

MIDWAVE MINERALS

Jeffrey Shallit

Kitchener-Waterloo Gem and Minera Club
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What is midwave ultraviolet?

Midwave refers to a portion of the ultraviolet spectrum between shortwave and longwave, from 280 to 315 nanometers. Most commercial midwave sources emit at approximately 312 nanometers.

A midwave lamp needs a special bulb that emits at 312 nanometers, and a special filter that will let this wavelength through, while suppressing some of the other wavelengths. A shortwave filter works fine for midwave, but you still need the special bulb.

What minerals fluoresce under midwave?

Most minerals that fluoresce under shortwave or longwave will fluoresce under midwave. For example, some calcite fluoresces red under midwave, and some fluorite will fluoresce purple under midwave. However, some minerals are particularly good under midwave, and some won't fluoresce at all.

Here is a list of minerals that are particularly good under midwave:

Fluorite/Calcite combinations: Many fluorite/calcite combinations, such as those from the Rogers Mine (Madoc, Ontario); the Pure Potential Mine (La Paz Co., Arizona); and Ste. Ursule, Québec are best under midwave. They will fluoresce a beautiful red/purple combination under midwave.

Agrellite, a rare mineral that was abundant at Kipawa, Québec, fluoresces a very bright pink under midwave, much brighter than under shortwave.

Some **Pyromorphite** from numerous locations (Bad Ems, Germany; Guanxi, China; Moyie, British Columbia) will fluoresce a bright yellow under midwave. But this fluorescence is quite variable. One two occasions, I looked through an entire flat of Chinese pyromorphites and only found one or two that fluoresced brightly. It seems to be the lighter coloured pyromorphites that fluoresce better.

Tiny blue **Apatite** crystals in marble from Québec (my discovery) fluoresce bright purple under midwave, but hardly at all under shortwave or longwave. I have observed the same phenomenon with some apatite from Otter Lake, Québec.

Scheelite, which fluoresces bright blue-white under shortwave, sometimes fluoresces bright yellow under midwave. This fluorescence resembles the shortwave fluorescence of powellite, and so it may be related to the amount of molybdenum in the scheelite. Some scheelite, like that from Korea, doesn't seem to fluoresce at all under midwave.

Where can I buy a midwave light?

Ebay seller "uvtools" sells a 4W midwave-shortwave lamp for only US \$45 + \$10 shipping. If you want a better one, such as the 9W "Way Too Cool" lamp, you will have to spend at least US \$165 (see http://www.polmanminerals.com/html/way_too_cool.html).