

Otto Chemie Pvt Ltd

An ISO 9001 : 2015 & GMP Certified Company
Office : No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road,
Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)
Tel : + 91 98200 41841 Email : info@ottokemi.com Web : www.ottokemi.com

Creation Date: 20-08-2026

Revision Date: 18-07-2021

MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: Product identifiers

Product Name: Cobalt(II,III) oxide, ≥99.9985%
Product Code: C 2420
CAS No: 1308-06-1

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet
Company identification
OTTO CHEMIE PVT LTD
No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road,
Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)

1.4. Emergency telephone number
Phone no. : + 91 98200 41841 (10 : 00 am – 06 : 00 pm)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification (REGULATION (EC) No 1272/2008)

Respiratory sensitisation, Category 1

Carcinogenicity, Category 1A
Long-term (chronic) aquatic hazard, Category 3

2.2 Label elements
Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms

Signal word

Hazard statements

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

H350i: May cause cancer by inhalation.

H412: Harmful to aquatic life with long lasting effects.

: Danger

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

H350i May cause cancer by inhalation.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention:

P201 Obtain special instructions before use.

P273 Avoid release to the environment.

Response:

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Additional Labelling

Restricted to professional users.

Reduced Labelling (<= 125 ml)

Hazard pictograms

Signal word

Hazard Statements

H334

:

Danger

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

May cause cancer by inhalation.

Harmful to aquatic life with long lasting effects.

H350i

H412

Precautionary Statements

P201

P308 + P313

Supplemental Hazard

Statements

Obtain special instructions before use.

IF exposed or concerned: Get medical advice/ attention.
none

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2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

CAS-No. : 1308-06-1

Components

Chemical name	CAS-No. EC-No.	Concentration (%) w/w)	M-Factor, SCL, ATE
Tricobalt tetraoxide	1308-06-1 215-157-2	>= 90 - <= 100	
Nickel oxide	1313-99-1 215-215-7	>= 0,1 - < 0,25	

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : First aiders need to protect themselves.

Show this safety data sheet to the doctor in attendance.

If inhaled : After inhalation: fresh air. Call in physician.

In case of skin contact : In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

Consult a physician.

In case of eye contact : After eye contact: rinse out with plenty of water.

Call in ophthalmologist.

Remove contact lenses.

If swallowed : After swallowing: immediately make victim drink water (two glasses at most).

Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

No data available

5.3 Advice for firefighters

Special protective

equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information : Prevent fire extinguishing water from contaminating surface water or the ground water system.

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Advice for non-emergency personnel:

Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact.

Ensure adequate ventilation.

Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Environmental precautions

Do not let product enter drains.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Work under hood. Do not inhale substance/mixture.

Hygiene measures : Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Further information on storage conditions

Tightly closed. Dry. Keep in a well-ventilated place.

Keep locked up or in an area accessible only to qualified or authorised persons.

Storage class (TRGS 510) : 6.1C, Combustible, acute toxic Cat.3 / toxic

compounds or compounds which causing chronic effects

Further information on storage stability

hygroscopic

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Safety glasses

Hand protection

Material : Nature latex/chloroprene

Break through time : 480 min

Glove thickness : 0,6 mm

Protective index : Full contact

Manufacturer : Lapren®

Material : Nature latex/chloroprene

Break through time : 480 min

Glove thickness : 0,6 mm

Protective index : Splash contact

Manufacturer : Lapren®

Remarks : Handle with gloves. Gloves must be inspected prior to

use. Use proper glove removal technique (without

touching glove's outer surface) to avoid skin contact

with this product. Dispose of contaminated gloves

after use in accordance with applicable laws and good

laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the

specifications of Regulation (EU) 2016/425 and the

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standard EN 374 derived from it.

If used in solution, or mixed with other substances,
and under conditions which differ from EN 374,
contact the supplier of the CE approved gloves. This
recommendation is advisory only and must be
evaluated by an industrial hygienist and safety officer
familiar with the specific situation of anticipated use
by our customers. It should not be construed as
offering an approval for any specific use scenario.

