

# Inco® Electrolytic Cobalt Rounds

## Product Information

### Inco Electrolytic Cobalt Rounds

Vale Inco Limited  
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 Toronto, Ontario, Canada M5J 2K2

Chemtrec 24 hr Emergency No. 1-800-424-9300

Inco Electrolytic Cobalt Rounds are used in the production of super alloys, heat and wear resistant alloys, tool steels, magnetic alloys and have many other chemical applications such as catalysts and dryers and in electrolytic plating.

## Hazardous Ingredients

Hazardous Ingredients	Composition (%)	C.A.S. No	Oral LD50 –rat	Exposure Limit (TLV) <sup>1,2</sup> –mg/m <sup>3</sup>
Cobalt (Co)	99.9	7440-48-4	6171mg/kg	0.02

## Physical Data

Silver grey, odourless metal discs of approximately 1 in. (25 mm) diameter.

Ingredient	Mol. Wt.	Specific Gravity	Melting point (°C)	Boiling point (°C)	Solubility in H <sub>2</sub> O (g/100ml)
Cobalt	58.93	8.9	1495	2900	0

## Fire or Explosion Hazard

Not applicable.

## Reactivity Data

Like other metals, cobalt can react with acids to liberate hydrogen gas which can form explosive mixtures in air.

## Toxicological Properties<sup>3</sup>

### **Cobalt**

LD<sub>50</sub> oral rat: 6171 mg/kg

#### Inhalation:

Asthmatic symptoms and pulmonary fibrosis occurring in the tungsten carbide industry may be related to the inhalation of metallic cobalt dust. Evidence of polycythemia (an increase on the total red cell mass of the blood in the body) and altered thyroid, kidney and liver function have also been found. Excessive doses of metallic cobalt have produced cardiac changes in miniature swine.

#### Skin Contact:

Repeated contact with metallic cobalt can cause cobalt

**M**aterial

**S**afety

**D**ata

**S**heet

Wounds: sensitivity and allergic skin rashes.  
Cobalt powders have caused tumors at the site of injection in rodents. However, studies of cobalt containing prostheses do not suggest a significant risk for humans.

Preexisting Conditions: Sensitized individuals may experience an allergic skin rash or asthma.

### Preventative Measures

If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne cobalt below the exposure limit. If ventilation alone cannot so control exposure, use NIOSH-approved respirators selected according to the current edition of the Selection, Care and Use of Respirators CSA Z94.4.

Avoid repeated skin contact. Wear suitable gloves. Wash thoroughly after handling. Launder Clothing and gloves as needed.

Do not store near acids. If spilled, pick up and place in original container. Cobalt-containing waste is normally collected to recover cobalt values. Should waste disposal be deemed necessary, follow the relevant governmental regulations.

### First Aid Measures

For skin rashes, seek medical attention. Cleanse wounds thoroughly to remove any particles.

### Preparation Information

Prepared by:  
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#### **Note:**

***Vale Inco believes that the information in this Material Safety Data Sheet is accurate. However, Vale Inco makes no express or implied warranty as to the accuracy of such information and expressly disclaims any liability resulting from reliance on such information.***

#### **Footnotes:**

- ® Trademark of the Inco family of companies.
- 1 Threshold Limit Value of the American Conference of Governmental Industrial Hygienists. 2007
- 2 Exposure Limits for user operations will depend on the relevant governmental regulations.
- 3 Describes possible health hazards of the product supplied. If user operations change it to other chemical forms, whether as end products, intermediates or fugitive emissions, the possible health hazards of such forms must be determined by the user.