



# SAFETY DATA SHEET

**MATERION**

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

**Name of the substance** Cobalt oxide (CoO)  
**Identification number** 027-002-00-4 (Index number)  
**Synonyms** None.  
**Materion Code** C-MSDS0061  
**Issue date** 16-April-2015  
**Version number** 02  
**Revision date** 23-April-2015  
**Supersedes date** 16-April-2015

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** Not available.  
**Uses advised against** None known.

### 1.3. Details of the supplier of the safety data sheet

#### Supplier

**Company name** Materion Advanced Chemicals Inc.  
**Address** 407 N. 13th Street  
1316 W. St. Paul Avenue  
Milwaukee, WI 53233  
United States  
**Division** Milwaukee  
**Telephone** 414.212.0257  
**e-mail** advancedmaterials@materion.com  
**Contact person** Noreen Atkinson

### 1.4. Emergency telephone number

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Directive 67/548/EEC or 1999/45/EC as amended

**Classification** Xn;R22, R43, N;R50/53

#### Classification according to Regulation (EC) No 1272/2008 as amended

##### Health hazards

|                      |            |   |
|----------------------|------------|---|
| Acute toxicity, oral | Category 4 | H302 - Harmful if swallowed.                |
| Skin sensitisation   | Category 1 | H317 - May cause an allergic skin reaction. |
| Carcinogenicity      | Category 2 | H351 - Suspected of causing cancer.         |

##### Environmental hazards

|  |                           |  |
|--|---------------------------|--|
| Hazardous to the aquatic environment, acute aquatic hazard     | Category 1 M-factor = 10. | H400 - Very toxic to aquatic life.                           |
| Hazardous to the aquatic environment, long-term aquatic hazard | Category 1 M-factor = 10. | H410 - Very toxic to aquatic life with long lasting effects. |

#### Hazard summary

**Physical hazards** Not classified for physical hazards.  
**Health hazards** Harmful if swallowed. May cause sensitisation by skin contact.  
**Environmental hazards** Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
**Specific hazards** Not available.  
**Main symptoms** Not available.

### 2.2. Label elements

## Label according to Regulation (EC) No. 1272/2008 as amended

|                          |   |
|--------------------------|---|
| <b>Contains:</b>         | Cobalt Oxide  |
| <b>Hazard pictograms</b> | None.   |
| <b>Signal word</b>       | Warning   |
| <b>Hazard statements</b> |   |
| H302                     | Harmful if swallowed.                                 |
| H317                     | May cause an allergic skin reaction.                  |
| H351                     | Suspected of causing cancer.                          |
| H400                     | Very toxic to aquatic life.                           |
| H410                     | Very toxic to aquatic life with long lasting effects. |

## Precautionary statements

### Prevention

|      |   |
|------|---|
| P201 | Obtain special instructions before use.                                   |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P261 | Avoid breathing dust.   |
| P264 | Wash thoroughly after handling.   |
| P270 | Do not eat, drink or smoke when using this product.                       |
| P272 | Contaminated work clothing should not be allowed out of the workplace.    |
| P273 | Avoid release to the environment.   |
| P280 | Wear protective gloves.   |
| P281 | Use personal protective equipment as required.                            |

### Response

|             |  |
|-------------|--|
| P301 + P312 | IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell. |
| P302 + P352 | IF ON SKIN: Wash with plenty of soap and water.                            |
| P308 + P313 | IF exposed or concerned: Get medical advice/attention.                     |
| P321        | Specific treatment (see this label).                                       |
| P330        | Rinse mouth.   |
| P333 + P313 | If skin irritation or rash occurs: Get medical advice/attention.           |
| P363        | Wash contaminated clothing before reuse.                                   |
| P391        | Collect spillage.  |

### Storage

|      |                  |
|------|------------------|
| P405 | Store locked up. |
|------|------------------|

### Disposal

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

## Supplemental label information

**2.3. Other hazards** None known.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

#### General information

| Chemical name          | %           | CAS-No. / EC No.   | REACH Registration No. | INDEX No.    | Notes |
|------------------------|-------------|--|------------------------|--------------|-------|
| Cobalt Oxide           | 100         | 1307-96-6<br>215-154-6   | -                      | 027-002-00-4 | M=10  |
| <b>Classification:</b> | <b>DSD:</b> | Xn;R22, R43, N;R50/53  |                        |              |       |
|                        | <b>CLP:</b> | Acute Tox. 4;H302, Skin Sens. 1;H317, Carc. 2;H351, Aquatic Acute 1;H400, Aquatic Chronic 1;H410 |                        |              |       |

