



MATERIAL SAFETY DATA SHEET

Form WI04-11A Rev. 1

Part Number(s):
03-01X-89

Product Name: Australian Reg + Arch wire

Release Date: April 23, 2007

1. Product and Company Identification

| | |
|--|---|
| Trade Name & Synonyms Australian Regular and arch wires. | MSDS Code Number Refer to part number |
| Chemical Name Metal 302 stainless steel wire products include Australian wire. | Manufacture / Distributor GAC International Inc. |
| C.A.S. Number 13097-37-1 | Address 355 Knickerbocker Ave. Bohemia, NY USA 11716 |
| Grades or Minor Variant Identities NA | Information Telephone Number 1-631-419-1700 |
| Product Use (for Canada) Used for arch wires and anchorage accessories. | Emergency Telephone Number 1-631-419-1700 |

2. Composition of Ingredients

| Hazardous Components | PEL/ | T LV HOUR TWA | C.A.S. Number | Exposure Limits | % |
|--|------------|---------------|---------------|-----------------|------|
| Iron * | 10.0 MG/M3 | 5.0MG/M3 | 13097-37-1 | NA | 69.5 |
| Chromium | 1.0 MG/M3 | 0.5MG/M3 | 7440-47-3 | NA | 18.0 |
| Nickel | 1.0MG/M3 | 1.0MG/M3 | 7440-02-0 | NA | 9.0 |
| Manganese | 5C.0MG/M3 | C5.0MG/M3 | 7439-96-5 | NA | 2.0 |
| Cobalt | 0.1MG/M3 | 0.1MG/M3 | 7440-48-4 | NA | .75 |
| * These substances are regulated in their oxide form | | | | | |

3. Hazard Identification

| Emergency Overview | | | | | |
|---|--|--|-----------------------------------|------------------------------------|-----------------|
| Specialty steel alloys are generally not considered hazardous in the form shipped (solid bars, billets wire, etc), however, if your process involves grinding, melting, welding, cutting, or any other process that causes a release of dust or fume, hazardous levels of dust or fume, of the constituents of these alloys could be generated. The following is a list of potential health effects for all hazardous elements that are possibly contained in our alloys. Please refer to section II titled "hazardous ingredients" for a list of those specific elements contained in this particular alloy. | | | | | |
| 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 | Iron oxide: Has caused irritation of eyes, nose and skin of excremental animals. It may have the same effect on humans. | NA | NA | NA | NA |
| Skin | Iron oxide: Has caused irritation of the skin of excremental animals. It may have the same effect on humans. Cobalt: Fume or dust causes an allergic skin rash. Nickel: Skin contact can also cause an allergic skin rash. | NA | NA | NA | NA |
| Inhalation | Iron oxide: Has caused irritation of nose of excremental animals. It may have the same effect on humans. Chromium: Ferrochrome alloys have been associated with lung changes in workers exposed to these alloys. Cobalt: Fume or dust causes irritation of the nose and throat. Also has been reported to cause respiratory disease with symptoms ranging from cough and shortness of breath to permanent disability and death. The symptoms frequently go away when exposure has stopped, but sometimes the symptoms progress after exposure has ceased. Manganese: Inhalation of manganese fume may cause "metal fume fever" with symptoms of chills, fever, nausea, cough, dry throat, weakness, muscle aches, and a sweet or metallic taste in the mouth. Nickel: Fumes are respiratory irritants | Manganese: Prolonged or repeated exposure may affect the nervous system, with difficulty in walking and balancing, weakness or cramps in the legs. Hoarseness of the voice, trouble with memory or judgment, unstable emotions or unusual irritability. The respiratory system may also be affected by pneumonia like | NA | NA | NA |



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| | and may cause respiratory disease. Nickel and its compounds have been reported to cause cancer of the lungs and sinuses. | illness with symptoms of coughing, fever, chills, body ache, chest pain and other common signs of pneumonia. | | | |
| Ingestion | NA | NA | NA | NA | NA |
| Other | Exposure to specialty steel occurs primarily from inhalation of dust and fumes. However, constituents of these may cause effects directly upon skin or eyes. Certain constituents may also be harmful if swallowed. | NA | NA | NA | NA |
| Medical Conditions Aggravated by Exposure NA | | | | | |
| Carcinogenicity (IARC, NTP) NA | | | | | |
| Potential Environmental Effects NA | | | | | |

4. First Aid Measures

| Routes of Exposure | First Aid Instructions | Immediate Medical Attention | Delayed Effects |
|--|--|-----------------------------|-----------------|
| Eye | Flush thoroughly with water | Consult a physician. | NA |
| Skin | Wash with water and mild detergent. | NA | NA |
| Inhalation | Move person to fresh air until recovered. | Consult a physician. | NA |
| Ingestion | While ingestion of large quantities to cause health effects is unlikely, consult a physician if it occurs. | NA | NA |
| Other | NA | NA | NA |
| Note to Physicians (Treatment, Testing, and Monitoring) NA | | | |

5. Fire and Explosion Data

| | | | |
|--|---|---|-------------------------------------|
| Flashpoint & Method: °C / °F N/A | Flammable (Explosive) Limits in Air LEL: NA UEL: NA | Autoignition Temperature N/A | Other Ignition point: N/A |
| Flame Propagation or Burning NA | Properties Contributing to Fire Intensity NA | Flammability Classification Health-, Flammability-, Reactivity-NA | |
| Extinguishing Media N/A | | Extinguishing Media to Avoid N/A | |
| Protection and Procedures for Firefighters N/A | | | |
| Unusual Fire and Explosion Hazards NA | | | |



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6. Accidental Release Measures

Containment Techniques

6.1 Personal precautions: Ventilation: If your process causes a release of dust or fume, use local and general exhaust ventilation to keep airborne concentrations of dust or fumes below the TLV.

