



**PRODUCT INFORMATION**

INCO Crude Nickel Carbonate (Class D)

INCO LIMITED  
145 King Street West  
Suite 1500  
Toronto, ON  
M5H 4B7

(416) 361-7938

INCO Crude Nickel Carbonate is used in the manufacture of nickel chemicals and alloy products.

**HAZARDOUS INGREDIENTS**

Hazardous Ingredients	Calculated Composition	C.A.S. No.	Oral LD <sub>50</sub> -rat	TLV <sup>1,2</sup> -mg/m <sup>3</sup>
Basic Nickel Carbonate ( <i>compounds ranging from</i> 2NiCO <sub>3</sub> · 3Ni(OH) <sub>2</sub> · xH <sub>2</sub> O to 4NiCO <sub>3</sub> · 3Ni(OH) <sub>2</sub> · xH <sub>2</sub> O	60-75	3333-67-3	1044 mg/kg	1 as Ni
Calcium carbonate (CaCO <sub>3</sub> )	0.5-1.5	1317-65-3	n.av.	10 of total dust
Sodium sulfate decahydrate (Na <sub>2</sub> SO <sub>4</sub> ·10H <sub>2</sub> O)	25-40	n.av.	(a)	n.av.
Sodium chloride (NaCl)		7647-14-5	3000 mg/m <sup>3</sup>	n.av.

(a) The oral rat LD<sub>50</sub> of Na<sub>2</sub>SO<sub>4</sub> is 5989 mg/kg.

**PHYSICAL DATA**

Light green, odorless solid, which, upon drying, ranges in size from a fine powder to agglomerated hard lumps.

Ingredient	Mol. wt.	S.G.	mp °C	bp °C	Sol. in H <sub>2</sub> O g/100ml
Basic Nickel Carbonate	n.av.	n.av.	decomposes	n.av.	n.av.
Calcium Carbonate	100.09	2.71	decomposes	n.av.	0 in cold water
Sodium Sulfate, decahydrate	322.19	1.464	32.38	n.av.	11 at 0°C
Sodium Chloride	58.44	2.165	801	1413	35.7 at 0°C

Crude nickel carbonate was filtered at a pH of 8.5.

**FIRE OR EXPLOSION HAZARD**

Not applicable.

**REACTIVITY DATA**

Hazardous decomposition products could include carbon dioxide, chlorine and sulfur dioxide.

**TOXICOLOGICAL PROPERTIES<sup>3</sup>****Basic Nickel Carbonate**

Inhalation: The National Toxicology Program has listed nickel carbonate as reasonably anticipated to be a carcinogen based on the production of injection-site tumors. However, there is reason to believe that the compound actually tested was a basic nickel carbonate. The International Agency for Research on Cancer (IARC) concluded there was sufficient evidence that nickel compounds are carcinogenic to humans.

Sinonasal cancer has been reported in a worker employed in an operation where a nickel-copper carbonate (formula unspecified) was decomposed to nickel-copper oxide.

Calcium carbonate is defined by the American Conference of Governmental Industrial Hygienists as a nuisance particulate.

## **INCO<sup>®</sup> Crude Nickel Carbonate**

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Inhalation of dust may be irritating to the respiratory tract.

Eye Contact: May cause eye irritation.

Skin Contact: Prolonged contact may be irritate the skin and mucous membranes.

Wounds: A chemical alleged to be nickel carbonate but which was probably a basic nickel carbonate and dried crystalline nickel hydroxide caused tumors at the site of injection in rodents.

Ingestion: Basic nickel carbonate ( $2\text{NiCO}_3 \cdot 3\text{Ni}(\text{OH})_2 \cdot x\text{H}_2\text{O}$  to  $4\text{NiCO}_3 \cdot 3\text{Ni}(\text{OH})_2 \cdot x\text{H}_2\text{O}$ ) has a relatively low oral toxicity; its oral rat LD<sub>50</sub> is 1044 mg/kg. The National Institute for Occupational Safety and Health (NIOSH) concluded that nickel and its inorganic compounds are not carcinogenic when ingested.

### **PREVENTIVE MEASURES**

Do not inhale powder. Ventilation is normally required when handling or using this product to keep exposure to airborne contaminants below the exposure limits. If ventilation alone cannot so control exposure, use NIOSH-approved respirators selected according to the Selection, Care and Use of Respirators CSA Z94.4-M1993. Maintain airborne nickel carbonates as low as possible.

Avoid contact with skin and clothing. Wear suitable gloves. Wash skin thoroughly after handling. Launder clothing and gloves as needed.

Avoid eye contact. Wear suitable eye protection depending on user operations.

If spilled, return to original container. Wear appropriate NIOSH-approved respirators if collection and disposal of spills are likely to cause the concentration of airborne contaminants to exceed the exposure limits.

Nickel-containing waste is normally collected to recover nickel values. Should waste disposal be deemed necessary, follow the relevant governmental regulations.

### **FIRST AID MEASURES**

For inhalation irritation, remove to fresh air and seek medical attention.

For skin irritation, wash skin thoroughly with plenty of water. Seek medical attention.

For eye contact, immediately flush eyeballs with plenty of water. Seek medical attention.

Cleanse wounds thoroughly to remove any particles.

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## **PREPARATION INFORMATION**

Prepared by:

INCO LIMITED  
Occupational & Environmental Health Group  
Tel. No.: (416) 361-7938

### **Note:**

***Inco believes that the information in this Material Safety Data Sheet is accurate. However, 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.***

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### **Footnotes:**

- ® Trademark of the Inco family of companies.
- 1 Threshold Limit Value of the American Conference of Governmental Industrial Hygienists.
- 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.