



## PCR-LEAD CARBONATE CAKE

INCO

### Product Information

**INCO** PCR-LEAD Carbonate Cake

INCO LIMITED  
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Toronto, ON  
M5H 4B7  
Chemtrec 24 hr Emergency No. 1-800-424-9300

Material

Safety

**INCO** PCR-LEAD Carbonate Cake is an intermediate product sold for further refining.

Data

### Hazardous Ingredients

As supplied, this product contains 30-40% moisture.

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Hazardous Ingredients	Calculated Composition	C.A.S. No	Oral LD <sub>50</sub> -rat	TLV <sup>1,2</sup> -mg/m <sup>3</sup>
Lead Carbonate (PbCO <sub>3</sub> )	60-100	598-63-0	Not available	0.05 mg/m Pb
Iron Hydroxide (Fe (OH) <sub>2</sub> )	10-30	13099-33-7	n.av.	1mg/m <sup>3</sup> (Fe salt)
Iron III Arsenate (FeAsO <sub>4</sub> .2H <sub>2</sub> O)	1-5	10102-49-5	n.av.	0.01 mg/m <sup>3</sup> As
Silica, Amorphous (SiO <sub>2</sub> )	0-1	7631-86-9	3160 mg/kg	10 mg/m <sup>3</sup>
Bismuth Oxychloride (BiOCl)	0-5	7787-59-9	21.5 gm/kg	n.av.

### Physical Data

Black, odourless, moist filter cake.

Ingredient	Mol. Wt.	Specific Gravity	m.p. °C	b.p. °C	Sol. In H <sub>2</sub> O g/100ml
PbCO <sub>3</sub>	267.2	6.6	Decomposes at 315 °C	n.av	Slightly Soluble
Fe(OH) <sub>2</sub>	89.86	3.4	Decomposes	n.av	Slightly Soluble
FeAsO <sub>4</sub> .2H <sub>2</sub> O	230.80	3.18	Decomposes	n.av	Insoluble
SiO <sub>2</sub>	60.09	2.2-2.6	~ 1700	~ 2300	0
BiOCl	260.43	7.72	Red Ht	n.av	Insoluble

### Fire or Explosion Hazard

Not applicable.

## Reactivity Data

When heated, this product can decompose to release toxic arsenic and lead fumes.

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

This cake is a complex mixture. The toxicological properties are expected to be related to the composition of the mixture. The toxicological properties of the major ingredients are listed below.

### Lead carbonate

The International Agency For Research On Cancer (IARC) concluded that there is inadequate evidence that lead and lead compounds are carcinogenic to humans. However, there is sufficient evidence that inorganic lead compounds are carcinogenic to animals.

Anemia caused by inorganic lead inhibiting the production of blood hemoglobin is an early sign of lead poisoning.

Of the various lead compounds, the carbonate, the monoxide, and the sulphate are considered more toxic than metallic lead or other lead compounds.

IARC concluded that there is sufficient evidence that arsenic and arsenic compounds, as a group but not necessarily as individual chemicals, are carcinogenic to humans. The association between environmental exposure to arsenic in contaminated drinking water, and skin cancer has been observed and confirmed. Two cases of bladder cancer were also confirmed. U.S. Smelter workers exposed to inorganic arsenic have been shown to have significant and consistent increases in lung cancer. Arsenic compounds can be absorbed by inhalation or ingestion.

Acute arsenic poisonings can be fatal. Symptoms of fatal poisonings are abdominal pain and vomiting, usually within an hour of ingestion. In some cases, dermatitis and peripheral neuritis follow recovery from acute symptoms. Acute dermatitis starts with erythema associated with burning and itching, giving the skin a mottled appearance. If the dermatitis is on the face, swelling may occur followed by eruptions of the skin.

Chronic skin lesions caused by exposure to arsenic compounds are characterized by cracking, thickening, and drying of the skin, warts and excessive sweating. Dermatitis of the face and eyelids can be accompanied by conjunctivitis with redness, swelling and pain.

Arsenic-bearing dust in contact with moist skin, eyes or nasal passages can form arsenious acid causing irritation and in some cases, corroding of the septal mucosa. Iron III arsenate can emit toxic fumes of arsenic when heated to decomposition.

### Ferrous hydroxide (Fe(OH)<sub>2</sub>)

A search of the literature revealed no pertinent toxicological data for ferrous hydroxide.

### Silica, amorphous

IARC has concluded there is inadequate evidence that amorphous silica was carcinogenic to humans and animals. In some animal studies, amorphous silica has been shown to be fibrogenic resulting in reduced lung function.

In human studies, amorphous silica (diatomaceous earth, precipitated and gel) seems to have little adverse effect on lungs when exposures are

reasonably controlled. There is not enough industrial experience to indicate the degree of hazard for amorphous silica (fused).

Bismuth oxychloride      Not available.

**Preventative Measures**

As supplied, the product is visibly wet and ventilation is normally not required. If dried, or allowed to dry in a user operation, ventilation is required 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.

Do not store near acids.

Avoid breathing dust.

Avoid skin and eye contact wash thoroughly after handling. Launder clothing and gloves as needed. Keep container closed.

**First Aid Measures**

For respiratory tract irritation	Remove to fresh air. If symptoms persist, get medical attention for skin irritation, flush thoroughly with plenty of water.
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For rashes	Seek medical attention
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For eye irritation	Immediately flush with water for 15 minutes. Seek medical attention. Hold eyelids open while flushing with water.
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If ingested	Seek medical attention
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**Preparation Information**

Prepared by:

**Inco** LIMITED  
 Product Stewardship  
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**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.***

**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 user must determine the possible health hazards of such forms.