

SAFETY DATA SHEET

Product Name:	Chromium	SDS Reference	
Version No. 1	Initial issue date 08-12-2009	Revision date	

1. IDENTIFICATION OF SUBSTANCE / PREPARATION AND OF THE COMPANY

Product Name	CHROMIUM	
REACH Registration No.	01-2119485652-31-****	
Use (s)	Not available.	
Supplier Details	Wogen Resources Ltd., 4 The Sanctuary, Westminster, London SW1P 3JS Telephone +44 (0) 20 7222 3521	
Emergency Telephone	+44 (0) 20 7222 3521	Competent Person e-mail: danny.landau@wogen.com

2. HAZARDS IDENTIFICATION

Physical & Chemical:	Not available.
Potential Acute Health Effects:	Hazardous in case of skin contact (irritant), eye contact (irritant), or inhalation. Slightly hazardous in case of ingestion.
Potential Chronic Health Effects:	Carcinogenic Effects: A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC. Mutagenic Effects: Not available Teratogenic Effects: Not available. Developmental Toxicity: PROVEN. The substance may be toxic to kidneys, lungs, liver, upper respiratory tract. Repeated or prolonged exposure to the substance can produce target organs damage.
Environmental:	Not available.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Characterisation	CHROMIUM			
Chemical name	CAS-No	EINECS/ELINCS	Classification	Concentration
Chromium	7440-47-3	231-157-5	Not classified	100%

4. FIRST AID MEASURES

Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Serious inhalation	Not available.
Skin contact	In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Serious skin contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.
Eye contact	Check and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

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4. FIRST AID MEASURES

Ingestion Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as collar, tie, belt or waistband. Get medical attention if symptoms appear.

5. FIRE FIGHTING MEASURES

General hazard May be combustible at high temperature.

Products of Combustion Some metallic oxides.

Extinguishing media Flammable solid.
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray, fog, or foam. Do not use water jet.

Extinguishing media not to be used Not available.

Special exposure hazards **Fire Hazard in Presence of Various Substances:**
Slightly flammable to flammable in presence of open flames and sparks of heat. Non-flammable in presence of shocks.

Explosion Hazards in Presence of Various Substances:
Not available.

Special Remarks on Fire Hazards:
Moderate fire hazard when it is in the form of a dust (powder) and burns rapidly when heated in flame. Chromium is attacked vigorously by fused potassium chlorate producing vivid incandescence. Pyrophoric chromium unites with nitric oxide with incandescence. Incandescent reaction with nitrogen oxide or sulphur dioxide.

Special Remarks on Explosion Hazards:
Powdered Chromium metal + fused ammonium nitrate may react violently or explosively. Powdered Chromium will explode spontaneously in air.

Protective equipment Not available.

Further information Not available.

6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up **Small Spill:** Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill: Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow evacuating through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Environmental considerations Not available.

7. HANDLING & STORAGE

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7. HANDLING & STORAGE

Advice on safe handling	Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not breathe dust. Do not ingest. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids, and alkalis.
Storage conditions	Keep container tightly closed. Keep in a cool, well-ventilated area.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure controls	TWA: 0.5 (mg/m ³) from ACGIH (TLV) [United States] TWA: 1 (mg/m ³) from OSHA (PEL) [United States] TWA: 0.5 (mg/m ³) from NIOSH [United States] TWA: 0.5 (mg/m ³) [United Kingdom (UK)] TWA: 0.5 (mg/m ³) [Canada] Consult local authorities for acceptable exposure limits. Consult local authorities for acceptable exposure limits.
Engineering controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure of airborne contaminants below the exposure limit.
Personal protection	Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Other protection	Not available.

9. PHYSICAL & CHEMICAL PROPERTIES

Physical form	Solid. (Metal solid.)
Colour	Silver-white to Grey.
Odour	Odourless.
pH	Not available.
Boiling pt / range	2642 °C (4787.6 °F)
Melting pt / range	1900 °C (3452 °F) +/- 10 deg. C
Flash point	Not available.
Specific gravity	7.14 (Water=1)
Vapour pressure	Not applicable.
Water solubility	Insoluble in cold water, hot water. Soluble in acids (except Nitric), and strong alkalis.
Molecular weight	52 g/mole
Auto-ignition temperature	580 °C (1076 °F)

10. STABILITY & REACTIVITY

Stability	The product is stable.
Conditions to avoid	Excess heat, incompatible materials.

