

Micromax-FF[→]	Performance Weighting Agent
Cementing Products Inc.	MicromaxFF

PRODUCT DESCRIPTION

Micromax FF[→] is the non-dusting and free-flowing version of Micromax[→]. It is Manganese Tetraoxide (Mn₃O₄). The Micromax[→] particles are collected in a narrow particle size distribution and processed to make free-flowing aggregates. The free-flowing characteristics of Micromax FF[→] allows for its easy pneumatic transportation on site.

The specific characteristics of Micromax-FF[→] e.g. high specific gravity (4.8 SG), small, colloidal-sized particles and large surface area (2-4 m²/g) make it a very attractive weighting agent that enables the creation of stable slurries. The small particles act as an aid to suspend other particles, resulting in uniform downhole conditions. Micromax FF[→] provides additional benefits as it is:

- less-abrasive
- an effective tracer material
- non-magnetic

ECD CONTROL

Micromax FF[→] allows better ECD management during its application as a weighting agent in cementing operations because its small particle size, spherical morphology and inertness enhance the stability of cement slurries and weighted spacers. The spherical shape of the Micromax FF[→] particles also provides lubricity to spacers, thus improving the rheological properties resulting in better mud removal and overall improvement in the quality of cementing job.

SAFETY

Normal safety precautions are recommended for handling this product. Please refer to Material Safety Data Sheet for more information.

FEATURES & BENEFITS

- **Versatility of applications**
Micromax-FF[→] is used in versatile applications like:
 - Restricted ECD applications (e.g. long liner cementation, deepwater cementing, deviated & ERD wells)
 - HPHT cementing and spacer fluids.
 - To extend the density windows of cement slurries, spacers and other fluids etc.
- **Green Profile**
Micromax FF[→] is not classified as being hazardous and is PLONOR certified.
- **Acid/chelate removable**
Micromax FF[→] is much less damaging to formations due to its small particle size and acid solubility. It can easily flow through sand completions such as wire-wrapped screens and unlike Barite it is soluble in a range of common acids and chelates.
- **Compatibility**
Micromax-FF[→] is fully compatible with all common oilfield additives.

TECHNICAL SPECIFICATIONS

Physical appearance :	Reddish brown powder
Specific Gravity:	4.7-4.9
D50:	100 µm as aggregates ±1µm dispersed
Mn Content:	65-70%
Fe Content:	4.5% Max
Specific surface area:	1-4 m ² /g
Bulk density:	1600-1800 kg/m ³ (packed)
Moisture content:	0.10-0.50%
Absolute volume:	0.0250 gal/lb