

1. IDENTIFICATION OF MATERIAL SUPPLIER

Product Names: Heavy Mineral Concentrate
 Other Names: HMC
 Uses: Raw material for extracting zircon, zircon concentrate, Ilmenite, rutile and leucoxene.
 Company: Keysbrook Leucoxene Pty Ltd
 ABN 49 137 091 297
 Address: 1 Alumina Road, East Rockingham WA 6168
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2. HAZARDS IDENTIFICATION

Not classified as hazardous according to criteria of Australian Safety and Compensation Council (ASCC).

Risk Phrases None

Safety Phrases None

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients (typical)	CAS Number	Weight
Rutile	1317-80-2	50-60%
Quartz	14808-60-7	12-22%
Zircon	14940-68-2	10-15%
Ilmenite	12168-52-4	2-10%
Anatase	1317-70-0	0.5-1.5%
Uranium (U)	7440-61-1	40-80ppm
Thorium (Th)	7440-29-1	230-270ppm

4. FIRST AID MEASURES

Swallowed: First aid is unlikely to be required, but if necessary wash mouth out with water ensuring the mouthwash is not swallowed. Give one or two glasses of water to drink. Seek medical attention if a large quantity has been swallowed.

Inhaled: Blow nose to remove particulates from nose. Move to area with fresh air. Seek medical attention if adverse reaction develops.

Skin: Remove contaminated clothing gently to avoid creating dust. Wash skin. If skin becomes irritated, seek medical attention. Launder affected clothing before re-use.

Eye: Hold eyelid open and flush with clean water. Continue until grit is removed. Seek medical attention if irritation or soreness persists.

Acute

Swallowed: Non-toxic. No known detrimental effect from accident ingestion as may occur during normal handling. Ingestion of large amounts may cause irritation to the gastro-intestinal system due to abrasiveness.

Inhaled: Mainly regarded as nuisance dust but may be irritating if inhaled at high concentrations. May cause coughing and/or sneezing.

Skin: Low hazard.

Eye: Solid and dust can be moderately irritating due to abrasiveness.

Chronic

Radiation: HMC contains naturally occurring radioactive elements of the uranium and thorium series. The HMC produced by Keysbrook Leucoxene Pty Ltd contains low concentrations of these impurities, with typical specific activities of approximately 0.9 – 1.1 Bq/g (thorium-232) and 0.6 to 0.7 Bq/g (uranium-238). Daughter products are present, usually at equilibrium concentrations. The main radiological hazard is internal dust. As a guide, continuous worker exposure to respirable dust levels above 3.5mg/m³ could give rise to annual internal exposures above 1 mSv. External exposure is from gamma radiation. Continuous exposure (2000 hours per year) within 2 metres of bulk HMC could give rise to an annual external dose above 1 mSv.

Silica: HMC may contain very small amounts of free quartz and precautions should be taken to avoid inhaling the dust.

FIRST AID FACILITIES Eye Wash Station

DOCTOR Treat symptomatically

5. FIRE FIGHTING MEASURES

Non-flammable, non-combustible

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures: Not relevant

Containment and Clean-up: Wear safety equipment for normal handling. Avoid generating dust. Vacuum up if possible, otherwise sweep up and recycle. If the spilled product is not suitable for re-use, dispose of to an approved landfill site and cover with clean fill.

7. HANDLING AND STORAGE

Handling: Dust generation should be minimised when handling. Wash thoroughly after handling.
Storage: Storage areas should be ventilated.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National Exposure Standards: Dust TWA-10mg/m³ (inhalable general nuisance dust)

Biological Limit Values: No information

Engineering Controls: Ventilation requirements will depend on handling methods and the amounts in use, but should be sufficient to maintain dust levels below exposure limits.

Personal Protective Equipment: Safety glasses or goggles. If there is a risk of inhaling dust, wear an approved respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Brownish free running sand
Odour:	Odourless
pH:	Neutral
Vapour Pressure:	Not applicable
Boiling Point/Range:	Not applicable
Melting Point:	Rutile 1850°C, Quartz 1700°C, Zircon 2200°C
Solubility:	Insoluble
Bulk Density:	1.8-1.9
Flash Point:	Not applicable
Flammability Limits:	Not applicable

10. STABILITY AND REACTIVITY

Reactivity	Inert
Chemical Stability:	Stable
Incompatible Materials	None in normal or expected use
Decomposition Products	Decomposition will not occur

11. TOXICOLOGICAL INFORMATION

Based on testing performed on the three major constituents, not considered as hazardous to human health according to criteria of GHS (UN 2017).

12. ECOLOGICAL INFORMATION

Based on testing performed on the three major constituents, does not meet the conditions to be considered 'harmful to the marine environment' under the revised MARPOL annexe V.

13. DISPOSAL CONSIDERATIONS

If not reusable, dispose of at approved landfill site. Disposal must be in accordance with Commonwealth, State and local government regulations.

14. TRANSPORT INFORMATION

Transport may be regulated in some countries although the product is classified as Non-Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by road and rail. Trucks however should be covered when transporting dry bulk product to prevent dust creation.
Is not classifiable as a class 9 miscellaneous dangerous good for marine transport.

15. REGULATORY INFORMATION

Poisons Schedule: None allocated

16. OTHER INFORMATION

Date of Issue: 30 August 2019
Replaces Issue: December 12, 2017
Review Date: December 2022

END OF SAFETY DATA SHEET