Scientists find methane gas on Red Planet

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A European Space Agency team has detected methane gas on Mars, the clearest indicator yet that there could be life there.

According to University of Michigan scientist, Sushil Atreya who was a part of the team, "Biologically produced methane is one of many possibilities. Ethan is a potential biomarker, if a planet has methane we begin to think of the possibility of life on the planet. On Earth, methane is almost entirely derived from biological sources."

He added that methanogens, microbes that consume the Martian hydrogen or carbon monoxide for energy and exhale methane that dwell in colonies out of sight beneath the surface of the red planet could be the possible source of Methane getting to Mars.
"These are anaerobic so they don't need oxygen to survive, if they are there. If they are there, they would be underground. While it's tantalizing to think there are living things on Mars, we aren't in a position to say that is what is causing the methane," he said.

A comet could have struck the planet, which would leave methane behind, but that only happens once every 60 million years or so. A more likely scenario is hydrothermal process involving chemical interaction between rock and water in aquifers below the Martian permafrost.

The instrument that sniffed out the methane is called a planetary Fourier spectrometer and measures the Sun's infrared light that has been absorbed, emitted and scattered by the molecules in the Martian atmosphere.

It detected an average 10 parts per billion by volume (ppbv) of methane on Mars that was distributed unevenly over Mars' surface, which tends to support the theory that an internal, on-site source, rather than a comet, is the source generating the methane, Atreya added.

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