

SAFETY DATA SHEET



Rutile Middling

1. IDENTIFICATION OF MATERIAL AND SUPPLIER

Product Identification

Product Name	Rutile Middling
Other Names	Heavy Mineral Sands
Recommended Uses	Feedstock for the manufacture of pigments and other industrial uses

Supplier Identification

Company	Doral Mineral Sands Pty. Ltd. A.B.N. 18 096 342 451	
Address	Lot 7 Harris Road, Picton Western Australia 6229	
Telephone Number	Within Australia (08) 9725 5444	International +61 8 9725 5444
Facsimile	Within Australia (08) 9725 4757	International +61 8 9725 4757
E-Mail	doral@doral.com.au	
Emergency Telephone (24 hours)	(08) 9725 5444	(International +61 8 725 5444)

2. HAZARD IDENTIFICATION

Not classified as hazardous according to Safe Work Australia criteria.

Risk Phases (R-Phrases)	None
Safety Phrases (S-Phrases)	None
UN Number	None Allocated
Class and Subsidiary Risk	None Allocated
Hazchem Code	None Allocated
Poisons Schedule Number	None Allocated

Potential Health Effects

Acute

Swallowed:	Non-toxic. Ingestion of large quantities may cause irritation of the gastrointestinal system as a result of abrasiveness.
Eye:	Low to moderate irritant due to abrasiveness.
Skin:	Non-irritant. Low hazard.
Inhaled:	Irritating if inhaled in high concentrations, causing coughing, shortness of breath and/or sneezing.

Chronic

Crystalline Silica

Radiation

In common with many minerals, this middling contains levels of naturally occurring radioactive elements of the Uranium and Thorium series. The main radiological hazard from the product is internal exposure to alpha particles given off by inhaled dust. Suitable dust control measures shall be employed to ensure occupational exposure to generated dust and alpha particles are kept as low as reasonably achievable. Prolonged exposure to gamma radiation from bulk or bagged stockpiles of middling may present a lesser, external hazard.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients (typical)	CAS Number	Approx. Proportion %
Zircon	14940-68-2	10
Rutile/leucoxene	1317-80-2/103170-28-1	31
Ilmenite	103170-28-1	37
Quartz	14808-60-7	11
U (Uranium)	7440-61-1	0.014
Th (Thorium)	7440-29-1	0.18

4. FIRST AID MEASURES

Swallowed	Wash mouth out with water ensuring the mouthwash is not swallowed. Seek medical attention as a precaution if discomfort occurs.
Eyes	Hold eyelids open and wash continuously with clean water for 15 minutes. Do not rub eyes. Seek medical attention if soreness or irritation persists.
Skin	No irritation is likely to develop following contact with skin, wash off with soap and water. Avoid generating dust when removing clothing. If abrasion or irritation occurs seek medical attention.
Inhaled	Remove from exposure to fresh air. Blow nose to remove particulates from nasal passages. If breathing is laboured or stopped, give artificial respiration. If any adverse reaction develops, seek medical attention.
First Aid Facilities	Eye wash facilities.
Advise to Physician	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flashpoint	Not Applicable
Flammability Limits	Non-combustible
General Hazard	This product is not flammable and does not support combustion
Extinguishing Media	Use media suitable for the material that is burning

6. ACCIDENTAL RELEASE MEASURES

Spills and disposal	Wear safety equipment as for normal handling. Avoid generating dust. Vacuum up if possible, otherwise sweep up and re-cycle. If the spilled product is not suitable for re-use, damp down, collect and where possible return to manufacturer for reprocessing. Otherwise dispose to an approved landfill site and cover with clean fill in accordance with relevant local regulations.
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7. HANDLING AND STORAGE

Handling	Avoid breathing dust. Suitable dust controls should be utilised when handling bulk materials. Wash thoroughly after handling. If handling it is advisable to also use gloves and wash hands before eating, drinking or smoking to minimise inhalation or ingestion from hands.
Storage	Storage areas should be well ventilated, dry and dust generation minimised when handling.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Standards:	General nuisance (inhalable) dust TLV (TWA) – 10mg/m ³ Respirable Quartz dust TLV (TWA) – 0.1mg/m ³
Engineering Controls	Ventilation requirements will depend on handling methods and the amount in use, but should be sufficient to maintain dust levels below exposure limits. Indoor points of dust generation such as conveyor and hopper discharges should be equipped with an effective extraction system.
Personal Protection	Safety glasses with side shields or goggles. If risk of inhaling dust is present wear, at minimum, a P1 personal respirator (disposable or cartridge type). The use of protective clothing is recommended to reduce unnecessary contact with skin.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (form)	Black/brown, free running sand. Opaque under a microscope. odourless and tasteless	Odour	Odourless and tasteless
Chemical Formula	TiO ₂	Melting Point	1800°C
Specific Gravity	3.5	Boiling Point	Not Applicable
Solubility in Water	Insoluble	Vapour Pressure	N/A
pH	5 - 7.5	Flash Point	N/A
Bulk Density	1600 – 2400 kg/m ³	Evaporation Rate	N/A
Angle of Repose	45%	Flammability	N/A
Stowage Factor	1.746 mt/m ³	Grain size	D50 ~ 130 micron

Additional Information

Radioactivity: Rutile Middling contains (NORM) naturally occurring radioactive material U238 and Th 232 (Typically U <100ppm and Th <1750ppm). This indicates a Parent Activity less than 8.5Bq/gm which is within the allowable limit (10Bq/gm) for the safe transportation of NORM material in accordance with IAEA guidelines.

When following recommended safe handling practices radiation exposure is unlikely to exceed 1mSv/year (whole body average).

10. STABILITY AND REACTIVITY

Reactivity	Inert
Chemical Stability	Stable
Incompatibilities	None in normal or expected use
Decomposition	Decomposition will not occur

11. TOXICOLOGICAL INFORMATION

This product is non-toxic. Refer to section 2 - Hazards Identification.

12. ECOLOGICAL INFORMATION

This material is unlikely to cause any environmental damage if handled, used and disposed of in the approved manner. It is insoluble in water and is unlikely to contaminate waterways or food chains.

13. DISPOSAL CONSIDERATION

Disposal must be in accordance with Federal, State and Local Council regulations. If approved, may be transferred to an approved landfill site.

14. TRANSPORT INFORMATION

UN No.	None
Shipping Name	None
Class	None
Subsidiary Risk	None
Packing Group	None
Hazchem Code	None

Trucks should be covered when transporting dry bulk product to prevent dust generation.

Heavy Mineral sands contains NORM (natural occurring radioactive material) radionuclides likely to be detected by border control equipment: Th-232, Ra-226

15. REGULATORY INFORMATION

Poisons Schedule	No poisons number scheduled allocated using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP)
Labelling	May be required in the USA and elsewhere if free silica exceeds 0.1%

16. OTHER INFORMATION

Other Information	This SDS has been prepared by Doral Mineral Sands, Safety Health and Environment Department.
Date of Issue	27/07/2019
Replaces	27/11/2014

This SDS is valid for five (5) years from the date of issue but readers should refer to Doral's website (www.doral.com.au) to ensure that this is the latest issue. As per the Worksafe Guidance Note NOHSC 3017, each user should review the information in the specific context of the intended application.

Abbreviations

Bq/gm	Becquerel per gram
IARC	International Agency for Research on Cancer
mg/m ³	Milligram per cubic metre
TWA	Time Weighted Average
NOHSC	National Occupational Health and Safety Commission

End of SDS