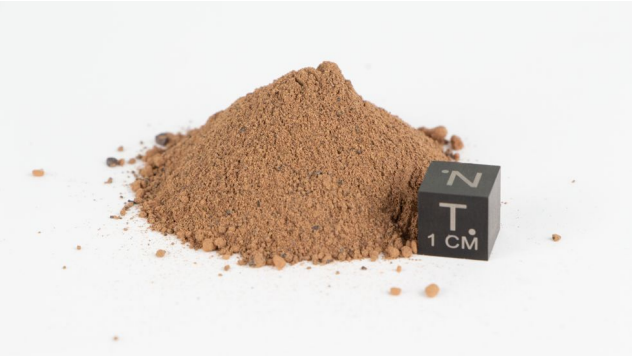
MGS-1 Mars Global Simulant | **Fact Sheet**

003-05-001-1223

Simulant Name: MGS-1 Mars Global Simulant
Simulant Type: General purpose
Reference Material: Rocknest soil
Uncompressed Bulk Density: 1.40 g/cm^3
Median Particle Size: 63 µm
Particle Size Range: >0.04 µm – 1000 µm



Geotechnical Properties

Avg Angle of Repose: 38.9°
Max Angle of Repose: 43.6°

More coming soon!

Safety

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

Mineralogy

As mixed.

Component	Wt.%
Anorthosite	27.1
Glass-rich basalt	22.9
Bronzite	20.3
Olivine	13.7
Mg- sulfate	4.0
Ferrihydrite	3.5
Hydrated silica	3.0
Magnetite	1.9
Anhydrite	1.7
Fe-carbonate	1.4
Hematite	0.5

Bulk Chemistry

[1]Relative abundances. Measured by XRF.

Oxide	Wt.%
SiO_2	43.90
TiO_2	0.46
Al_2O_3	12.84
FeO	10.60
MnO	0.11
MgO	14.81
CaO	7.91
Na_2O	1.49
K_2O	0.29
P_2O_5	0.17
LOI	4.90
Total	97.48

[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