## SECTION 4: First aid measures

**General information** Not available.

### 4.1. Description of first aid measures

|                     |                |
|---------------------|----------------|
| <b>Inhalation</b>   | Not available. |
| <b>Skin contact</b> | Not available. |
| <b>Eye contact</b>  | Not available. |
| <b>Ingestion</b>    | Not available. |

**4.2. Most important symptoms and effects, both acute and delayed** Not available.

**4.3. Indication of any immediate medical attention and special treatment needed** Not available.

## **SECTION 5: Firefighting measures**

**General fire hazards** Not available.

### **5.1. Extinguishing media**

**Suitable extinguishing media** Not available.

**Unsuitable extinguishing media** Not available.

**5.2. Special hazards arising from the substance or mixture** Not available.

### **5.3. Advice for firefighters**

**Special protective equipment for firefighters** Not available.

## **SECTION 6: Accidental release measures**

### **6.1. Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** Not available.

**For emergency responders** Not available.

**6.2. Environmental precautions** Not available.

**6.3. Methods and material for containment and cleaning up** Not available.

**6.4. Reference to other sections** Not available.

## **SECTION 7: Handling and storage**

**7.1. Precautions for safe handling** Not available.

**7.2. Conditions for safe storage, including any incompatibilities** Not available.

**7.3. Specific end use(s)** Not available.

## **SECTION 8: Exposure controls/personal protection**

### **8.1. Control parameters**

**Occupational exposure limits** No exposure limits noted for ingredient(s).

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

**Recommended monitoring procedures** Not available.

**Derived no-effect level (DNEL)** Not available.

**Predicted no effect concentrations (PNECs)** Not available.

### **8.2. Exposure controls**

**Appropriate engineering controls** Not available.

### **Individual protection measures, such as personal protective equipment**

**General information** Not available.

**Eye/face protection** Not available.

**Skin protection**

|                                 |                |
|---------------------------------|----------------|
| - Hand protection               | Not available. |
| - Other                         | Not available. |
| Respiratory protection          | Not available. |
| Thermal hazards                 | Not available. |
| Hygiene measures                | Not available. |
| Environmental exposure controls | Not available. |

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Appearance

|  |                   |
|--|-------------------|
| Physical state                               | Solid.            |
| Form   | Not available.    |
| Colour                                       | Not available.    |
| Odour  | Not applicable.   |
| Odour threshold                              | Not applicable.   |
| pH   | Not applicable.   |
| Melting point/freezing point                 | 1935 °C (3515 °F) |
| Initial boiling point and boiling range      | Not available.    |
| Flash point                                  | Not available.    |
| Evaporation rate                             | Not available.    |
| Flammability (solid, gas)                    | Not applicable.   |
| Upper/lower flammability or explosive limits |                   |
| Flammability limit - lower (%)               | Not available.    |
| Flammability limit - upper (%)               | Not available.    |
| Vapour pressure                              | < 0 kPa at 25 °C  |
| Vapour density                               | Not applicable.   |
| Relative density                             | Not applicable.   |
| Solubility(ies)                              |                   |
| Solubility (water)                           | Not applicable.   |
| Solubility (other)                           | Not available.    |
| Partition coefficient (n-octanol/water)      | Not available.    |
| Auto-ignition temperature                    | Not available.    |
| Decomposition temperature                    | Not available.    |
| Viscosity                                    | Not available.    |
| Explosive properties                         | Not available.    |
| Oxidizing properties                         | Not applicable.   |

### 9.2. Other information

|                   |                                  |
|-------------------|----------------------------------|
| Density           | 5,70 g/cm <sup>3</sup> estimated |
| Molecular formula | Co-O                             |
| Molecular weight  | 74,93 g/mol                      |
| Specific gravity  | 5,7 - 6,7                        |

## SECTION 10: Stability and reactivity

|  |                |
|--|----------------|
| 10.1. Reactivity                         | Not available. |
| 10.2. Chemical stability                 | Not available. |
| 10.3. Possibility of hazardous reactions | Not available. |
| 10.4. Conditions to avoid                | Not available. |
| 10.5. Incompatible materials             | Not available. |
| 10.6. Hazardous decomposition products   | Not available. |

