

Pacific Mineral Developments Pty Ltd
Min Plus™ MRD-250 – Material Safety Data Sheet

This Material Safety Data Sheet (MSDS) describes the Occupational Health & Safety properties of material produced by **Pacific Mineral Developments Pty Ltd**, identified as Min Plus™ MRD-250. In accordance with the National Occupational Health & Safety Commissions approved criteria for Classifying Hazardous Substances NOHSC: 1008 (1994) this material is classified as hazardous in accordance to the criteria of Worksafe Australia.

Pacific Mineral Developments Pty Ltd
A.C.N 010 889 139
A.B.N 25 010 889 139
1111 Palmerston Highway
Innisfail
QLD 4860
PO Box 594
Innisfail
QLD 4860

Telephone: (07) 40 644 118
Fax: (07) 40 644 131
Email: adman.70@bigpond.com
minerals@austarnet.com.au

PHYSICAL PROPERTIES DESCRIPTION

Appearance	Dark grey powder
Boiling & Melting Point	1100 degrees C
Vapour Pressure	None
Specific Gravity (t/m3)	2.8
Flash Point	Non Flammable
Flammability Limits	Non Flammable
Solubility in water	Insoluble

OTHER PROPERTIES

Odour	None
Shock sensitivity	Shock resistant
Corrosiveness	Non corrosive
Oxidation Properties	Resistant to oxidation
Reactivity with air	None
Reactivity with water	None
Auto Ignition Temperature	Not determined
Evaporation rate	Nil
Vapour density	Not applicable
pH	9.1 - 10
Solubility in organic compounds	Non soluble

INGREDIENTS

The material is made up of naturally occurring minerals consisting of clinopyroxene, olivine, plagioclase and small amounts of smectic clays.

ANALYSIS

pH (1:5)	pH units	9.7
Calcium, Ca	% w/w	6.77
Iron, Fe	% w/w	9.1
Magnesium, Mg	% w/w	6.58
Sulphur, S	% w/w	0.009
Potassium, K	% w/w	1.53
Total Phosphorus	Mg/kg	2300
Cobalt, Co	Mg/kg	35
Copper, Cu	Mg/kg	43
Manganese, Mn	Mg/kg	790
Molybdenum, Mo	Mg/kg	<5
Zinc, Zn	Mg/kg	92
Silicon, Si	% w/w	21.6

HEALTH HAZARD INFORMATION

The immediate health concerns in coming into contact with the material, is the airborne dust generated during handling procedures.

HEALTH EFFECTS

Eye	Particles or dust are a moderate eye irritant due to abrasive action
Inhalation	Regarded as a nuisance dust, it can be irritating if inhaled in high concentrations. May cause symptoms such as coughing or sneezing. Use approved half-face filter respirator suitable for organic dust. If high concentrations of silica dust are inhaled, increased risk to development of mucus build up and coughing may occur.
Skin	Low Hazard
Ingestion	Non-toxic, there are no known hazards caused by accidental ingestion of small amounts as might occur during normal handling. Ingestion of larger quantities may cause irritation of the gastrointestinal system as a result of abrasive action.
Radiation	Elements contained within the material are all naturally occurring elements and indicate that trace quantities of both thorium and uranium series are present, along with potassium. This composition is typical of that found in all soil and rock samples, and the concentrations of the radio nucleotides are all at the low end of the range found for common soils.

FIRST AID PROCEDURES

Eye	Hold eyelids open and rinse the eye continuously with a gentle stream of clean running water for at least 15 minutes. Seek medical attention if any irritation or soreness of the eye persists.
Inhalation	Remove from the exposure and seek fresh air, seek medical attention if symptoms persist.
Skin	Remove clothing and wash thoroughly with soap and water, but nothing more specific than that. Seek medical attention if any irritation or soreness persists.
Ingestion	First aid is unlikely to be required but if necessary, rinse mouth out with water ensuring that none is swallowed. Seek medical advice as a precautionary measure if large quantities have been ingested.

PRECAUTIONS FOR USE

Flammability	Non-combustible
Ventilation	Extraction or make-up air may be required to minimise dust levels.
Personal protective equipment	Safety glasses or goggles. An approved half-face filter suitable for organic dust may be required if ventilation is insufficient to minimise airborne dust.
Exposure standards	Worksafe Australia Standard: Crystalline Silica 0.2mg/m ³ times weighed average (TWA)
Engineering controls	Keep exposure limits as low as practical. Work in ventilated areas and clean work areas regularly with using wet methods to dampen dust. Use dust control mechanisms such as wetting of stockpiles.

SAFE HANDLING INFORMATION

Transport	The material is not generally considered to be a transport hazard. However, trucks should be sheeted over to prevent dispersal of dust while in transit. Washing rather than sweeping should be used to clean bulk transporters. Drivers/Cleaners should wear respiratory protection when cleaning.
Storage	No specific storage requirements, but storage should be dry to ensure quality. Stockpile storage should not exceed natural angle of repose in dry conditions as stockpiles can fall or slip without notice, potentially trapping people in debris.
Spillage	Personal protective equipment as per "precautions for use" above. Clean up spillage by sweeping or vacuuming taking care to avoid generating dusts. Dampening with water may be appropriate if spillage is to be disposed of.
Waste disposal	Dispose to landfill.
Fire explosion	Non-flammable to beyond melting point.
Extinguishing	Use whatever protective equipment and extinguishing agents that are appropriate and available for primary cause of fire.
Ecological	The material is unlikely to cause environmental damage if handled, used and disposed of in the approved manner. It is insoluble and thus unlikely to contaminate water or enter the food chains.

PERSONAL PROTECTION

Skin Protection	Wear comfortable long trousers and long sleeve shirts. Clean clothing regularly.
Eye Protection	None required if ventilation controls are adequate. However, it is recommended to wear safety glasses.
Respiratory Protection	None required if ventilation controls are adequate. However, it is recommended to wear half-face filter dust respirator suitable for organic dust.
Personal Hygiene	Wash hands with soap after handling.
Flammability	Material is not toxic.

The information contained in this MSDS is based on data which, to the best knowledge of Pacific Mineral Developments Pty Ltd is accurate and reliable at the time of producing this document. Pacific Mineral Developments Pty Ltd does not accept any responsibility for errors and omissions and recommends that the users of the document satisfy themselves of the accuracy of the information contained within. Users are also advised to make their own determination of the suitability of this information in relation to their particular purpose and specific circumstances. If the user is uncertain to any particular item of this document then the user should make contact with Pacific Mineral Developments Pty Ltd to clarify any points of concern.