

# INCOCAL Alloy 10

## Product Information

INCOCAL Alloy 10

Vale Inco America's Inc.  
Park 80 West, Plaza Two  
Saddle Brook, NJ 07663

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

WHMIS Classification: Class D2B

## Hazardous Ingredients

| Hazardous Ingredients | Calculated Composition | C.A.S. No | PEL <sup>1</sup> –mg/m <sup>3</sup> | TLV <sup>2</sup> –mg/m <sup>3</sup> |
|-----------------------|------------------------|-----------|-------------------------------------|-------------------------------------|
| Nickel (Ni)           | 94                     | 7440-02-0 | 1                                   | 1.5*                                |

\*as inhalable fraction

INCOCAL<sup>®</sup> Alloy 10 also contains 5.5 per cent calcium.

## Physical and Chemical Data

Grey, odourless, metallic conical pig that weighs approx. 3 lb (1.4 kg).

| Ingredient | Mol. Wt. | Specific Gravity | m.p.°C | b.p.°C | Sol. In H <sub>2</sub> O g/100ml |
|------------|----------|------------------|--------|--------|----------------------------------|
| Ni         | 58.71    | 8.9              | 1453   | 2732   | 0                                |

## Physical Hazards

None.

## Health Hazards

### **Nickel**

LD50 ORAL RAT >9000 mg/kg

#### *Inhalation:*

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 PEL irritated the respiratory tract in rodents.

In 1997, the ACGIH categorized elemental nickel as: A5 "Not Suspected as a Human Carcinogen."

*Skin Contact:* Prolonged and intimate contact with metallic nickel may cause irritation to the skin and nickel sensitivity, which may result in allergic skin rashes.

One case has been reported of asthma induced by external exposure to a nickel-containing skin clip and by skin contact with nickel.

*Wounds:* 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.

*Ingestion:* The U.S. National Institute for Occupational Safety and Health (NIOSH) concluded there is no evidence that nickel and its inorganic compounds are 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.

*Pre-existing Conditions:* Prolonged and intimate skin contact can cause an allergic skin rash in previously sensitized individuals.

### Precautions for safe storage, handling and use

If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne nickel and to calcium oxide<sup>4</sup> below their respective PELs<sup>5</sup>. If ventilation alone cannot so control exposure, use NIOSH-approved respirators selected according to OSHA 29 CFR 1910.134. Maintain airborne nickel levels as low as possible.

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

Do not store near acids or reactive substances. This product can react vigorously with acids to liberate hydrogen gas which can form explosive mixtures in air.

Under special conditions nickel can react with carbon monoxide in reducing atmospheres to form nickel carbonyl, Ni(CO)<sub>4</sub>, a toxic gas.

### Spill, leak and disposal procedure

Pick up product and replace in original container. Nickel-containing waste is normally collected to recover nickel values. Should waste disposal be deemed necessary, follow EPA and local regulations.

MATERIAL SAFETY DATA SHEET

# MSDS

## Emergency and first aid procedures

If exposure to nickel carbonyl is suspected, seek medical attention immediately. For skin rashes, seek medical attention. Cleanse wounds thoroughly to remove any particles.

## SARA Section 313 Supplier Notification

This product contains the following chemical(s) subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and of 40 CFR 372:

### **Nickel**

Refer to the Hazardous Ingredients section of this MSDS for the appropriate CAS numbers and percent by weight.

## 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:**

- 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.