

GHS Safety Data Sheet

SDS No. : NIO01PAEG

Date Issued : 1997/11/07

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Section 1. Identification of the substance or mixture and of the supplier

Product Information

Product name: NiO Nickel(II) oxide

Product	Purity	Form	Size or Shape
NIO04PB	99.97%(3N7)	powder (green)	—
NIO05PB	99%(2N)	powder (black)	—
NIO11PB	99.9%(3N)	fine powder (black)	ca.1~2 μm
NIO01GB	3Nup	grains (green)	—
NIO01RB	3Nup	tablets	φ 10×t5 (mm)
NIO02RB	3Nup	tablets	φ 20×t5 (mm)
NI020_NIOT3066	3Nup	target	φ 101.6×t5 (mm)
NI020_NIOT3078	3Nup	target	φ 152.4×t5 (mm)

Company Information:

Manufacturer : Kojundo Chemical Laboratory Co., Ltd.
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Recommended uses and restrictions on use: For research purposes

Section 2. Hazards identification

GHS Classification

Health Hazards	Environmental Hazards	Physical Hazards
Respiratory sensitization : Category 1 Skin sensitization : Category 1 Carcinogenicity : Category 1A Specific target organ toxicity, repeated exposure: Category1	Hazardous to the aquatic environment, chronic toxicity :Category 4	Flammable solids : Not classified Pyrophoric solids : Not classified Self-heating substances and mixtures : Not classified Substances and mixtures which, in contact with water, emit flammable gases : Not classified

GHS Label: C



Pictograms or symbols:

Warning word: DANGER

Hazard information	Description of precaution
<p>May cause allergy or asthma symptoms or breathing difficulties if inhaled</p> <p>May cause an allergy skin reaction</p> <p>May cause cancer</p> <p>Causes damage to organs (respiratory tract) through prolonged or repeated exposure</p> <p>May cause long lasting harmful effects to aquatic life</p>	<p>Obtain special instructions. Read and understand all safety precautions before handling.</p> <p>Wear protective gloves/protective clothing/eye protection/respiratory protection/face protection during handling.</p> <p>Avoid breathing dust/mist/gas/fume/vapors/spray. Do not eat, drink or smoke when using this product, and wash hands thoroughly after handling.</p> <p>Take off the contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace.</p> <p>Avoid release to the environment and collect spillage.</p> <p>IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.</p>



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IF ON SKIN: Remove immediately all contaminated clothing and rinse skin with water/shower. Then wash skin with plenty of soap and water. If skin irritation occurs, get medical advice/attention. Call a POISON CENTER or doctor/physician if you feel unwell. Store locked up. Dispose of contents/ container in accordance with local/national regulations.

Section 3. Composition / information on ingredients

Chemical or common name: Nickel(II) oxide
 Chemical formula: NiO
 Single Substance or Compound: Single substance
 Composition: 100%
 CAS #: 1313-99-1
 RTECS#: QR8400000
 TSCA inventory : Listed
 EINECS: 2152157

Section 4. First aid measures

Eye contact: Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.
 Skin contact: Promptly flush contaminated skin with soap or mild detergent and water. Contact physician if irritation continues.
 Inhalation: Remove the exposed person immediately and provide fresh air. Get medical attention.
 Ingestion: Rinse mouth and throat with water. Get medical attention immediately.

Section 5. Fire fighting measures

Extinguishing media: Use media appropriate for surrounding fire.
 Fire fighting: The product is not combustible. Self-contained breathing apparatus and full protective clothing should be used, if the material is involved in fire.

Section 6. Accidental release measures

Personal Precautions: Workers should use protective wears to prevent contact with the spilt adhesive and inhalation of its vapor/dusts.
 Environmental hazard precautions: Shut off leak if without risk. Prevent flow out to river, etc. so as not to badly affect.
 Method for containment and cleaning up:
 Indoor leakage: Ventilate as much as possible until the cleaning is completed.
 Outdoor leakage: Work from the windward and evacuate the leeward crowd. Gather up, pack in closed DOT-approved waste container as much as possible. Carefully collect remnant and move to a safe place.

