

Certificate of Analysis
Manganese Oxide 60%
[Feed Grade Specification]

CHEMICAL INFORMATION			TECHNICAL DATA	
Molecular Weight: 71			Density : 1.80 – 1.90 kg/dm ³	
HS CODE : 2820 90 00			Solubility: Water Insoluble/ Acid Insoluble	
Characteristic	Standard Specification	Typical Analysis	Test Method	European Standard Specification
Total Manganese (Mn)	60% Min	ABOVE 61%	by Potentiometric titration- Volhards	60% Min
Manganese Oxide (MnO)	78% Min	ABOVE 79%	by Potentiometric titration- Volhards	-
Iron as Fe	8% Max	6%	IS – 1473 – 2004	-
Silica as SiO ₂	8% Max	6%	IS – 1473 – 2004	-
Alumina as Al ₂ O ₃	5% Max	3%	IS – 1473 – 2004	-
Manganese Dioxide (MnO ₂)	2% Max	2%	IS – 1473 – 2004	-
Moisture	1% Max	0.50%	ASTM D2216	-
Lead (Pb)	200 ppm max	60 ppm	by ICP- Mass Spectrometry	200 ppm max
Arsenic (As)	100 ppm max	60 ppm	by ICP- Mass Spectrometry	100 ppm max
Cadmium (Cd)	30 ppm max	1.50 ppm	by ICP- Atomic Emission Spectrometry	30 ppm max
Mercury (Hg)	1 ppm max.	NOT DETECTED	by ICP- Mass Spectrometry	1 ppm max.
Appearance	Fine greenish-brown powder	Fine greenish-brown powder	Visual	Fine greenish-brown powder
Density	1.80 - 1.90 kg/dm ³	1.80 - 1.90 kg/dm ³		1.80 - 1.90 kg/dm ³

Screen analysis 100 mesh (BSS)	95-100% Passing	95-100% Passing		95-100% Passing
Shelf Life	3 Years	3 Years		3 Years
DIOXIN : 1.0 ng/kg TEQ Max EPA 1613B				
Sum Dioxin and Dioxin-like PCBs : 1.5 ng/kg TEQ Max EPA 1613B and EPA 1668B				
Non Dioxin-like PCBs : 10 ug/kg TEQ Max EPA 1668 (modified)				
TOXICITY : MnO is not hazardous				
HANDLING : Avoid dust formation, which may cause respiratory, skin, eye irritation				
STORAGE : Store in dry, well – ventilated area				
PACKING : 25 Kgs, 50 Kgs Net Bags, 1000 Kg Jumbo bags OR 1250 Kgs Jumbo Bags on pallets 24/25 MT per 20' Box Container				
PRODUCT ORIGIN : INDIA				

Synergy