



Consolidated Rutile Limited

# CRUZOR™ FERROCHROME ILMENITE



## GENERAL SPECIFICATION

### CHEMICAL ANALYSES

<b>TiO<sub>2</sub></b>	Guaranteed Typical	45.0 min 45.0 – 49.0
<b>Fe</b> (total)	Guaranteed Typical	27.0 min 27.0 – 32.0
<b>Al<sub>2</sub>O<sub>3</sub></b>		2.0 – 4.5
<b>CaO</b>		0.1 – 0.3
<b>Cr<sub>2</sub>O<sub>3</sub></b>		2.0 – 5.5
<b>FeO</b>		13.0 – 22.0
<b>Fe<sub>2</sub>O<sub>3</sub></b>		18.0 – 25.0
<b>MgO</b>		1.0 – 3.0
<b>SiO<sub>2</sub></b>		0.5 – 1.5
<b>ZrO<sub>2</sub></b>		< 0.4
<b>U + Th</b>		< 70 ppm
Parent Specific Activity <sup>1</sup>		< 1 Bq/gm
<b>Moisture</b>		0.1

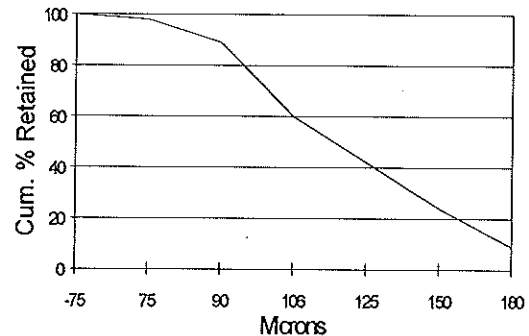
<sup>1</sup> Parent Specific Activity is calculated from the assay.

### SIZE DISTRIBUTION

Sieves conform to British Standard BS410:1986 and American Standard ASTM E-11-81			
Mesh No	Sieve Aperture (microns)	% Retained	
		Typical	Range
85	180	9	8 - 12
100	150	15	11 - 19
120	125	18	14 - 24
140	106	18	14 - 24
170	90	29	23 - 35
200	75	9	7 - 12
-200	<75	2	1 - 3

D50 = 117 µm

Typical AFS No: 100 - 120



### TYPICAL PHYSICAL PROPERTIES

(data from mineralogy and chemistry text books)

Specific gravity 4.0 to 4.3  
Bulk density 2400 to 2700 kg/m<sup>3</sup>  
Angle of repose 30°

### OTHER INFORMATION

See [www.iluka.com](http://www.iluka.com) for  
Material Safety Data Sheet

*CRL ilmenite is a natural product and as such slight variations in the chemical analysis and size distribution should be expected.*

### For shipping information contact:

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ISSUED: January 2010

ISSUE NO: 4



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**Material Safety Data Sheet**

CS: 1.4.93

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Infosafe No™ LPYZ3	Issue Date : September 2010	ISSUED by SIBELCO
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Product Name **CRUZOR FERROCHROME ILMENITE**

Not classified as hazardous according to criteria of NOHSC

**1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER**

Product Name	CRUZOR FERROCHROME ILMENITE
Company Name	SIBELCO AUSTRALIA LIMITED
Address	49-55 Woodlands Drive Braeside Vic 3195 Australia
Emergency Tel.	1800 638 556
Telephone/Fax Number	Tel: (03)9586 5400 Fax: (03)9586 5413
Recommended Use	Ferrochrome Ilmenite is a product from the mineral sands separation process. Specifically Ferrochrome Ilmenite from the Ilmenite plant may be used amongst other things in steel making.

**2. HAZARDS IDENTIFICATION**

Hazard Classification	Not classified as hazardous according to criteria of NOHSC NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. Hazard classification according to the criteria of NOHSC. Dangerous goods classification according to the Australia Dangerous Goods Code.
Risk Phrase(s)	Not classified as hazardous according to criteria of NOHSC

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Information on Composition Ingredients Contains <1% respirable crystalline silica in the form of quartz.

<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
ILMENITE	12789-64-9	>92 %
Chromite		<5 %
Leucoxene		<2 %
Quartz	14808-60-7	<1 %
Uranium	7440-61-1	<10ppm
Thorium	7440-29-1	<45ppm

**4. FIRST AID MEASURES**

Inhalation	If inhaled, remove affected person from contaminated area. Keep at rest until recovered. If symptoms persist seek medical attention.
Ingestion	Do not induce vomiting. Wash out mouth thoroughly with water. If symptoms develop seek medical attention.
Skin	Wash affected area thoroughly with soap and water. If symptoms develop seek medical attention.
Eye	If in eyes, hold eyelids apart and flush the eyes continuously with running water. Continue flushing for several minutes until all contaminants are washed out completely. If symptoms develop and persist seek medical attention.
First Aid Facilities	Eyewash and normal washroom facilities.
Advice to Doctor	Treat symptomatically.

**5. FIRE FIGHTING MEASURES**

Suitable Extinguishing Media	Use appropriate fire extinguisher for surrounding environment.
Hazards from Combustion Products	Non combustible material.

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**Specific Hazards** This product is non combustible.

**Precautions in connection with Fire** Fire fighters should wear Self-Contained Breathing Apparatus (SCBA) operated in positive pressure mode and full protective clothing to prevent exposure to vapours or fumes. Water spray may be used to cool down heat-exposed containers.

### 6. ACCIDENTAL RELEASE MEASURES

**Emergency Procedures** Increase ventilation. Evacuate all unprotected personnel. Wear sufficient respiratory protection and full protective clothing to prevent exposure. Sweep up material avoiding dust generation or dampen spilled material with water to avoid airborne dust, then transfer material to a suitable container. Dispose of waste according to the applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water authorities and EPA in accordance with local regulations.