## SECTION 11: Toxicological information

**General information** Not available.

### Information on likely routes of exposure

**Ingestion** Not available.

**Inhalation** Not available.

**Skin contact** Not available.

**Eye contact** Not available.

**Symptoms** Not available.

### 11.1. Information on toxicological effects

| Product   | Species        | Test results                        |
|---|----------------|-------------------------------------|
| Cobalt Oxide (CAS 1307-96-6)                                  |                |                                     |
| <b>Acute</b>  |                |                                     |
| <i>Oral</i>   |                |                                     |
| LD50  | Rat            | 202 mg/kg                           |
| <i>Other</i>  |                |                                     |
| LD50  | Mouse          | 125 mg/kg                           |
| <b>Skin corrosion/irritation</b>                              | Not available. |                                     |
| <b>Serious eye damage/eye irritation</b>                      | Not available. |                                     |
| <b>Respiratory sensitisation</b>                              | Not available. |                                     |
| <b>Skin sensitisation</b>                                     | Not available. |                                     |
| <b>Germ cell mutagenicity</b>                                 | Not available. |                                     |
| <b>Carcinogenicity</b>  |                |                                     |
| <b>IARC Monographs. Overall Evaluation of Carcinogenicity</b> |                |                                     |
| Cobalt Oxide (CAS 1307-96-6)                                  |                | 2B Possibly carcinogenic to humans. |
| <b>Reproductive toxicity</b>                                  | Not available. |                                     |
| <b>Specific target organ toxicity - single exposure</b>       | Not available. |                                     |
| <b>Specific target organ toxicity - repeated exposure</b>     | Not available. |                                     |
| <b>Aspiration hazard</b>                                      | Not available. |                                     |
| <b>Mixture versus substance information</b>                   | Not available. |                                     |
| <b>Other information</b>                                      | Not available. |                                     |

## SECTION 12: Ecological information

**12.1. Toxicity** No toxicity data noted for the ingredient(s).

**12.2. Persistence and degradability** Not available.

**12.3. Bioaccumulative potential** Not available.

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

**Bioconcentration factor (BCF)** Not available.

**12.4. Mobility in soil** Not available.

**12.5. Results of PBT and vPvB assessment** Not a PBT or vPvB substance or mixture.

**12.6. Other adverse effects** Not available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**Residual waste** Not available.

**Packaging** Not available.

**EU waste code** Not available.

## SECTION 14: Transport information

### ADR

Not regulated as dangerous goods.

### RID

Not regulated as dangerous goods.

### ADN

Not regulated as dangerous goods.

### IATA

Not regulated as dangerous goods.

### IMDG

Not regulated as dangerous goods.

## SECTION 15: Regulatory information

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

#### EU regulations

##### Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I

Not listed.

##### Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex II

Not listed.

##### Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I

Not listed.

##### Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1

Not listed.

##### Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2

Not listed.

##### Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3

Not listed.

##### Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V

Not listed.

##### Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry

Not listed.

##### Regulation (EC) No. 1907/2006, REACH Article 59(1) Candidate List as currently published by ECHA

Not listed.

#### Authorisations

##### Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

#### Restrictions on use

##### Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use

Not regulated.

##### Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work

Not listed.

##### Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding

Not listed.

#### Other EU regulations

##### Directive 96/82/EC (Seveso II) on the control of major-accident hazards involving dangerous substances

Not listed.

##### Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Cobalt Oxide (CAS 1307-96-6)

##### Directive 94/33/EC on the protection of young people at work

Cobalt Oxide (CAS 1307-96-6)

#### National regulations

Not available.

#### 15.2. Chemical safety assessment

Not available.

## SECTION 16: Other information

|   |  |
|---|--|
| <b>List of abbreviations</b>  | Not available.   |
| <b>References</b>   | Not available.   |
| <b>Information on evaluation method leading to the classification of mixture</b>        | Not available.   |
| <b>Full text of any statements or R-phrases and H-statements under Sections 2 to 15</b> | R22 Harmful if swallowed.<br>R43 May cause sensitisation by skin contact.<br>R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.<br>H302 Harmful if swallowed.<br>H317 May cause an allergic skin reaction.<br>H351 Suspected of causing cancer.<br>H400 Very toxic to aquatic life.<br>H410 Very toxic to aquatic life with long lasting effects. |
| <b>Revision information</b>   | None.  |
| <b>Training information</b>   | Not available.   |