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10. STABILITY & REACTIVITY

Material to avoid	Reactive with oxidizing agents, acids, alkalis.
	Special Remarks on Reactivity: Incompatible with molten Lithium at 180 deg. C, hydrogen peroxide, hydrochloric acid, sulphuric acid, most caustic alkalis and alkali carbonates, potassium chlorate, sulphur dioxide, nitrogen oxide, bromine pentafluoride. It may react violently or ignite with bromine pentafluoride. Chromium is rapidly attacked by fused sodium hydroxide + potassium nitrate. Potentially hazardous incompatibility with strong oxidizers.
Hazardous reactions	Not available.
Hazardous decomposition products	Not available.
Corrosivity	Not available.
Polymerization	Will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicity	<p>Routes of Entry: Inhalation. Ingestion.</p> <p>Toxicity to Animals: Not available.</p> <p>Chronic Effects on Humans: CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC.</p> <p>Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant). Slightly hazardous in case of ingestion.</p> <p>Special Remarks on Chronic Effects on Humans: May cause cancer based on animal data. There is no evidence that exposure to trivalent chromium causes cancer in man.</p> <p>Special Remarks on other Toxic Effects on Humans: Acute Potential Health Effects: May cause skin irritation. Eyes: May cause mechanical eye irritation. Inhalation: May cause irritation of the respiratory tract and mucous membranes of the respiratory tract. Ingestion: May cause gastrointestinal tract irritation with nausea, vomiting, diarrhoea. Chronic Potential Health Effects: Inhalation: The effects of chronic exposure include irritation, sneezing, redness of the throat, bronchospasm, asthma, cough, polyps, chronic inflammation, emphysema, chronic bronchitis, pharyngitis, bronchopneumonia, pneumoconiosis. Effects on the nose from chronic chromium exposure include irritation, ulceration, and perforation of the nasal septum. Inflammation and ulceration of the larynx may also occur. Ingestion or Inhalation: Chronic exposure may cause liver and kidney damage.</p>
Dermal compatibility	Not available.
Mucous membrane compatibility	Not available.
Further information	Not available.

12. ECOLOGICAL INFORMATION

Degradability	<p>Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.</p> <p>The product itself and its products of degradation are not toxic.</p>
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12. ECOLOGICAL INFORMATION

Further information Not available.

13. DISPOSAL CONSIDERATIONS

Advice on disposal Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Contaminated packaging Not available.

14. TRANSPORT INFORMATION

United Nations number Not available.

Marine pollutant Not available.

Further information DOT Classification: Not a DOT controlled material (United States).

15. REGULATORY INFORMATION

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15. REGULATORY INFORMATION

Classification & labelling

CLP Classification: Not classified

Federal and State Regulations:

Connecticut hazardous material survey: Chromium
 Illinois toxic substances disclosure to employee act: Chromium
 Illinois chemical safety act: Chromium
 New York release reporting list: Chromium
 Rhode Island RTK hazardous substances: Chromium
 Pennsylvania RTK: Chromium
 Minnesota: Chromium
 Michigan critical material: Chromium
 Massachusetts RTK: Chromium
 Massachusetts spill list: Chromium
 New Jersey: Chromium
 New Jersey spill list: Chromium
 Louisiana spill reporting: Chromium
 California Director's List of Hazardous Substances: Chromium
 TSCA 8(b) inventory: Chromium
 SARA 313 toxic chemical notification and release reporting: Chromium
 CERCLA: Hazardous substances: Chromium: 5000 lbs. (2268 kg)

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
 EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada)

DSCL (EEC):

R40 – Limited evidence of carcinogenic effect
 S36/37/39 – Wear suitable protective clothing, gloves and eye/face protection.
 S45 – In case of accident or if you feel unwell, seek medical advice immediately (Show the label where possible).

HMIS (U.S.A):

Health Hazard: 2
 Fire Hazard: 1
 Reactivity: 0
 Personal Protection: E
 National Fire Protection Association (U.S.A):
 Health: 2
 Flammability: 1
 Reactivity: 0
 Protective Equipment: Gloves, lab coat, dust respirator. Be sure to use an approved/certified respirator or equivalent. Splash goggles.

16. OTHER INFORMATION

Further information Not available.
Sources of data Not available.
Date of issue 08-12-2009

This information is based on our present state of knowledge and is intended to describe our products from the point of view of the safety requirements. It should not be construed as guaranteeing specific properties.

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