Skin and body protection : protective clothing

Respiratory protection : required when dusts are generated.

Our recommendations on filtering respiratory
protection are based on the following standards: DIN
EN 143, DIN 14387 and other accompanying
standards relating to the used respiratory protection system.

Recommended Filter type: Filter type P3

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory
protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Environmental exposure controls

Advice : Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	: solid
Form	: Powder
Color	: black
Odor	: No data available
Melting point/ range	: 895 °C Method: lit.
Boiling point	: No data available
Flammability	: No data available
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Flash point	: No data available
Autoignition temperature	: No data available
Decomposition temperature	: > 900 °C
pH	: No data available
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Flow time	: No data available
Solubility(ies)	
Water solubility	: 0,00156 g/l (20 °C)
Method: OECD Test Guideline 105	
slightly soluble	
Partition coefficient: noctanol/water	: No data available
Vapor pressure	: No data available
Relative density	: 6,11 (20 °C)
Density	: 6,11 g/mL (25 °C) Method: lit.
Bulk density	: 0,78 g/l
Relative vapour density	: No data available
9.2 Other information	
Explosives	: No data available
Oxidizing properties	: No data available
Burning rate	: No data available
Evaporation rate	: No data available
Molecular weight : 240,80 g/mol	

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SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Conditions to avoid : Avoid moisture.

no information available

10.5 Incompatible materials

Materials to avoid : Reducing agents

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals:

Oral LD50 Rat: 1500 mg/kg; Dermal LD50 Rabbit: 2000mg/kg Inhalation LC50 Rat: > 50mg/L.

Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH.

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

SECTION 12: Ecological information

12.1 Toxicity

Components:

Tricobalt tetraoxide:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 136 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Remarks: (above the solubility limit in the test medium)

Toxicity to daphnia and other aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 136 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Remarks: (above the solubility limit in the test medium)

Toxicity to algae/aquatic Plants

IC50 (Pseudokirchneriella subcapitata (green algae)): 88 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: (above the solubility limit in the test medium) Nickel oxide:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 15,3 mg/l

End point: mortality

Exposure time: 96 h

Test Type: semi-static test

Analytical monitoring: yes

Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates

LC50 (Ceriodaphnia dubia (water flea)): 0,027 mg/l

End point: mortality

Exposure time: 48 h

Test Type: static test

Remarks: (ECHA)

Toxicity to algae/aquatic plants

ErC50 (Pseudokirchneriella subcapitata): 0,081 - 0,148 mg/l

Exposure time: 72 h

Test Type: static test

Method: OECD Test Guideline 201

Toxicity to microorganisms

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EC50 (activated sludge): 33 mg/l
Exposure time: 30 min
Method: ISO 8192
Toxicity to fish (Chronic toxicity)
NOEC: 21,7 mg/l
Exposure time: 28 d
Species: Cyprinodon variegatus (sheepshead minnow)
Test Type: flow-through test
Analytical monitoring: yes
GLP: yes
Remarks: (ECHA)
Ecotoxicology Assessment
Acute aquatic toxicity : This product has no known ecotoxicological effects.
Chronic aquatic toxicity : May cause long lasting harmful effects to aquatic life.
12.2 Persistence and degradability

Components:
Tricobalt tetraoxide:
Biodegradability : Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

Nickel oxide:
Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.
12.3 Bioaccumulative potential

Components:
Tricobalt tetraoxide:
Partition coefficient: noctanol/water
Remarks: Not applicable for inorganic substances
Nickel oxide:
Bioaccumulation : Species: Fucus vesiculosus
Exposure time: 21 d
Concentration: 0,00001 mg/l
Bioconcentration factor (BCF): 675
Method: Tested according to Annex V of Directive 67/548/EEC.

Remarks: The product may be accumulated in organisms.
Partition coefficient: noctanol/water
Remarks: Not applicable for inorganic substances

12.4 Mobility in soil
No data available
12.5 Results of PBT and vPvB assessment
Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

No data available
12.7 Other adverse effects

Components:
Tricobalt tetraoxide:
Additional ecological information

Discharge into the environment must be avoided.

