

Safety Data Sheet: Nickel(II) Oxide

1. Identification

Product	Nickel(II) Oxide; CAS 1313-99-1; EC 215-215-7
Use	Industrial nickel catalyst and specialty-material precursor.
Company	Hainan Zhongxin Chemical Co., Ltd. (ZXCHEM)
Address	Room 1001, Building A, Caohejing Center, No. 1520 Gumei Road, Xuhui District, Shanghai, China
Telephone / email	+86-21-54265599 / sales@zxchem.com.cn
Emergency contact	ZXCHEM office number above, office hours, China time (UTC+8). For urgent medical assistance contact local emergency services.
Scope	Reference safety information for Nickel(II) Oxide. The reference composition, concentration and supply-grade differences are described in Section 3. This document does not certify the composition or transport status of a specific delivered batch or a different formulation.

2. Hazards Identification

Classification	Skin sensitization Category 1; carcinogenicity Category 1A; STOT repeated exposure Category 1 (lungs).
Signal word / symbols	Danger; GHS07, GHS08
Hazard statements	H317: allergic skin reaction. H350i: cancer hazard by inhalation. H372: repeated-exposure organ damage. The reference also warns of persistent aquatic effects.
Prevention	Use adequate ventilation; avoid inhaling dust. Prevent skin and eye contact. Wear suitable chemical-resistant gloves and eye protection. Wash after handling; keep food and drink out of the work area.
Response	After exposure, stop work and seek medical advice. For severe exposure obtain urgent medical care. Rinse contaminated skin or eyes with water; move an inhalation casualty to fresh air.
Environment	Prevent uncontrolled release to drains, soil or surface water. Collect spills for appropriate disposal.



3. Composition / Information on Ingredients

Reference ingredient	Nickel oxide CAS 1313-99-1, concentrated conventional powder reference. Supply TDS defines green and black grades, each purity ≥99.0%.
Supply grade	Green / Black, purity ≥99.0%
Applicability	The cited concentration or purity describes the reference material. It is not a certificate of analysis for the delivered batch; different solvents or dilutions require the matching supplier safety document.

4. First-Aid Measures

General	Protect the rescuer from exposure and show the product information to medical personnel. Obtain medical advice if symptoms occur or exposure is significant.
Inhalation	Move to fresh air and keep the person comfortable. Seek medical care for breathing difficulty or persistent symptoms. Avoid exposing rescuers to dust.
Skin	Remove contaminated clothing and rinse skin thoroughly with water. Seek medical advice for persistent irritation.
Eyes	Rinse gently with clean water for at least 15 minutes. Remove contact lenses when easy and continue rinsing. Seek medical advice if irritation persists.
Ingestion	Rinse the mouth. Do not induce vomiting. Give nothing by mouth to an unconscious person. Obtain medical advice.
Effects / treatment	Skin sensitization, inhalation cancer risk and repeated-exposure lung injury. Prevent airborne powder and contamination of skin or work clothing. Treatment is symptomatic and directed by a clinician.

5. Fire-Fighting Measures

Extinguishing media	Use water spray, foam, dry chemical or carbon dioxide suited to the surrounding fire.
Hazards	Severe heating or fire may generate irritating and nickel-containing fumes.
Protection	Firefighters require suitable protective clothing and self-contained breathing equipment. Prevent contaminated firefighting water entering drains.

6. Accidental Release Measures

Personnel	Restrict access, avoid airborne powder and use appropriate nickel-exposure protection.
Environment	Prevent discharge to drains, water and soil.
Cleanup	Collect mechanically using controlled methods or suitable filtered equipment. Avoid dry sweeping that disperses dust; place residues in labelled closed containers.

