Cupric carbonate (cas 1184-64-1) MSDS

Inco?
CCCR ?? CRED E/W Bosh Pond Solids
Product Information
Inco CCCR - CRED E/W Bosh Pond Solids
Inco reference no: 1996-0123
Inco Manufacturer:
Inco Limited
Copper Cliff, Ontario
Material P0M1N0
Emergency phone no: 705-682-6622

Product use: recovery of metal values

Safety Hazardous Ingredients
Components & Formulas % wt CAS No Exposure Limit
Data 0.1 mg/m3 as Ni
nickel carbonate 10-30 3333-67-3 NiCo3.6H2O
ID50(orl,sp) 840 mg/kg rat
0.1 mg/m3 as Ni
Sheet basic nickel carbonate NiCO3. as Ni 39430-27-8 2Ni(oh)2.4H2O

1 mg/m3 as Cu
copper carbonate 3-7 1184-64-1 CuCo3

1 mg/m3 as Cu
basic copper carbonate 2COCO3. As Cu 12069-69-1 3C0(OH)2.2H2O

0.02 mg/m3 as CO
cobalt carbonate 10-30 7542-09-8
COCO3
0.02 mg/m3 as CO
basic cobalt carbonate
As CO 12602-23-2 3CO(OH)2.2H2O
2COCO3.
0.1 mg/m3 as As
iron arsenate 0.5-1.5 10102-50-8 Fe3As2O6

0.1 mg/m3 resp,
silica 1-5 14808-60-7 SiC2

10 mg/m3
calcium carbonate 1-5 471-34-1
CaCO3

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Physical Data
Odourless, coarse slurry
boiling point: n/av
freezing point: n/av
molecular weight: n/av

density: n/av

Material specific gravity (H2O = 1): n/av

vapour pressure (mm mercury): n/ap

Safety vapour density (air = 1): n/av

percent volatiles by volume: n/ap

Data evaporation rate: n/ap

coefficient of water/oil distribution: n/ap

Sheet corrosiveness (to common metals): not corrosive

pH: 9.0

Fire or Explosion Hazard

Conditions of flammability: not flammable

Reactivity Data

Stability: stable

Hazardous polymerization will not occur

Incompatibility - avoid contact with: strong acids

Conditions of reactivity: n/ap

Toxicological Data

Nickel carbonate and basic nickel carbonate

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.

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.

Inhalation of dust may be irritating to the respiratory tract. Prolonged contact may irritate the skin and mucous membranes. Eye contact may cause eye irritation. 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.

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Basic nickel carbonate (NiCO3-Ni(OH)2 to 2NiCo3-3Ni(OH)2) has a relatively low oral toxicity; its oral rat LD50 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.

Refer to the toxicology of nickel.

Cobalt Carbonate

Specific information on cobalt carbonate was not found in the literature. Refer to the toxicology of Inco cobalt.

Copper Carbonates

Material Little information specific to copper carbonate was to be found in the literature. Sources did disclose that verdigris, formed by atmospheric corrosion of the surface of metallic copper and presumably
composed of copper carbonates and oxides, causes immediate irritation and conjunctival inflammation when accidentally dropped or dusted on the eyes of patients but the reaction subsides without permanent damage soon after the eye is cleansed by irrigation.

Safety Calcium carbonate is considered nontoxic. Inhalation of particulates could cause mild irritation of the respiratory tract. Although it is used as an antacid, ingestion of large amounts could lead to intestinal blockage. Calcium carbonate is listed by the American Conference of Governmental Industrial Hygienists as a nuisance particulate.

Silica

It is not known whether the silica present is amorphous or crystalline.

Sheet The International Agency for Research on Cancer (IARC) has concluded there is limited evidence that crystalline silica and inadequate evidence that amorphous silica causes carcinogenicity in humans. IARC has also concluded there is sufficient evidence that crystalline silica and inadequate evidence that amorphous silica causes carcinogenicity in animals.

Silica is rated moderate as an acute irritating dust.

Prolonged inhalation of dusts containing free silica may result in the development of a disabling pulmonary fibrosis known as silicosis, characterized by shortness of breath, decreased chest expansion, lessened capacity for work, absence of fever, increased susceptibility to tuberculosis and characteristic x-ray findings.

Amorphous silica is considered much less toxic than crystalline forms. The amorphous form does not cause silicosis.

In some animal studies, amorphous silica has been shown to be fibrogenic, resulting in reduced lung function.

In human studies, amorphous silica (diatomaceous earth, fused, 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.

IARC states that a number of studies have shown that persons diagnosed as having silicosis after exposure to dust containing crystalline silica have an increased risk of dying from lung cancer.

Silicosis (a pneumoconiosis of the lung) begins with symptoms of coughing, dyspnea, wheezing and repeated non-specific chest illnesses. Impairment of pulmonary function may be progressive.

Iron III arsenate

Arsenic compounds can be absorbed by inhalation or ingestion.

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Acute arsenic poisonings can be fatal. Fatal poisonings begin with symptoms of 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.

The International Agency for Research on Cancer (IARC) concluded that there was sufficient evidence that arsenic and arsenic compounds, as a group but not necessarily as individual chemicals, were carcinogenic to humans. An association between exposure to arsenic through 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.

Material 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.

Nickel

Safety the National Toxicology Program has listed nickel as reasonably anticipated to be a carcinogen based on the production of injection-site tumors.
The international agency for research on cancer (IARC) found there was inadequate evidence that metallic nickel is carcinogenic to humans but since there was sufficient evidence that it is carcinogenic to animals, IARC concluded that metallic nickel is possibly carcinogenic to humans. Epidemiological studies of workers exposed to nickel powder and to dust and fume generated in the production of nickel alloys and of stainless steel have not indicated the presence of a significant respiratory cancer hazard.

The inhalation of nickel powder has not resulted in an increased incidence of malignant lung tumors in rodents.

Repeated intratracheal instillation of nickel powder produced an increased incidence of malignant lung tumors in rats. Repeated intratracheal instillation of nickel powder did not produce an increased incidence of malignant lung tumors in hamsters when administered at the maximum tolerated dose. Single intratracheal instillations of nickel powder in hamsters at doses near the LD50 produced an increased incidence of fibrosarcomas, mesotheliomas and rhabdomyosarcomas. Inhalation of nickel powder at concentrations 15 times the exposure limit irritated the respiratory tract in rodents.

Repeated contact with metallic nickel can cause nickel sensitivity and allergic skin rashes.

Nickel metal powder has caused tumors at the site of injection in rodents. However, studies do not suggest a significant risk for humans from nickel-containing prostheses.

The U.S. National Institute for Occupational Safety and Health (NIOSH) concluded that nickel and its inorganic compounds are not carcinogenic when ingested. The U.S. Food and Drug Administration has affirmed that nickel is generally recognized as safe (GRAS) as a direct human food ingredient.

Cobalt

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 in 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. Repeated contact with metallic cobalt can cause sensitivity resulting in allergic skin rashes or asthma. 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.
Avoid breathing vapor or mist.

First Aid Measures
Skin contact: for skin irritation flush thoroughly with plenty of water. For skin rashes, seek medical attention. Launder clothing as required.

Eye contact: Immediately flush with water for 15 minutes. Use eyewash fountains provided to flush eyes. Hold eyelids open while flushing with water.

Inhalation: For respiratory tract irritation, remove to fresh air. If symptoms persist, seek medical aid.

Ingestion: Do not induce vomiting. Get immediate medical attention.

Preparation Information
Prepared by:
INCO LIMITE Product Stewardship & Quality
416-361-7801

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 possible health hazards of such forms must be determined by the user.

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