



SAFETY DATA SHEET

MATERION

1. Identification

Product identifier Cobalt Oxide (CoO)

Other means of identification

Materion Code C-MSDS0061

CAS number 1307-96-6

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Materion Advanced Chemicals Inc.

Address 407 N 13th Street
1316 W. St. Paul Avenue
Milwaukee, WI 53233
United States

Telephone 414.212.0257

E-mail advancedmaterials@materion.com

Contact person Noreen Atkinson

Emergency phone number Chemtrec 800.424.9300

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Acute toxicity, oral Category 3
Sensitization, skin Category 1
Carcinogenicity Category 2

Environmental hazards Hazardous to the aquatic environment, acute hazard Category 1
Hazardous to the aquatic environment, long-term hazard Category 1

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Toxic if swallowed. May cause allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Suspected of causing cancer. Very toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention Wear protective gloves/protective clothing/eye protection/face protection. Do not eat, drink or smoke when using this product. In case of inadequate ventilation wear respiratory protection. Avoid breathing dust. Observe good industrial hygiene practices.

Response IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. Collect spillage. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention. IF exposed or concerned: Get medical advice/attention.

Storage Store away from incompatible materials.

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

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
Cobalt Oxide		1307-96-6	100

4. First-aid measures

Inhalation Breathing difficulty caused by inhalation of particulate requires immediate removal to fresh air. If breathing has stopped, perform artificial respiration and obtain medical help. Call a physician or poison control center immediately. Move to fresh air.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Call a physician or poison control center immediately. Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally.

Ingestion Rinse mouth thoroughly. Call a physician or poison control center immediately.

Most important symptoms/effects, acute and delayed Not available.

5. Fire-fighting measures

Suitable extinguishing media Carbon dioxide (CO₂). Dry chemical powder. Foam.

Unsuitable extinguishing media Not available.

Specific hazards arising from the chemical Not applicable.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Avoid inhalation of dust. Keep upwind. Local authorities should be advised if significant spillages cannot be contained. Ventilate closed spaces before entering them.

Methods and materials for containment and cleaning up Not available.

Environmental precautions Avoid discharge into drains, water courses or onto the ground. Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling Not available.

Conditions for safe storage, including any incompatibilities Not available.

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Material	Type	Value
Cobalt Oxide (CAS 1307-96-6)	TWA	0.02 mg/m ³

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Not available.

Individual protection measures, such as personal protective equipment

Eye/face protection	Not available.
Skin protection	
Hand protection	Not available.
Other	Not available.
Respiratory protection	Not available.
Thermal hazards	Not available.

9. Physical and chemical properties

Appearance

Physical state	Solid.
Form	Not available.
Color	Not available.

Odor Not available.

Odor threshold Not available.

pH Not available.

Melting point/freezing point 3515 °F (1935 °C)

Initial boiling point and boiling range Not available.

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure < 0.0000001 kPa at 25 °C

Vapor density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Not available.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Not available.

Other information

Density 5.70 g/cm³ estimated

Molecular formula Co-O

Molecular weight 74.93 g/mol

Specific gravity 5.7 - 6.7

10. Stability and reactivity

Reactivity Not available.

Chemical stability Not available.

Possibility of hazardous reactions	Not available.
Conditions to avoid	Not available.
Incompatible materials	Not available.
Hazardous decomposition products	Not available.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Not available.
Skin contact	Not available.
Eye contact	Not available.
Ingestion	Not available.

Symptoms related to the physical, chemical and toxicological characteristics Not available.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
Cobalt Oxide (CAS 1307-96-6)		
<u>Acute</u>		
Oral		
LD50	Rat	202 mg/kg

Skin corrosion/irritation Not available.

Serious eye damage/eye irritation Not available.

Respiratory or skin sensitization

Respiratory sensitization	Not available.
Skin sensitization	Not available.

Germ cell mutagenicity Not available.

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Cobalt Oxide (CAS 1307-96-6) 2B Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Reproductive toxicity Not available.

Specific target organ toxicity - single exposure Not available.

Specific target organ toxicity - repeated exposure Not available.

Aspiration hazard Not available.

12. Ecological information

Ecotoxicity No ecotoxicity data noted for the ingredient(s).

Persistence and degradability Not available.

Bioaccumulative potential Not available.

Mobility in soil Not available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Not available.

Hazardous waste code Not regulated.

Waste from residues / unused products Not available.

Contaminated packaging Not available.

14. Transport information

DOT

UN number UN3288
UN proper shipping name Toxic solid, inorganic, n.o.s.
Transport hazard class(es)
Class 6.1(PGIII)
Subsidiary risk -
Label(s) 6.1
Packing group III
Special precautions for user Not available.
Special provisions IB8, IP3, T1, TP33
Packaging exceptions 153
Packaging non bulk 213
Packaging bulk 240

IATA

UN number UN3288
UN proper shipping name Toxic solid, inorganic, n.o.s.
Transport hazard class(es)
Class 6.1(PGIII)
Subsidiary risk -
Packing group III
Environmental hazards No.
ERG Code 6L
Special precautions for user Not available.
Other information
Passenger and cargo aircraft Allowed with restrictions.
Cargo aircraft only Allowed with restrictions.

IMDG

UN number UN3288
UN proper shipping name TOXIC SOLID, INORGANIC, N.O.S.
Transport hazard class(es)
Class 6.1(PGIII)
Subsidiary risk -
Packing group III
Environmental hazards
Marine pollutant No.
EmS F-A, S-A
Special precautions for user Not available.

DOT



IATA; IMDG



15. Regulatory information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Cobalt Oxide (CAS 1307-96-6) Listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes
	Delayed Hazard - Yes
	Fire Hazard - No
	Pressure Hazard - No
	Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Cobalt Oxide (CAS 1307-96-6)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Contaminate candidate list

US state regulations

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Cobalt Oxide (CAS 1307-96-6) Listed: July 1, 1992

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Cobalt Oxide (CAS 1307-96-6)

16. Other information, including date of preparation or last revision

Issue date	04-16-2015
Revision date	11-02-2016
Version #	02
Disclaimer	Not available.