



# MATERIAL SAFETY DATA SHEET

Form WI04-11A Rev. 1

Part Number(s):  
97-102-XX

Product Name: CROZAT-LEOLOY

Release Date: April 12, 2007

## 1. Product and Company Identification

<b>Trade Name &amp; Synonyms</b> Chromium-cobalt alloys (Crozat-Leoloy)	<b>MSDS Code Number</b> Refer to part number
<b>Chemical Name</b> Heat treatable chromium cobalt alloys	<b>Manufacture / Distributor</b> GAC International Inc.
<b>C.A.S. Number</b> 7440-47-3	<b>Address</b> 355 Knickerbocker Ave. Bohemia, NY USA 11716
<b>Grades or Minor Variant Identities</b> NA	<b>Information Telephone Number</b> 1-631-419-1700
<b>Product Use (for Canada)</b> NA	<b>Emergency Telephone Number</b> 1-631-419-1700

## 2. Composition of Ingredients

Hazardous Components	C.A.S. Number	Exposure Limits	%
This section covers the materials contained in the product as shipped and is applicable to mechanical cutting or grinding. The fumes and gases produced during welding are covered in section 10.			
<u>Chemical Components</u>	<u>OSHA PEL(2)</u>	<u>ACGIH TLV(3)</u>	<u>NTP listed 4 listed 5</u>
			<u>IARC</u>
*Chromium	1	0.5 (CRII –CRIII)	No No
*Nickel	1	1	Yes Yes- GRP1
Molybdenum	15	10	No No
*Cobalt	0.1	.05	No No
Notes: Certain materials such as lime, salts or alkaline oils and certain residuals (lower than 1% of total weight of product) may remain on the product surface. *Toxic chemicals contained in the product which are subject to the reporting requirements of section 313 of title III of the act SARA ( Superfund amendments and reauthorization act) of 1986 and 40 CFR PART 372.			
Notes: 1. As defined by OSHA (29 CFR 1910.1200) or certain state regulations. 2. Permissible exposure limit (mg/m3) OSHA (29CFR 1910). 3. Threshold limit value (mgm3): American conference of governmental industrial hygienists. 4. National toxicology program: Annual report on carcinogens. 5. International agency for research on cancer. 6. C values are maximum limits.			
Component: Nickel Hazard symbol: Xn. Risk classification: R40 and R43. The EEC directive 67 /548/EEC classifies Nickel as suspect carcinogen (category 3) and irritating to skin. According to directive 88/379/EEC all products with minimum nickel content of 1% are classified in the same way.	7440-02-01	NA	NA



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## 3. Hazard Identification

### Emergency Overview

Products which this sheet refer to have solid metallic form and therefore the nickel cannot develop as possibly as hazardous material. No toxic effects caused by the material in the solid state or during the normal orthodontic practices have been produced. A prolong and frequent contact may cause skin irritation and other allergic reactions in subject sensitive to nickel.

Routes of Exposure	Signs and Symptoms	Single, Repeated, or Lifetime Exposure	Severity (Mild, Moderate, Severe)	Acute and Chronic Health Effect(s)	Target Organ(s)
Eye	May cause irritation, conjunctivitis, corneal damages.	NA	NA	NA	NA
Skin	Dermatitis due to sensitization may occur in some individuals from exposure to nickel and chromium fumes.	NA	NA	NA	NA
Inhalation	<b>Chromium:</b> The dusts of chromium metal are usually reported to be relatively non-toxic, although there are reports of a type of pulmonary disease. Some insoluble chromium compounds are suspect carcinogens. <b>Nickel:</b> Respiratory irritation and pneumonias; several nickel compounds including nickel oxide, are suspected lung and nasal carcinogens. <b>Molybdenum:</b> irritation of the nose and throat, weight loss and digestive disturbances in animals. No industrial poisoning has been reported. <b>Cobalt:</b> May cause asthma, pneumonias and sensitization of the respiratory system.	NA	NA	NA	NA
Ingestion	NA	NA	NA	NA	NA
Other	Description of possible hazards during working process: Prolonged exposure to dusts, fumes and gases generated during mechanical cutting, grinding or welding may cause adverse health effects such as respiratory irritation, irritability, coughing, headaches, nausea, dizziness or fever. These effects are associated with the following chemical components.	NA	NA	NA	NA

