

**Simulant Name:** Engineering Grade Lunar Highlands Simulant

**Simulant Type:** Engineering Grade

**Reference Material:** Average lunar highlands

**Uncompressed Bulk Density:** 1.27 g/cm<sup>3</sup>

**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°

<sup>1</sup>**Cohesion:** 0.311 kPa

<sup>1</sup>**Angle of Internal Friction:** 31.49°

## Geotechnical Property Sources

<sup>1</sup>[\(PDF\) 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 |

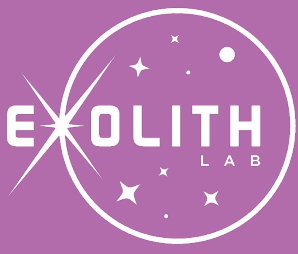
## Safety

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 <sub>2</sub>               | 47.10         |
| TiO <sub>2</sub>               | 0.46          |
| Al <sub>2</sub> O <sub>3</sub> | 26.35         |
| Fe <sub>2</sub> O <sub>3</sub> | 3.44          |
| MnO                            | 0.05          |
| MgO                            | 1.28          |
| CaO                            | 17.47         |
| Na <sub>2</sub> O              | 2.36          |
| K <sub>2</sub> O               | 0.51          |
| P <sub>2</sub> O <sub>5</sub>  | 0.96          |
| <b>Total</b>                   | <b>100.00</b> |



## Particle Size Distribution

Using a combination of laser and sieve analysis