Section 7. Handling and storage

Precautions to be taken in handling:

Safe handling: Use protective wears and local ventilation equipment, if inhalation or skin contact is foreseen. Avoid prolonged or repeated exposure.



Precautions to be taken in storage:

General precautions: Store the material in a sealed container.
Store in a cool, dry, well ventilated and dark place away from incompatible materials.

Section 8. Exposure controls / personal protection

Exposure guideline:	Chemical Name	ACGIH(2019) TLV-TWA mg/m ³	OSHA(2006) PEL-TWA mg/m ³
	Nickel insoluble compounds (as Ni)	0.2(I)	1

I: Inhalable particulate

Facility measures: Local ventilation of closed work room or total proper ventilation to prevent inhalation.

Protective ware: Wear appropriate NIOSH/MSHA-approved respirator, safety goggles, impervious gloves, protective wear, protective boots etc.

Section 9. Physical and chemical properties

Appearance: Green or black solid
Chemical formula: NiO
Formula weight: 74.7
Melting point: 1984 °C
Density: 6.72 g/cm³
Solubility: Insoluble ; water
Soluble ; acid, ammonia water
Flammable: Non-combustible substance
Oxidation: None

Section10. Stability and reactivity

Stability: Stable in closed container.
Reactivity:
Incompatibility: Fluorine, barium oxide, hydrogen sulphide, peroxides.

Section11. Toxicological information

Acute toxicity(Oral): GHS : Not classified.; Falls below the lowest level.
Oral rat LD₅₀ > 5000 mg/kg (ECETOC TR 33(1989))
Skin corrosive / irritation: GHS : No data available
Serious eye damage / irritation: GHS : No data available
Respiratory sensitization: GHS : Category 1 ;
May cause allergy or asthma symptoms or breathing difficulties if inhaled
Skin sensitization: GHS : Category 1 ; May cause an allergy skin reaction
Germ cell mutagenicity: GHS : Not classified.; Falls below the lowest level.
Carcinogenicity: GHS : Category 1A ; May cause cancer

Chemical Name	ACGIH (2019)	IARC (2018)	NTP (2016)
Nickel insoluble compounds	A1	1	K

ACGIH A1 Confirmed Human Carcinogen.

IARC 1 The agent is carcinogenic to humans.

NTP K Known to be human carcinogens.

Reproductive toxicity: GHS : No data available

Specific target organ toxicity

— single exposure: GHS : No data available



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– repeated exposure: GHS : Category 1 ;
Causes damage to organs (respiratory tract) through prolonged or repeated exposure

Aspiration hazard: GHS : No data available

Section 12. Ecological information

Ecotoxicity:

Hazardous to the aquatic environment

– acute toxicity: GHS : Not classified.; Falls below the lowest level.
Crustacea(Daphnia magna) LC50(48h) > 100 mg /L (IUCLID(2000))

– chronic toxicity: GHS : Category 4 ;
May cause long lasting harmful effects to aquatic life

Hazardous to the ozone layer GHS : No data available

No Freon or Halon

Fish toxicity: See above

Degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

Section 13. Disposal considerations

Disposal method: User of the product should contract with the local government or licensed 'Industrial Waste Haulers' for disposal of waste.

Section 14. Transport information

UN classification: Non-hazards

UN number: None

HS code: 2825.40

Marine pollution: None

Precautions: Container should be transported in a secure position, in a well-ventilated vehicle.

Section 15. Regulatory information

TSCA inventory: listed.

Please refer to any other local / national measures that may be relevant.

Section 16. Other information

This SDS is for provision of information, and it does not represent a guarantee the properties or safeties of the product.

The information herein is based on the references we could obtained and the present state of our knowledge, however, this SDS does not always cover all information about the product. Some new information or amendments may be added afterwards.

Prior to use, please investigate the laws and regulations of the organization, area and country where the product is to be used. The information is intended to ordinary usage, in case of special handling, sufficient care should be taken.



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