### 7. HANDLING AND STORAGE

**Precautions for Safe Handling** Use only in a well ventilated area. Prevent the build up of dust in the work atmosphere. Avoid inhalation of dust, and skin or eye contact. Maintain high standards of personal hygiene i.e. Washing hands prior to eating, drinking, smoking or using toilet facilities.

**Conditions for Safe Storage** Store in a cool, dry, well-ventilated area, out of moisture. Store away from any incompatible materials.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**National Exposure Standards** No exposure value assigned for this specific material by the National Occupational Health and Safety Commission (NOHSC), Australia. However, the available exposure limits for ingredients are listed below:

National Occupational Health And Safety Commission (NOHSC), Australia Exposure Standards:

Substance	TWA		STEL	
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Crystalline Silica	-	0.1	-	-

TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week.

STEL (Short Term Exposure Limit): The average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.

**Biological Limit Values** No biological limits allocated.

**Engineering Controls** Provide sufficient ventilation to keep airborne levels below the exposure limits. Where dusts are generated, particularly in enclosed areas, and natural ventilation is inadequate, a local exhaust ventilation system is required.

**Respiratory Protection** If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable dust/particulate filter should be used. Reference should be made to Australian/New Zealand Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

**Eye Protection** Safety glasses with side shields or chemical goggles should be worn. Final choice of appropriate eye/face protection will vary according to individual circumstances. Eye protection devices should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.

**Hand Protection** Wear gloves of impervious material. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS

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 Product Name **CRUZOR FERROCHROME ILMENITE**

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<b>Body Protection</b>	2161.1: Occupational protective gloves - Selection, use and maintenance. Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended.
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**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	Black and brown sands.
<b>Odour</b>	Odourless
<b>Melting Point</b>	3370°C
<b>Boiling Point</b>	Not available
<b>Solubility in Water</b>	Insoluble at 20°C.
<b>Specific Gravity</b>	4.3-4.5
<b>pH Value</b>	7.1-8.8
<b>Vapour Pressure</b>	Not available
<b>Vapour Density (Air=1)</b>	Not available
<b>Flash Point</b>	Not applicable
<b>Flammability</b>	Non-combustible
<b>Auto-Ignition Temperature</b>	Not applicable
<b>Flammable Limits - Lower</b>	Not applicable
<b>Flammable Limits - Upper</b>	Not applicable
<b>Other Information</b>	Bulk density: 2400-2700kg/m <sup>3</sup>

**10. STABILITY AND REACTIVITY**

<b>Chemical Stability</b>	Stable under normal conditions of storage and handling.
<b>Conditions to Avoid</b>	Moisture
<b>Incompatible Materials</b>	Not available.
<b>Hazardous Decomposition Products</b>	Not known.
<b>Hazardous Reactions</b>	Not available
<b>Hazardous Polymerization</b>	Will not occur.

**11. TOXICOLOGICAL INFORMATION**

<b>Toxicology Information</b>	No toxicity data available for this product.
<b>Inhalation</b>	Inhalation of dusts may irritate the respiratory system.
<b>Ingestion</b>	Ingestion of this product may irritate the gastric tract causing nausea and vomiting.
<b>Skin</b>	May be irritating to skin. The symptoms may include redness, itching and swelling.
<b>Eye</b>	Eye contact may cause mechanical irritation. May result in mild abrasion.
<b>Chronic Effects</b>	<b>RADIATION:</b> In common with many naturally occurring mineral products, CRL Ferrochrome Ilmenite contains extremely low levels of naturally occurring

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Product Name **CRUZOR FERROCHROME ILMENITE**

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### Carcinogenicity

radioactive elements - principally uranium and thorium. The main radiological hazard from the product is internal exposure to alpha particles given off in small amounts by inhaled dust. Low level gamma radiation from bulk or bagged stockpiles of Ferrochrome Ilmenite may present a lesser, external hazard. This product contains silicon dioxide (quartz). No exposure to free respirable crystalline silica is anticipated during normal use of this product. It should be noted, however, that respirable crystalline silica has been listed as a Group 1 human carcinogen by the IARC. Inhalation of respirable silica may cause silicosis or other serious delayed lung injury. Grinding or machining of coated materials may release silica. Use approved dust respirator when grinding or machining coating or coated items.

## 12. ECOLOGICAL INFORMATION

Ecotoxicity	No ecological data are available for this material.
Persistence / Degradability	Not available
Mobility	Insoluble in water at 20°C.
Environ. Protection	Prevent this material entering waterways, drains and sewers.

## 13. DISPOSAL CONSIDERATIONS

Disposal Considerations	Dispose of waste according to applicable local and national regulations.
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## 14. TRANSPORT INFORMATION

Transport Information	Not classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. ( 7th edition)
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## 15. REGULATORY INFORMATION

Regulatory Information	Classified as Non-Hazardous according to criteria of National Occupational Health & Safety Commission (NOHSC), Australia.
Poisons Schedule	Not classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).
Other Information	Not Scheduled
Other Information	The regulations pertaining to radiological protection vary from country to country. It is the responsibility of the buyer to ensure that those regulations are met in accordance with his/her country's laws. Some of the regulating bodies for Australia are: Federal Department of the Arts, Sports, Environment, Tourism and Territories State Environmental Protection Authorities State Departments of Mines State Departments of Safety and Health

## 16. OTHER INFORMATION

Date of preparation or last revision of MSDS	MSDS Prepared: September 2010 ...End Of MSDS...
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