LHS-1E Lunar Highlands Simulant | **Fact Sheet**

003-09-001-1223

Simulant Name: Engineering Grade Lunar Highlands Simulant
Simulant Type: Engineering Grade
Reference Material: Average lunar highlands
Uncompressed Bulk Density: 1.27 g/cm^3
Median Particle Size: 60 µm
Particle Size Range: <0.04 µm – 1000 µm

Geotechnical Properties

Angle of Repose (10g): 47.5°
Angle of Repose (250g): 41.8°
[1]**Cohesion:** 0.311 kPa
[1]**Angle of Internal Friction:** 31.49°

Geotechnical Property Sources

[1](PDF) Quantitative Analysis of the Shear Strength of Lunar Regolith Simulant for Large-Scale Testing Applications (researchgate.net)

Mineralogy

As mixed.

Component	Wt.%
Anorthosite	75.0
Glass-rich basalt	25.0

Safety

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

Bulk Chemistry

Relative abundances. Measured by XRF.

Oxide	Wt.%
SiO_2	47.10
TiO_2	0.46
Al_2O_3	26.35
Fe_2O_3	3.44
MnO	0.05
MgO	1.28
CaO	17.47
Na_2O	2.36
K_2O	0.51
P_2O_5	0.96
Total	100.00

Particle Size Distribution

Using a combination of laser and sieve analysis