### Medical Conditions Aggravated by Exposure

Notes: Some constituents pose more potential hazards than others, depending upon their inherent toxicity and concentration. Of special concern are chromium, nickel and may be manganese. Aggravation of pre-existing respiratory or allergic conditions may occur in some workers.

### Carcinogenicity (IARC, NTP)

NA

### Potential Environmental Effects

NA

## 4. First Aid Measures

Routes of Exposure	First Aid Instructions	Immediate Medical Attention	Delayed Effects
Eye	In case of contact, wash eyes immediately with a large quantity of water for fifteen minutes, occasionally lifting eyelids.	NA	NA
Skin	If irritation gets worse, remove contaminated clothing and wash contaminated skin with soap or mild detergent and water for five minutes.	If irritation persists, seek medical advice.	NA
Inhalation	NA	Seek medical advice if necessary.	NA
Ingestion	NA	Seek medical advice if necessary.	NA
Other	NA	NA	NA

### Note to Physicians (Treatment, Testing, and Monitoring)

NA



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## 5. Fire and Explosion Data

<b>Flashpoint &amp; Method:</b> °C / °F NA	<b>Flammable (Explosive) Limits in Air</b> LEL: NA UEL: NA	<b>Autoignition Temperature</b> NA	<b>Other</b> NA
<b>Flame Propagation or Burning</b> Non-flammable. However welding sparks can ignite flammable liquids, vapors and combustibles.	<b>Properties Contributing to Fire Intensity</b> NA	<b>Flammability Classification</b> Health- , Flammability- , Reactivity- NA	
<b>Extinguishing Media</b> NA		<b>Extinguishing Media to Avoid</b> NA	
<b>Protection and Procedures for Firefighters</b> NA			
<b>Unusual Fire and Explosion Hazards</b> NA			

## 6. Accidental Release Measures

<b>Containment Techniques</b> NA
<b>Spill/Leak Clean-Up Procedures and Equipment</b> Collect residues from cutting, grinding or welding operations into a suitable container.
<b>Evacuation Procedures</b> NA
<b>Special Instructions</b> NA
<b>Reporting Requirements</b> NA

## 7. Handling and Storage

<b>Handling Practices and Warnings</b> No particular and specific rules have to be followed.
<b>Storage Practices and Warnings</b> (°C / °F). NA

## 8. Exposure Control/Personal Protection

<b>Ventilation</b> Use local exhaust when cutting, grinding or welding. It is important to maintain exposures below the permissible limits. Confined spaces require special attention to provision of adequate ventilation.	<b>Other Engineering Controls</b> NA	
<b>Routes of Entry:</b>	<b>Personal Protective Equipment (PPE) for Normal Use:</b>	<b>PPE for Emergencies:</b>
<b>Eye/Face</b>	Required during cutting, grinding and welding. Use face protection and goggles.	NA
<b>Skin</b>	Hand protection: Required during cutting, grinding and welding. Use gloves. Skin protection: Do not expose skin and wear flame-retardant clothing.	NA
<b>Inhalation</b>	Respiratory protection: Necessary when permissible exposure limits may be exceeded. Use air-supplied respirator in confined spaces.	NA



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<b>General Hygiene Considerations and Work Practices</b> NA
<b>Protective Measures During Repair and Maintenance of Contaminated Equipment</b> NA
<b>Other Protective Measures and Equipment</b> NA

