



Materials Safety Data Sheet

Cobalt(II) Oxide Powder

1. Product and Company Identification

Product Name: Cobalt(II) Oxide

Formula: CoO

CAS: 1307-96-6

Synonyms: Cobalt oxide, Cobaltous oxide, Cobalt monoxide

Recommended Use: Laboratory chemicals, Scientific research

Uses advised against: N/A

Supplier: UltraPurMat Group Co., Ltd

Address: Building 2, Tengfei Innovation Center, No38 Gaoxin 6th Road, High-tech Zone, Xi'an, Shaanxi

Tel: +86-29-88993870

Email: sales@ulpmat.com

Website: www.ulpmat.com

24-Hour Emergency Contact: +86-13572830939

2. Hazards Identification

Classification of the substance or mixture

Classified as hazardous under Regulation (EC) No 1272/2008 (CLP).

Acute toxicity, Oral Category 3 (H301)

Acute toxicity, Inhalation Category 2 (H330)

Respiratory sensitisation Category 1B (H334)

Skin sensitisation Category 1 (H317)

Acute aquatic toxicity Category 1 (H400)

Chronic aquatic toxicity Category 1 (H410)

GHS Label elements, including precautionary statements

Pictogram:



Signal Word: Danger

Hazard statement(s):

H301 Toxic if swallowed

H317 May cause an allergic skin reaction

H330 Fatal if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statement(s):

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

P264 Wash contaminated skin thoroughly after handling.

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

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing.

P284 Wear respiratory protection.

P301+P310+P330 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth.

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

P304+P340+P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

P333+P313 If skin irritation or a rash occurs: Get medical advice/attention.

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

P363 Wash contaminated clothing before reuse.

P391 Collect spillage.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards:

3. Composition

Components	CAS	Classification (H)	Concentration
Cobalt(II) Oxide (CoO)	1307-96-6	H301; H317; H330; H334; H400; H410	≤100%

4. First Aid Procedures

Description of first aid measures

General Treatment: If symptoms persist, call a physician. Show this Safety Data Sheet to the medical personnel.

Inhalation: Remove victim to fresh air. If not breathing, give artificial respiration. Seek medical attention.

Ingestion: Never give anything by mouth to an unconscious person. Rinse cautiously with water for several minutes. Seek medical attention.

Skin: Take off immediately all contaminated clothing. Rinse skin with water/shower. Seek medical attention.

Eyes: Rinse with pure water for at least 15 minutes. Remove contact lenses, if present and easy to do. Seek medical attention.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Indication of any immediate medical attention and special treatment needed

Based on the symptoms that appear, provide targeted treatment. Be aware that symptoms may be delayed.

5. Firefighting Measures

Extinguishing media

Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media: N/A

Special hazards arising from the substance or mixture

Cobalt/cobalt oxides. Non-flammable. Thermal decomposition can lead to release of irritating gases and vapors.

Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Further information

No data available

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Remove persons to safety. Use personal protective equipment as required. Avoid dust formation. Ensure adequate ventilation. Evacuate personnel to safe areas.

For personal protection see section 8.

Environmental precautions

Keep away from drains, surface and groundwater. Retain contaminated washing water and dispose of it.

Methods and materials for containment and cleaning up

Covering of drains. Take up mechanically. Sweep up and shovel. Take care not to raise dust. Place in appropriate containers for disposal.

Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

7. Handling and Storage

Precautions for safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Avoid formation of dust. Do not get in eyes, on skin, or on clothing.

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place.

Storage class: Non-combustible Solids.

Store apart from materials and conditions listed in section 10.

Specific end use(s)

Use in laboratories.

8. Exposure Controls/Personal Protection

Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Protective gloves (The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.)

Body Protection

Protective work clothing. Wear close-toed shoes and long sleeves/pants.

