

Carbon-and chlorine-bearing materials on Mars

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Results are summarized as follows:

1) Carbon and chlorine contents of Martian rocks are considered to be relicts of impact-related reaction due to stopped event of carbon and chlorine cycles by Martian interior materials by shock-wave or extra-Martian materials by impacts.

2) Martian type of nano-bacteria texture with carbon and/or chlorines can be formed by dynamic reaction at Miura's laboratory.

3) Martian carbonate spherules of Martian meteorite can be formed by possible reaction between Martian air and Ca-bearing solid rocks by inorganic shock-wave reaction, whereas terrestrial carbonates are formed by organic and inorganic carbonates among sea-water, air and crust rocks.

4) The present study indicates that liquid states on rocks with carbon are also produced by high pressure events on Martian surface and interiors, though terrestrial liquid states are formed by high temperature magma by shock-wave reactions at terrestrial interiors (crust and/or mantle).