



## Safety Data Sheet

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

Product identifier:

Product name: Nickel(II) oxide  
SDS No. : 5404E-3

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

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### Section 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

#### HEALTH HAZARDS

Respiratory sensitization: Category 1  
Skin sensitization: Category 1  
Carcinogenicity: Category 1A  
Specific target organ toxicity – repeated exposure: Category 1 (respiratory system)

#### ENVIRONMENT HAZARDS

Hazardous to the aquatic environment, long-term (chronic): Category 4

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

Label elements



Signal word: Danger

#### HAZARD STATEMENT

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled  
H317 May cause an allergic skin reaction  
H350 May cause cancer  
H372 Causes damage to organs through prolonged or repeated exposure (respiratory system)  
H413 May cause long lasting harmful effects to aquatic life

#### 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.  
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**

- P314 Get medical advice/attention if you feel unwell.
- P308 + P313 IF exposed or concerned: Get medical advice/attention.
- 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.

**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.	Chemicals No, Japan	Chemical formula
Nickel(II) oxide	98(min)	1313-99-1	1-517	NiO

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.

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



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**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.

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**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.

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**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

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.

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## Section 8. Exposure controls/personal protection

Control parameters

Control value and Concentration standard value

Japan control value 0.1mg-powder Ni/m<sup>3</sup>

Adopted value

JSOH(2011) 0.01mg-Ni/m<sup>3</sup> (soluble in water); 0.1mg-Ni/m<sup>3</sup> (Not soluble in water)

ACGIH(1998) TWA: 0.1mg-Ni/m<sup>3</sup>(I) (Lung dam; nasal cancer) (soluble compounds)

TWA: 0.2mg-Ni/m<sup>3</sup>(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.

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## Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Crystalline powder to powder



Color: Yellow-green to black

Odor data is not available.

Melting point/Freezing point: 1955°C

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: Practically insoluble (1.1 mg/l, 20°C)

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: 6.7 g/cm<sup>3</sup>

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

Particle characteristics data is not available.

Other information

Other information is not available.

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## Section 10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

Reacts violently with halogens and strong oxidants such as hydrogen peroxide. This generates fire and explosion hazard. (ICSC 0926)

Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

Not available.

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## Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity data is not available.

Irritant properties

Skin corrosion/irritation data is not available.

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; JSOH, 2008

Skin sensitization

[Product]

Category 1, May cause an allergic skin reaction

[Data for components of the product]

[GHS Cat. Japan, base data]

cat. 1; JSOH, 2008

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; Gr. 1 (IARC 49, 1990 et al.)

[IARC]

Group 1 : Carcinogenic to humans

[ACGIH]

A1(as Ni)(1998) : Confirmed Human Carcinogen

[NTP]

Known : Known to be Human Carcinogens

[EU]

Category 1A; Substances known to have carcinogenic potential for humans

Reproductive toxicity data is not available.

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]

respiratory system (ATSDR, 2005)

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

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## Section 12. Ecological Information

Toxicity

Aquatic toxicity

[Product]

Category 4, May cause long lasting harmful effects to aquatic life

[Data for components of the product]

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

[GHS Cat. Japan, base data]



- Crustacea (Daphnia magna) EC50 > 100mg/L/48hr (IUCLID, 2000)
- Water solubility
  - Insoluble (CERI/NITE Hazard Assessment Report (Preliminary version), 2006)
- 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.

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**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.

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**Section 14. Transport Information**

- UN Number or ID Number : Not regulated
- IMDG Code (International Maritime Dangerous Goods Regulations)
  - UN Number or ID Number : Not regulated
- IATA (Dangerous Goods Regulations)
  - UN Number or ID Number : Not regulated
- Environmental hazards
  - Marine pollutants (yes/no) : no

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**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.

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**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

The Safety Data Sheet (SDS) is copyrighted material of KISHIDA CHEMICAL CO., LTD.

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).