7. Handling and Storage

Handling	Use enclosed handling and local extraction to prevent nickel exposure. Wear suitable chemical-resistant gloves, protective clothing and eye protection. Use respiratory protection where the exposure assessment requires it. Keep contaminated work clothing separate and prevent releases to drains.
Storage	Store tightly closed in a cool, dry, ventilated place with controlled access. Keep separate from strong acids, peroxides and fluorine; protect from moisture and cross-contamination.
Incompatibilities	Strong acids, fluorine and peroxides.

8. Exposure Controls / Personal Protection

Exposure controls	Reference ACGIH TWA 0.2 mg/m ³ and NIOSH REL 0.015 mg/m ³ as nickel. Apply current local limits and assess powder exposure at the process.
Engineering	Use enclosed powder transfer and local extraction. Provide eyewash and washing facilities.
Protection	Use enclosed handling and local extraction to prevent nickel exposure. Wear suitable chemical-resistant gloves, protective clothing and eye protection. Use respiratory protection where the exposure assessment requires it. Keep contaminated work clothing separate and prevent releases to drains.

9. Physical and Chemical Properties

Appearance	Green or black powder
Melting point, reference	1,960°C
Water solubility	Insoluble
Viscosity	Not applicable to solid powder
Particle size	Grade-dependent supply D50 in the TDS

10. Stability and Reactivity

Stability	Handle and store under the recommended conditions. Prevent contamination and unnecessary heating.
Incompatibilities	Strong acids, fluorine and peroxides.
Decomposition	Severe heating or fire may generate irritating and nickel-containing fumes.

11. Toxicological Information

Exposure effects	Skin sensitization, inhalation cancer risk and repeated-exposure lung injury. Prevent airborne powder and contamination of skin or work clothing.
Reference classification	Skin sensitization Category 1; carcinogenicity Category 1A; STOT repeated exposure Category 1 (lungs).
Toxicological data	Nickel oxide is classified for skin sensitization, inhalation carcinogenicity and repeated-exposure lung effects. These hazards require controls even where transport is non-dangerous goods.

12. Ecological Information

Environmental effects	Prevent nickel-containing powder entering drains, soil or waterways. Low solubility does not establish harmlessness; collect and manage residues through authorized routes.
Controls	Prevent uncontrolled release, collect spills and dispose of contaminated material through an authorized route.
Assessment	No product-specific PBT/vPvB assessment is claimed. Absence of data does not establish absence of environmental effects.

13. Disposal Considerations

Product	Collect surplus product and contaminated cleanup material for disposal by an authorized chemical-waste contractor in accordance with local requirements.
Packaging	Containers may retain product residues. Do not reuse contaminated packaging without an approved cleaning process; use an authorized disposal route.

14. Transport Information

Classification	Non-dangerous goods
UN number	Not assigned for the non-dangerous-goods reference
Shipping name	Not regulated as dangerous goods
Class / packing group	DOT, TDG, IMDG and IATA: not regulated as dangerous goods.
Transport precautions	Protect packaging and closures from damage, secure loads and prevent releases. This reference is not a shipping declaration for a specific consignment.

15. Regulatory Information

Identity	Nickel(II) Oxide; CAS 1313-99-1; EC 215-215-7
HS reference	282540; reference heading rather than a destination customs ruling.
Compliance	Apply applicable workplace, environmental and transport rules. A raw-material listing does not establish finished-product authorization.
Assessment	No ZXCHEM-specific chemical safety assessment or destination registration is asserted.

16. Other Information

Hazard meanings	H317: allergic skin reaction. H350i: cancer hazard by inhalation. H372: repeated-exposure organ damage. The reference also warns of persistent aquatic effects.
Limitations	Prepared as reference safety information for the identified material. It is not a batch analytical certificate or safety assessment of a different solvent-containing formulation.
Revision	2026.2; prepared 2026-10-06. Customer-document branding and title corrected; technical safety data retained.
Document scope	Reference safety information for the material and grade described in Sections 1 and 3. Different concentrations, solvents or formulations require the applicable safety information. This is not a batch analytical certificate.

Revision: 2026.2 | Revision date: 2026-10-06