Respiratory protection

Use a respirator with type N95 (USA) or PE (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9. Physical and Chemical Characteristics

Information on basic physical and chemical properties

Appearance

Form: Powder

Colour: Tawny or earthy yellow

Odor: No data available
pH: No data available
Melting point/range: 1830 °C
Boiling point/range: No data available
Flash point: No data available
Evaporation rate: Not applicable - Solid
Flammability (solid, gas): No data available
Upper/lower flammability or explosive limits: No data available
Vapor pressure: No data available
Relative density: No data available
Water solubility: 0.00488 g/l at 20 °C - slightly soluble
Partition coefficient: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Viscosity: Not applicable
Other information
Molecular formula: CoO
Molecular weight: 74.93 g/mol

10. Stability and reactivity

Reactivity

None known, based on information available.

Chemical stability

Stable under normal conditions.

Possibility of hazardous reactions

Hazardous polymerization: No information available.

Hazardous reactions: No information available.

Conditions to avoid

Avoid moisture.

Incompatible materials

Strong oxidizing agents.

Hazardous decomposition products

In the event of fire: see section 5

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Oral: LD50-Rat-male and female-202 mg/kg; Dermal: No data available; Inhalation:LC50-Rat-male and female-4h-0.06 mg/l

Skin corrosion/irritation

No data available.

Serious eye damage/eye irritation

No data available.

Respiratory or skin sensitisation

May cause respiratory sensitisation.

Germ cell mutagenicity

No data available.

Carcinogenicity

IARC: Cobalt compounds:Group 2B

Reproductive toxicity

No data available.

Specific target organ toxicity -single exposure

No data available

Specific target organ toxicity -repeated exposure

No data available

Aspiration hazard

Not applicable. Solid.

Additional Information

Based on available data, classification criteria are not met.

12. Ecological Information

Toxicity

Toxicity to fish: NOEC-Danio rerio (zebrafish)->136 mg/l-96h. Toxicity to daphnia and other aquatic invertebrates: NOEC-Daphnia magna (Water flea)-136 mg/l-48h. Toxicity to algae: EC50-Pseudokirchneriella subcapitata-80 mg/l-69h.

Persistence and degradability

Persistence: No data available.

Degradability: No data available.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be PBT or vPvB at levels of 0.1% or higher.

Other adverse effects

This product does not contain any known or suspected substance.

Data used for classification according to CLP criteria.

13. Disposal Considerations

Waste treatment methods

Dispose of in accordance with all applicable local and national regulations. Use recovery/recycling where feasible, otherwise incineration is the recommended method of disposal. Empty

containers may contain hazardous residues. Do not cut, puncture or weld on or near to the container. Labels should not be removed from containers until they have been cleaned. Contaminated containers must not be treated as household waste.

14. Transportation Information

ADR

UN number: UN3288

UN Proper shipping name: Toxic solid, inorganic, n.o.s. (Cobalt(II) oxide)

Transport hazard class(es): 6.1

Packaging group: II

IMDG

UN number: UN3288

UN Proper shipping name: Toxic solid, inorganic, n.o.s. (Cobalt(II) oxide)

Transport hazard class(es): 6.1

Packaging group: II

IATA

UN number: UN3288

UN Proper shipping name: Toxic solid, inorganic, n.o.s. (Cobalt(II) oxide)

Transport hazard class(es): 6.1

Packaging group: II

15. Regulatory information

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

Regulation (EC) 1907/2006, REACH, Annex XIV list of substances subject to authorisation: Not applicable

Regulation (EC) 1907/2006, REACH, Annex XVII restrictions on the manufacture, placing on the market and use of certain dangerous substances: Not applicable

Regulation (EC) 1005/2009 on substances that deplete the ozone layer: Not applicable

Regulation (EC) 850/2004 on persistent organic pollutants, amended by (EU) No 2019/1021: Not applicable

Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance

16. Other information

Revision Date

2026-08-25

Version:

1.0

Disclaimer

The information of this safety data sheet is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product.

This Safety Data Sheet is prepared in accordance with Regulation (EC) No 1907/2006 (REACH), Annex II.