## Formation of minerals on Mars: carbon-bearing and sulfate minerals

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## 1. Martian Minerals with carbon

From carbon dioxide-rich composition and ice data on Mars, carbon-bearing minerals (carbon, carbides and carbonates) will be found on Mars.

2. Martian sulfate minerals

Martian sulfate minerals on Mars are hydrothermal origins if it is the same formation on Earth.

But it is different with ocean and magma formation (as material circulation) on Mars so far. These minerals can be found near meteoritic craters. Therefore, it requires to discuss and study extra-martian origin (meteoritic sources) for these elements which are mixed on Mars with fluid (as original on Mars), together with shocked process.