

Fluorescent Minerals



Fluorescent minerals are natural; they are not painted or artificially treated in any way.

Invisible ultraviolet light coming from lamps in the cases causes electrons within the mineral molecule to jump to a higher energy level. As the electrons fall back to their normal energy level they give off the extra energy in the form of visible light. DayGlo Paints and optical brighteners in detergents work the same way.

Most minerals do not fluoresce, and there is no way to know by looking at a rock under regular light whether it will fluoresce. Fluorescence is not the same thing as radioactivity. Some radioactive minerals fluoresce, and some do not.

Ultraviolet light has a range of wavelengths, and some minerals will fluoresce under one wavelength but not another. Interestingly, some minerals will change color when viewed under different wavelengths of ultraviolet. "Long wave" ultraviolet is the same as the UV coming from blacklights like those in hardware stores and dance clubs. It is relatively harmless. "Short wave" UV, however, can cause burns on exposed skin and eyes. Most fluorescent minerals are sensitive to short wave (SW) UV, and for that reason most of the lights in the display cases are SW. Special glass and plastic are used on the front of the cases to block SW UV from being transmitted, making the displays safe to view.

The cases in this display belong to local members of the Fluorescent Mineral Society. If you are interested in joining or learning more about the FMS, contact Dr. Rodney Burroughs, P.O. Box 572694, Tarzana, CA 91357 or visit our website at www.uvminerals.org.