Respiratory protection: If your process causes a release of dust or fume in excess of the permissible exposure limit, use approved respirators for protection against airborne dust or fumes should be worn. Respirators should be in accordance with 29CFR 1910.134.

Protective equipment: Gloves and barrier creams may be necessary to prevent skin sensitization and dermatitis. If your process involves grinding or any other action that causes the release of dust or fumes, approved safety glasses or goggles should be worn.

Spill/Leak Clean-Up Procedures and Equipment

6.2 Cleaning methods: N/A

Evacuation Procedures

NA

Special Instructions

Environmental precautions: No hazard.

Reporting Requirements

NA

7. Handling and Storage

Handling Practices and Warnings

See step 6.1

Storage Practices and Warnings

(°C / °F). N/A. Storage conditions: N/A

8. Exposure Control/Personal Protection

Ventilation

If your process causes a release of dust or fume, use local and general exhaust ventilation to keep airborne concentrations of dust or fumes below the TLV.

Other Engineering Controls

NA

Routes of Entry:

Personal Protective Equipment (PPE) for Normal Use:

PPE for Emergencies:

Eye/Face

If your process involves grinding or any other action that causes the release of dust or fumes, approved safety glasses or goggles should be worn.

NA

Skin

Gloves and barrier creams may be necessary to prevent skin sensitization and dermatitis.

NA

Inhalation

If your process causes a release of dust or fume in excess of the permissible exposure limit, use approved respirators for protection against airborne dust or fumes should be worn. Respirators should be in accordance with 29CFR 1910.134.

NA

General Hygiene Considerations and Work Practices

NA

Protective Measures During Repair and Maintenance of Contaminated Equipment

NA

Other Protective Measures and Equipment

Environmental precautions: No hazard.

Cleaning methods: N/A



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9. Physical and Chemical Characteristics

| | | |
|--|---|---|
| Appearance Form: Wire. Color: Solid | | Odor Odorless |
| Normal Physical State: <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input checked="" type="checkbox"/> Solid <input type="checkbox"/> ____ (Other) | | Boiling Point °C / °F High Melting Point °C / 2400-2800 °F Freezing Point °C / °F NA |
| Specific Gravity or Density (H₂O=1) 7.5 to 8.5 | Solubility in Water Insoluble. Organic solvent (20°C): Insoluble. | pH N/A |
| Vapor Pressure (mm Hg @ 20°C) Nil | Vapor Density (AIR= 1) NA | Evaporation Rate (Butyl Acetate = 1) NA |
| Other Viscosity (20°C): Solid. Change of state: Liquid. | | |

10. Stability and Reactivity Data

| | |
|--|--|
| Incompatibility (Materials to Avoid) Thermal decomposition: None | |
| Hazardous Products Produced During Decomposition None. | |
| Hazardous Polymerization? <input type="checkbox"/> May Occur <input checked="" type="checkbox"/> May Not Occur | Conditions to Avoid °C / °F None |
| Stability? <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Unstable | Conditions to Avoid °C / °F None |

11. Toxicological Information

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| Toxicity Data, Epidemiology Studies, Carcinogenicity, Neurological Effects, Genetic or Reproductive Effects, or Structure Activity Data Oral toxicity: Reference step 3 and step 6.1. Inhalation: Reference step 3 and step 6.1 Skin irritation: Reference step 3 and step 6.1 Sensitization: Reference step 3 and step 6.1 Eye irritation: Reference step 3 and step 6.1. Further details: None |
|--|

12. Ecological Information

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| Toxicity, Environmental Fate, Physical/Chemical Data, or Other Data Supporting Environmental Hazard Statements Acute toxicity in fish (LC-50/48h): Not defined. Bacteria toxicity: (EC-O): Not defined. Biodegradability: Not defined. Further details: |
|--|

13. Disposal Considerations

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|--|
| Regulations Product: N/A. Packaging: N/A |
| Properties (Physical/Chemical) Affecting Disposal Waste disposal code: N/A |



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14. Transport Information

| | | | |
|--|--|---|------------------------------------|
| Regulated for shipping? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Proper Shipping Name Australian regular and arch wires. | Packing Group NA |
| Do changes in quantity, packaging, or shipment method change product classification? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Hazard Class None. | Identification Number NA |
| Other Overland transport ADR/RID/GGVS/GGVE: N/A. Sea transport GGVSEA/IMDG-Code: N/A. Air transport ICAO/IATA-DGR: N/A. Inland waterway transport ADNR: N/A. Further details: Product is not considered dangerous for transport. | | | |

15. Regulatory Information

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|---|
| Federal Regulations National regulation: VbF: TA-Air: Water pollution 1: |
| International Regulations Preparation as defined by the (German) chemicals act (dated 4/03/1990). Labeling: N/A Product contains Danger symbol: R-sentences R36/37/38: S-Sentences S26: S-Sentences S28: |
| Other NA |

16. Other Information

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| Supplier Number: 16/3 Supplier Release: NA |
| N/A = not applicable. NA = not available, N/E = not established. N/D = not determined. |