

ANGLESITE

Anglesite is a lead sulfate mineral with the chemical formula PbSO_4 . It occurs as an oxidation product of primary lead sulfide ore, galena. Anglesite occurs as prismatic orthorhombic crystals and earthy masses, and is isomorphous with barite and celestine. It contains 74% of lead by mass.

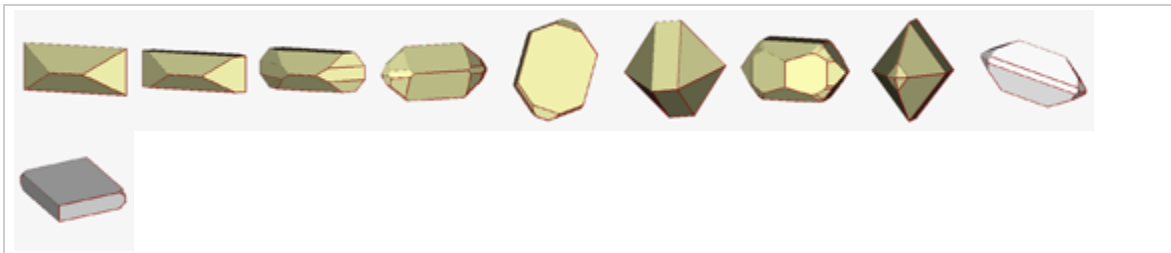
- Streak is white.
- Hardness is 2.5 - 3.
- Specific Gravity is approximately 6.3+ (very heavy for translucent minerals)
- Fracture is conchoidal.
- Cleavage is perfect in one direction, less so in two other directions.
- Color is usually colorless, white and yellow; also pale gray, blue and green.
- Luster is adamantine.
- Transparency crystals are transparent to translucent.
- Crystal System is orthorhombic; 2/m 2/m 2/m
- Crystal Habits include the bladed or tabular crystals that are dominated by two large pinacoid faces top and bottom and small prism faces forming a jutting angle on every

Most commonly in tabular or prismatic crystals, sometimes elongated. Anglesite crystals often have very distinct pointed terminations.

Crystals may also be bipyramidal, and are frequently striated. Also grainy, crusty, massive, reniform, and stalactitic. Anglesite is unique in that it never forms pseudohexagonal trillings as other members of its group do.

Anglesite is also known to pseudomorph after other minerals, especially Galena and Cerussite, which may give it strange additional shapes and forms.

There are many variations of these faces and complex forms can occur. If the pinacoid faces become diminished or are absent, the resulting prismatic crystal has a rhombic cross section.. Anglesite typically forms a flattened blade that juts out from a host rock and with what appears to be a steep dome termination but is actually two faces of another rhombic prism. Also forms crusts and is granular and massive.



Anglesite crystals may contain impurities of Galena, giving a specimen a gray to black color. In some localities, Anglesite forms as a pseudomorph after Galena, giving the crystals a false isometric form.

Gray and black banding is present in some massive Anglesite specimens, which can be seen when a specimen is polished or sliced. Such specimens may even contain un-

altered Galena in the center, which did not change over to Anglesite when the outer layers altered.

DISTINGUISHING SIMILAR MINERALS

Celestine - Lacks adamantine luster, lighter in weight (3.9 - 4.0).

Barite - Lacks adamantine luster.

Cerussite - Effervesces in hydrochloric acid, crystals frequently twinned.

Phosgenite - Very hard to distinguish from Anglesite, but occurs in different crystals, and is sectile and nonbrittle.

Anglesite is a mineral of secondary origin, having been formed by the oxidation of galena in the upper parts of mineral lodes where these have been affected by weathering processes. At Monteponi the crystals encrust cavities in glistening granular galena; and from Leadhills, in Scotland, pseudomorphs of anglesite after galena are known. At most localities it is found as isolated crystals in the lead-bearing lodes, but at some places, in Australia and Mexico, it occurs as large masses, and is then mined as an ore of lead.

It was first recognized as a mineral species by William Withering in 1783, who discovered it in the Parys copper-mine in Anglesey; the name anglesite, from this locality, was given by F. S. Beudant in 1832. The crystals from Anglesey, which were formerly found abundantly on a matrix of dull limonite, are small in size and simple in form, being usually bounded by four faces of a prism and four faces of a dome; they are brownish-yellow in colour owing to a stain of limonite. Crystals from some other localities, notably from Monteponi in Sardinia, are transparent and colourless, possessed of a brilliant adamantine lustre, and usually modified by numerous bright faces. The variety of combinations and habits presented by the crystals is very extensive, nearly two hundred distinct forms being figured by V. von Lang in his monograph of the species; without measurement of the angles the crystals are frequently difficult to decipher. There are distinct cleavages parallel to the faces of the prism (110) and the basal plane (001), but these are not so well developed as in the isomorphous minerals barite and celestite.

Very large Anglesite crystals were found in Tsumeb, Namibia, and some of the finest gemmy crystals came from Mibladen and Touissit, Morocco, including the bright golden-yellow type. Other well-known localities are the Monteponi and Montecchio Mines, Sardinia, Italy; and Broken Hill, New South Wales, Australia. The original locality of Anglesite, after which this mineral is named for, is Parys Mountain, Amlwch, on the Isle of Anglesey in Wales, United Kingdom. Specimens from this mine are very old and exceptionally classic.

Three Mexican occurrences of note are the Ahumada Mine, Sierra de Los Lamentos, Chihuahua; the Santa Eulalia District, Chihuahua; and San Felipe, Aconchi, Sonora.

In the U.S., white crystals associated with Pyromorphite have come from the Wheatley Mines in Phoenixville, Chester Co., Pennsylvania. The area of Joplin, Ottawa Co., Missouri has produced isometric pseudomorphs of Anglesite over

Galena, as well as banded Anglesite. This mineral has also come from the Coeur d'Alene District, Kellogg, Shoshone Co., Idaho; the Blanchard Mine, Bingham, Socorro Co., New Mexico; the Mammoth-Saint Anthony Mine, Tiger, Pinal Co., Arizona; and Castle Dome, Yuma Co, Arizona.

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