



Simulant Name: UCF/DSI CR Simulant
Simulant Type: General Purpose
Reference Material: Average of 5 CR chondrites
Publication: Britt et al. in prep
Bulk Density: 1.26 g/cm³
Default Particle Size: 0-6.3 mm



Mineralogy

Weight percent, as mixed.

Olivine	33.7	Fe metal	4.6
Pyroxene	31.6	Pyrite	4.1
Magnetite	14.3	Coal (sub-bit.)	2.0
Mg-serpentine	9.2	Ni metal	0.5

Bulk Chemistry

Weight percent.

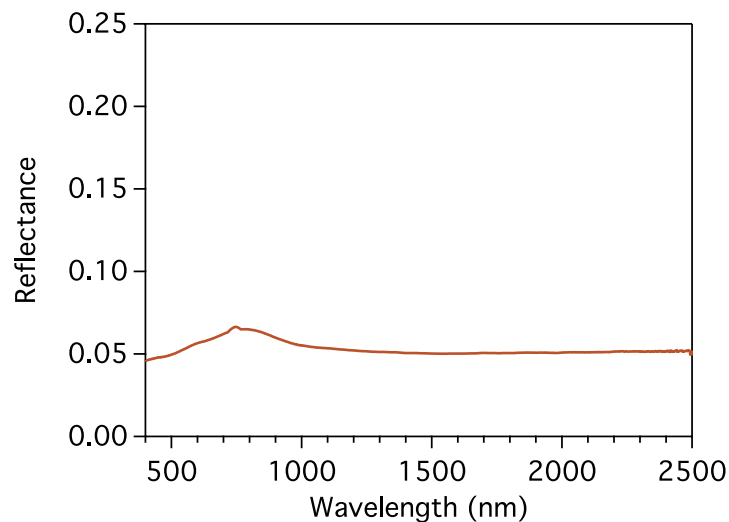
SiO ₂	19.3	CaO	0.8
TiO ₂	0.4	Na ₂ O	3.3
Al ₂ O ₃	1.2	K ₂ O	0.1
Cr ₂ O ₃	0.1	P ₂ O ₅	0.4
FeO _T	42.9	SO ₃	0.9
MgO	30.1	Total	99.8

Safety Information

The CR simulant uses verified asbestos-free serpentine, and sub-bituminous coal that is known to contain less PAHs than other coal or coal combustion products. Primary hazards are dust inhalation and skin contact: always wear a mask and gloves when handling simulants.

Reflectance Spectrum

As measured on an ASD Fieldspec at 30° incidence and 0° emergence angles.



Volatile Release Pattern

As measured at 30 mbar (He) on a TG/EGA instrument at JSC. Total volatile loss <1000° C is 3.2 wt.%.