## 9. Physical and Chemical Characteristics

<b>Appearance</b> Chromium-cobalt alloys are metal alloys in solid solution and are non-hazardous, non-flammable and non-reactive.		<b>Odor</b> NA
<b>Normal Physical State:</b> <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input checked="" type="checkbox"/> Solid <input type="checkbox"/> _____ (Other)		<b>Boiling Point</b> °C / °F NA <b>Melting Point</b> °C / °F NA <b>Freezing Point</b> °C / °F NA
<b>Specific Gravity or Density (H<sub>2</sub>O=1)</b> NA	<b>Solubility in Water</b> NA	<b>pH</b> NA
<b>Vapor Pressure (mm Hg @ 20°C)</b> NA	<b>Vapor Density (AIR= 1)</b> NA	<b>Evaporation Rate (Butyl Acetate = 1)</b> NA
<b>Other</b> NA		

## 10. Stability and Reactivity Data

<b>Incompatibility (Materials to Avoid)</b> NA				
<b>Hazardous Products Produced During Decomposition</b> Fumes and gases from welding cannot be classified simply. The composition and quantity of both depend on the metal being processed, procedures and the electrodes used. The constituents of the fume are generally different from the ingredients listed in section 1 and may include oxides of the metals, chromates, fluorides and metallic complex. Gases may include carbon monoxide, oxides of nitrogen and ozone. The following exposure limits apply to those fumes and gases which may be found in the welding environment.				
<u>Chemical components</u>	OSHA <u>PEL</u>	ACGIH <u>TLV</u>	NTP <u>LISTED</u>	IARC <u>LISTED</u>
Chromium (chromates)	0.1	0.05	Yes	Yes
Cobalt fume	0.1	0.05	No	No
Molybdenum(soluble)	5	5	No	No
Nickel (soluble)	1	0.1	No	Yes
Nitrogen dioxides C6PPM	(6)	3PPM	No	No
Ozone	0.1PPM	0.1PPM	No	No
(PEL-TLV values are mg/m3 except where indicated as PPM)				
<b>Hazardous Polymerization?</b> <input type="checkbox"/> May Occur <input type="checkbox"/> May Not Occur NA			<b>Conditions to Avoid</b> °C / °F NA	
<b>Stability?</b> <input type="checkbox"/> Stable <input type="checkbox"/> Unstable NA			<b>Conditions to Avoid</b> °C / °F NA	

## 11. Toxicological Information

<b>Toxicity Data, Epidemiology Studies, Carcinogenicity, Neurological Effects, Genetic or Reproductive Effects, or Structure Activity Data</b> No toxic effects would be expected from its inert solid form, neither during the usual orthodontic practices.
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## 12. Ecological Information

### Toxicity, Environmental Fate, Physical/Chemical Data, or Other Data Supporting Environmental Hazard Statements

Use properly according to the regular working processes. Avoid dispersion in the environment.

## 13. Disposal Considerations

### Regulations

Dispose of in accordance with local and national regulations. In Italy dispose of according to legislative decree of 4 February 1997 no-22 – application of directives 91/156/EEC on waste, 91/689/EEC on hazardous waste, 94/62/EC on packaging and packaging waste. Collect residue from cutting, grinding or welding operations into a suitable container.

### Properties (Physical/Chemical) Affecting Disposal

NA

## 14. Transport Information

### Regulated for shipping?

Yes  No

### Proper Shipping Name

Crozat

### Packing Group

NA

### Do changes in quantity, packaging, or shipment method change product classification?

Yes  No NA

### Hazard Class

NA

### Identification Number

NA

### Other

No special precautions are required. The materials are not classified as hazardous for the transport.

## 15. Regulatory Information

### Federal Regulations

This product has solid form and therefore is free from labeling obligations.

### International Regulations

### Other

**According to:** 67/548EEC

**Identification letter:** Xn for Nickel

**Risk phrases for nickel:** R40 possibility of irreversible effects  
R43 skin contact may cause sensitization.

**Safety phrases for Nickel:** S22 do not breathe the powder.  
S36 wear protecting clothes during handling.

## 16. Other Information

**Supplier Number:** 39/97

**Supplier Release:** May 17, 2001

N/A = not applicable. NA = not available, N/E = not established. N/D = not determined.