



**Simulant Name:** JEZ-1 Jezero Delta Simulant

**Simulant Type:** General purpose

**Reference Material:** Jezero crater deltas

**Uncompressed Bulk Density:** 1.54 g/cm<sup>3</sup>

**Mean Particle Size:** 70 μm

**Median Particle Size:** 60 μm

**Particle Size Range:** <0.04 – 500 μm

**Publication:** Cannon et al. 2019, Icarus 317, 470-478



## Mineralogy

As mixed.

Component	Wt.%
Olivine	32.0
Anorthosite	16.0
Glass-rich basalt	13.5
Pyroxene	12.0
Mg-carbonate	11.0
Smectite	6.0
Mg-sulfate	2.4
Ferrihydrite	2.1
Hydrated silica	1.8
Magnetite	1.1
Anhydrite	1.0
Fe-carbonate	0.8
Hematite	0.3

## Safety

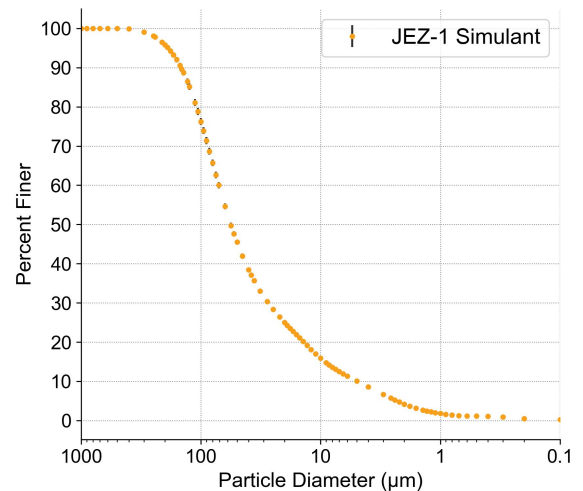
See SDS for details. Primary hazard is dust inhalation; wear a respirator in dusty conditions.

## Bulk Chemistry

Measured by XRF.

Oxide	Wt.%
SiO <sub>2</sub>	39.8
Al <sub>2</sub> O <sub>3</sub>	9.8
CaO	8
Fe <sub>2</sub> O <sub>3</sub>	17.5
K <sub>2</sub> O	0.9
MgO	19.7
MnO	0.2
P <sub>2</sub> O <sub>5</sub>	0.9
TiO <sub>2</sub>	0.3
SO <sub>3</sub>	1.6
Cl	0.4
Cr <sub>2</sub> O <sub>3</sub>	0.4
NiO	0.4
SrO	0.1
<b>Total</b>	<b>99.9</b>

## Particle Size Distribution



## FTIR Spectrum

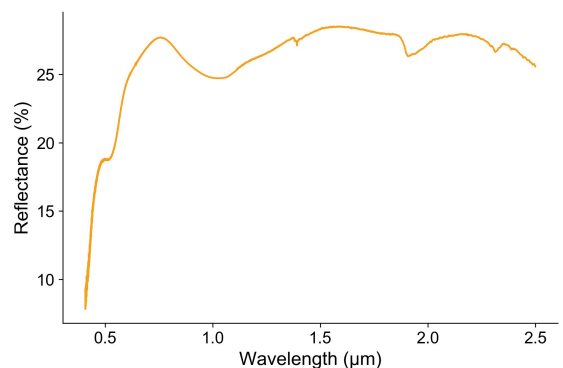


Photo credit Matthew Villegas. FTIR spectrum courtesy of Katerina Slavcinska, Bennett Lab, UCF.