exposure
[Product]
Category 1, Causes damage to organs through prolonged or repeated exposure
[Data for components of the product]
[cat.1]
[GHS Cat. Japan, base data]
(Sodium cyanide)
adrenal gland, testis, spleen, central nervous system, kidneys (CICAD 61, 2004)
Aspiration hazard data is not available.
Information on other hazards
May cause lung disorders by massive inhalation of powdered substance.
-e.g. fibrosis of lung tissue, cough, sputum, breath shortness, dyspnea, decline of lung function, interstitial lung disease, pneumothorax

Section 12. Ecological Information

Toxicity
Aquatic toxicity
[Product]
Category 1, Very toxic to aquatic life
Category 1, Very toxic to aquatic life with long lasting effects
[Data for components of the product]
Hazardous to the aquatic environment, short-term (acute)
[GHS Cat. Japan, base data]
(Sodium cyanide)
Fish (rainbow trout) LC50=0.05 – 0.075mg/L/96hr (IUCLID, 2000)
(Sodium hydroxide)
Crustacea (Ceriodaphnia reticulata) LC50=40.4mg/L/48hr (SIDS, 2004)
Water solubility
(Sodium cyanide)
58 g/100 ml (20°C) (ICSC, 2003)
(Sodium hydroxide)
109 g/100 ml (20°C) (ICSC, 2010)
Persistence and degradability
Persistence and degradability data is not available.
Bioaccumulative potential
Bioaccumulative potential data is not available.
Mobility in soil
Mobility in soil data is not available.
Other adverse effects
Ozone depleting chemical data is not available.

Section 13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

**Waste treatment methods**

Avoid release to the environment.

Dispose of contents/container as industrial waste. Accordance with local/national regulation.

Section 14. Transport Information

UN Number or ID Number : 1689

UN Proper Shipping Name :

SODIUM CYANIDE, SOLID

Class or division (Transport hazard class) : 6.1

Packing group : I

ERG GUIDE No.: 157

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : 1689

UN Proper Shipping Name :

SODIUM CYANIDE, SOLID

Class or division (Transport hazard class) : 6.1

Packing group : I

IATA (Dangerous Goods Regulations)

UN Number or ID Number : 1689

UN Proper Shipping Name :

SODIUM CYANIDE, SOLID

Class or division (Transport hazard class) : 6.1

Hazard labels : Toxic

Packing group : I

Environmental hazards

Marine pollutants (yes/no) : yes

Section 15. Regulatory Information

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

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

Sodium cyanide; Sodium hydroxide

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

Section 16. Other information**References and sources for data**

Globally Harmonized System of classification and labelling of chemicals, UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 22nd edit., 2021 UN

IMDG Code, 2022 Edition (Incorporating Amendment 41-22)

IATA Dangerous Goods Regulations (65th Edition) 2024

2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2024 TLVs and BEIs. (ACGIH)

JIS Z 7252 : 2019

JIS Z 7253 : 2019



2023 Recommendation on TLVs (JSHO)

Supplier's data/information

General Disclaimer

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Unauthorized translation or modification is prohibited.

Please provide SDS to customers for selling or transferring.

All chemicals have unknown hazard. Handle the product with care.

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2022).