

Simulant Name: MGS-1S Mars Global Sulfate

ISRU Simulant

Simulant Type: ISRU applications

Uncompressed Bulk Density: 1.39 g/cm³

Median Particle Size: 68 µm

Particle Size Range: <0.4 - 1000 µm

Reference Material: M-WIP Reference Case B



Geotechnical Properties

Coming soon!

Safety

See SDS for details.
Primary hazard is dust inhalation; wear a respirator in dusty conditions.

Mineralogy

As mixed.

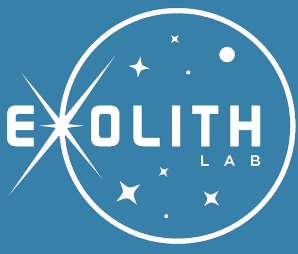
| Component | Wt.% |
|-------------------|------|
| Gypsum | 41.0 |
| Anorthosite | 16.4 |
| Glass-rich basalt | 13.7 |
| Pyroxene | 12.2 |
| Olivine | 8.2 |
| Mg-sulfate | 2.4 |
| Ferrihydrite | 2.1 |
| Hydrated silica | 1.8 |
| Magnetite | 1.1 |
| Fe-carbonate | 0.8 |
| Hematite | 0.3 |

Bulk Chemistry

¹Measured by XRF.

| Oxide | Wt.% |
|--------------------------------|--------------|
| SiO ₂ | 32.60 |
| Al ₂ O ₃ | 9.59 |
| CaO | 21.39 |
| Na ₂ O | 1.08 |
| Fe ₂ O ₃ | 7.79 |
| K ₂ O | 0.32 |
| MgO | 11.51 |
| MnO | 0.9 |
| P ₂ O ₅ | 0.13 |
| TiO ₂ | 0.36 |
| LOI | 10.76 |
| Total | 95.61 |

¹[\(PDF\) Characterization of planetary regolith simulants for the research and development of space resource technologies \(researchgate.net\)](#)



Particle Size Distribution

Using a combination of laser and sieve analysis

