Date of issue: 2018/04/26
Date of revision: 2024/10/10

Safety Data Sheet

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

Product identifier:
Product name: Nickel(II) chloride, anhydrous
SDS No. : 5388E-4
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 3
Acute toxicity (Inhalation): Category 2
Skin corrosion/irritation: Category 2
Respiratory sensitization: Category 1
Skin sensitization: Category 1
Carcinogenicity: Category 1A
Reproductive toxicity: Category 1B
Specific target organ toxicity - single exposure: Category 2 (nervous system)
Specific target organ toxicity - repeated exposure: Category 2 (central nervous system, lungs)
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
H301 Toxic if swallowed
H330 Fatal if inhaled
H315 Causes skin irritation
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
H317 May cause an allergic skin reaction
H350 May cause cancer
H360 May damage fertility or the unborn child

H371 May cause damage to organs (nervous system)
H373 May cause damage to organs through prolonged or repeated exposure (central nervous system, lungs)
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.
P284 In case of inadequate ventilation wear respiratory protection.
P271 Use only outdoors or in a well-ventilated area.
P264 Wash contaminated parts thoroughly after handling.
P280 Wear protective gloves.
P272 Contaminated work clothing should not be allowed out of the workplace.
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.
P308 + P311 IF exposed or concerned: Call a POISON CENTER/doctor/physician.
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physician.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P330 IF SWALLOWED: Rinse mouth.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
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
Nickel(II) chloride, anhydrous	98(min)	7718-54-9	1-242	NiCl2

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

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.

If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physician.

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.

Use only outdoors or in a well-ventilated area.

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

Wash contaminated parts thoroughly after handling.

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

Contaminated work clothing should not be allowed out of the workplace.

Take off 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

Japan control value 0.1mg-powder Ni/m3

Adopted value

JSOH(2011) 0.01mg-Ni/m3 (soluble in water); 0.1mg-Ni/m3 (Not soluble in water)

ACGIH(1998) TWA: 0.1mg-Ni/m3(I) (Lung dam; nasal cancer) (soluble compounds)

TWA: 0.2mg-Ni/m3(I) (Lung cancer) (insoluble compounds)

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: Powder or lump
Color: Light yellowish orange to yellowish brown
Odor data is not available.
Melting point/Freezing point: 1001℃
Boiling point or initial boiling point data is not available.
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 data is not available.
Solubility in solvent data is not available.

n-Octanol/water partition coefficient data is not available.
Vapor pressure data is not available.
Density and/or relative density: 3.6
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
Hygroscopic materials.
Possibility of hazardous reactions
Not available.
Conditions to avoid
Contact with incompatible materials.
Contact with fire source.
Incompatible materials
Strong oxidizing agents
Hazardous decomposition products
Chlorine compounds, Nickel oxides

Section 11. Toxicological Information

Information on toxicological effects
Acute toxicity
Acute toxicity (Oral)
[Product]
Category 3, Toxic if swallowed
[Data for components of the product]
[GHS Cat. Japan, base data]
male rat LD50=175mg/kg (Nickel(II) Chloride Hexahydrate) (as Nickel(II) Chloride: 95.4mg/kg) (NITE Initial Risk Assessment Report, 2017)
Acute toxicity (Inhalation)
[Product]
Category 2, Fatal if inhaled
[Data for components of the product]
[GHS Cat. Japan, base data]
dust: male rat LC50=0.593mg/L/4hr (Nickel(II) Chloride Hexahydrate, CAS No. 7718-54-9) (cal. as Nickel(II) Chloride: 0.323mg/L/4hr) (OECD TG 403, GLP) (REACH Registration dossier, Accessed Jan. 2022)
Irritant properties
Skin corrosion/irritation
[Product]
Category 2, Causes skin irritation
[Data for components of the product]
[GHS Cat. Japan, base data]
human (EHC No.108, 1991)
Serious eye damage/irritation data is not available.
Sensitization
Respiratory sensitization
[Product]
Category 1, May cause allergy or asthma symptoms or breathing difficulties if inhaled
[Data for components of the product]
[GHS Cat. Japan, base data]
cat. 1; MAK/BAT No43, 2007
Skin sensitization
[Product]
Category 1, May cause an allergic skin reaction
[Data for components of the product]

[GHS Cat. Japan, base data]
cat. 1; MAK/BAT No43, 2007

Mutagenic effects data is not available.

Carcinogenicity

[Product]
Category 1A, May cause cancer

[Data for components of the product]
[GHS Cat. Japan, base data]
cat.1A; IARC Gr. 1 (IARC 49, 1990 et al.)
[IARC]
Group 1 : Carcinogenic to humans
[ACGIH]
A1(as Ni)(1998) : Confirmed Human Carcinogen
[EU]
Category 1A; Substances known to have carcinogenic potential for humans

Reproductive toxicity

[Product]
Category 1B, May damage fertility or the unborn child

[Data for components of the product]
[GHS Cat. Japan, base data]
cat. 1B; ATSDR, 2005

Specific target organ toxicity (STOT)

STOT-single exposure

[Product]
Category 2, May cause damage to organs

[Data for components of the product]
[cat.2]
[GHS Cat. Japan, base data]
nervous system (ECETOC TR33, 1989)

STOT-repeated exposure

[Product]
Category 2, May cause damage to organs through prolonged or repeated exposure

[Data for components of the product]
[cat.2]
[GHS Cat. Japan, base data]
central nervous system, lungs (NITE Initial Risk Assessment Report ver.1.0 No.115, 2008)

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]
Crustacea (Ceriodaphnia dubia) LC50=0.013mg Ni/L/48hr (a converted value equivalent to this substance : 0.029 mg/L/48hr) (NITE Initial Risk Assessment Report, 2008)
Hazardous to the aquatic environment, long-term (chronic)
[GHS Cat. Japan, base data]
Crustacea (Ceriodaphnia quadrangular) NOEC=0.002mg/L/17days (EU RAR, 2008)

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 : 3288
UN Proper Shipping Name :
TOXIC SOLID, INORGANIC, N.O.S.
Class or division (Transport hazard class) : 6.1
Packing group : II
ERG GUIDE No.: 151

IMDG Code (International Maritime Dangerous Goods Regulations)
UN Number or ID Number : 3288
UN Proper Shipping Name :
TOXIC SOLID, INORGANIC, N.O.S.
Class or division (Transport hazard class) : 6.1
Packing group : II

IATA (Dangerous Goods Regulations)
UN Number or ID Number : 3288
UN Proper Shipping Name :
TOXIC SOLID, INORGANIC, N.O.S.
Class or division (Transport hazard class) : 6.1
Hazard labels : Toxic
Packing group : II

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

Applicable

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 (JSOH)
Supplier's data/information

General Disclaimer

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).