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SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14: Transport information

14.1 UN number or ID number

ADR : Not regulated as a dangerous good

IMDG : Not regulated as a dangerous good

IATA_P : Not regulated as a dangerous good

14.2 UN proper shipping name

ADR : Not regulated as a dangerous good

IMDG : Not regulated as a dangerous good

IATA_P : Not regulated as a dangerous good

14.3 Transport hazard class(es)

ADR : Not regulated as a dangerous good

IMDG : Not regulated as a dangerous good

IATA_P : Not regulated as a dangerous good

14.4 Packing group

ADR : Not regulated as a dangerous good

IMDG : Not regulated as a dangerous good

IATA (Cargo) : Not regulated as a dangerous good

IATA_P (Passenger) : Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)

Conditions of restriction for the following entries should be considered:

Number on list 27: Nickel oxide

Number on list 28: Nickel oxide

Number on list 75: If you intend to use this product as tattoo

ink, please contact your vendor.

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).

Not applicable

Regulation (EU) No 2024/590 on substances that deplete the ozone layer

Not applicable

Regulation (EU) 2019/1021 on persistent organic : Not applicable pollutants (recast)

REACH - List of substances subject to authorisation (Annex XIV)

Not applicable

Seveso III: Directive 2012/18/EU of the

European Parliament and of the Council

on the control of major-accident hazards involving dangerous substances.

Not applicable

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

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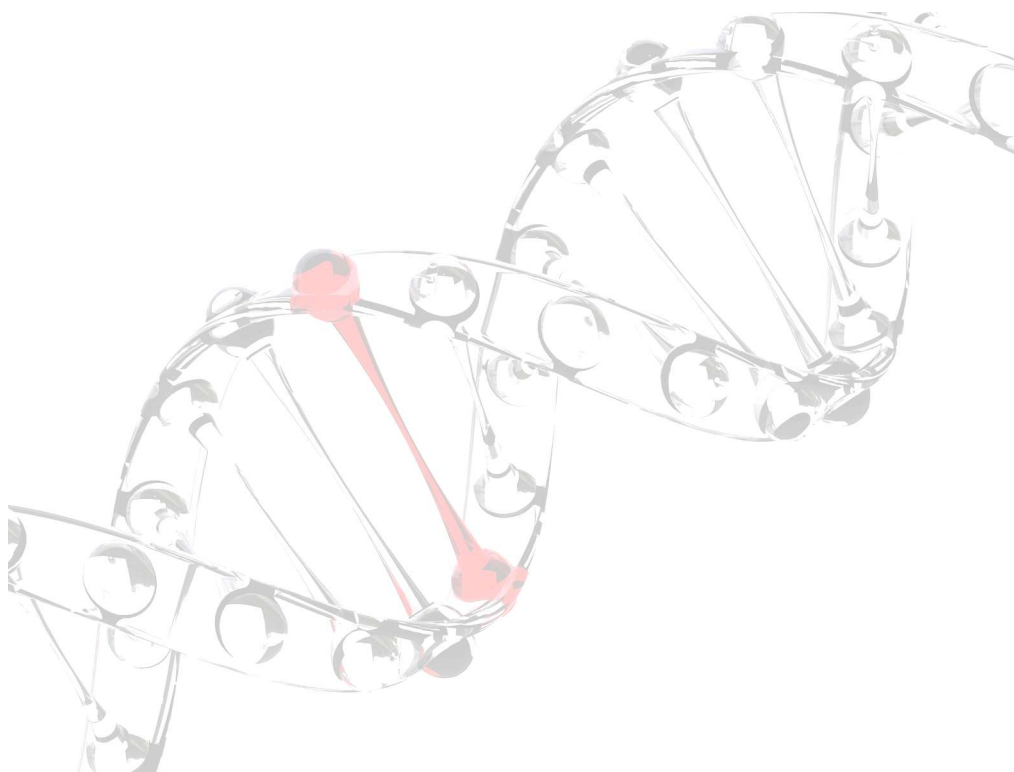
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SECTION 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given 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. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.



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