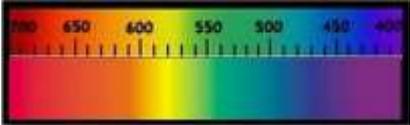


**Warning: this version has been completed with Google Translate , it certainly contains errors or inaccuracies.**

## Technical sheet - general: Celestina- celestite

<b>Gemma - names</b>	(Italian - celestina) (English - celestine) (French - célestine) (Spanish - celestina) (Portuguese - celestino) (Thai - ไท น้ - ไท น้-Thin)	(German - Celestine) (Arabic - سلسيتين -silsitin) (Russian - ЦЕЛЕСТИН-celestin) (Mandarin -天青 素-Tiān qīng sù) (Swahili - celestine) (Hindi - सेलेस्टाइन selestain)	<b>Photo</b> 
<b>Colors (GIA)</b>	Celestite, also known as Celestine, is a common strontium sulfate mineral that forms within some geodes. Celestite crystallizes as small prismatic fragments which are usually transparent. These fragments are very fragile and often detach with very little force from the fingers. The colors of Celestite range from colorless, <b>white</b> , <b>gray</b> , <b>black</b> , <b>yellow</b> , <b>pale blue</b> , <b>greenish-blue</b> , <b>green</b> , <b>pale green</b> , <b>orange</b> , <b>pink</b> , <b>red</b> , reddish, <b>brown-orange</b> , <b>brown</b> and <b>light brown</b> . It can also <b>appear</b> as a <b>multicolor</b> , with blue on one side and colorless on the other.		
<b>Cause of Color</b>	Celestine and the carbonate mineral strontianite are the main sources of the element <i>strontium</i> , commonly used in fireworks <b>and various metal alloys</b> . It is thought, but it is not yet completely certain, that the color of blue celestite <b>is related to the presence of empty atomic centers</b> , induced by radiation, in particular monovalent radicals containing sulfur and O <sup>-</sup> . The common pale blue color of celestine bleaches at about 200 ° C and reappears when exposed to X-rays. The maximum thermoluminescence for blue celestine also occurs around 200 ° C. The thermal stability of the blue color (measured by the bleaching time at 190 ° C) is proportional <b>to the potassium content</b> . The centers of color production are stabilized in the celestine lattice by the presence of trace components, mainly potassium (K <sup>+</sup> ) which replaces strontium (Sr <sup>2+</sup> ) . The color in the <b>orange celestite specimens</b> is related to the presence of copper, probably as Cu <sup>+</sup> , of the order of 50 ppm . Green <b>tints</b> are due to sulfur inclusions in otherwise blue crystals. <b>Allochromatic Gem - Idiochromatic</b>		
<b>Classification</b>	<b>Mineral class</b> Anhydrous sulphates	<b>Species - Group (mineral)</b> Celestina	<b>Variety</b> /
<b>Optical properties</b>	<b>Specific Gravity:</b> 3.96 - 3.98 Common: 3.98	<b>RI:</b> 1,619 to 1,635 <b>Polariscope :</b> DR <b>Double refraction:</b> 0.004 to 0.012	<b>Character optical</b> Positive biaxial
	<b>Luster (luster) - luster of the fracture</b> Vitreous; pearly on flaking surfaces - <i>vitreous</i>		<b>Pleochroism</b> Weakly trichroic
<b>Light</b>	<b>Fluorescence</b> SWUV (254 nm) : inert to slightly LWUV (365nm) : inert		<b>Dispersion (fire)</b> Negligible
<b>Form</b>	<b>Crystalline dress</b> Tubular. Tabular or pyramidal crystals, whether or not fibrous, lamellar, earthy, massive or granular. <b>Melting point :</b> ° C	<b>Phenomenal optical effects</b> None known	<b>Phosphorescence</b> Absent
<b>Chemical formula</b>	Strontium sulfate sometimes with small amounts of barium or calcium  <b>SrSO<sub>4</sub></b>		<b>Spectrometer image</b>  Not indicative
<b>Fracture</b>	<b>Flaking</b> Perfect (1 direction basal), good (1 direction, prismatic), poor (1 direction, pinacoidal).	<b>Breaking- Parting</b> 2 sliding floors (for twinning and transition).	<b>Fracture</b> Irregular

<b>Durability</b>	<b>Hardness (Mohs) - Absolute</b> 3.0-3.5;	<b>Toughness</b> Very fragile	<b>Stability</b> (heat, light, chemicals)
<b>Clarity - characteristics</b>	<b>Typical inclusions:</b> Generally influencing the value. Liquid inclusions, partially healed fractures.		
	<b>Type II</b> Normally included	<b>Transparency (commercial) - transparency</b> Transparent to translucent	
<b>Deposits - types of rocks</b>	It is found in sedimentary rocks such as limestone. Rarely in the veins of metallic minerals. Celestine geodes are believed to be formed by replacing alabaster nodules, consisting of calcium sulfates, gypsum or anhydrite. Calcium sulfate is poorly soluble, but strontium sulfate is mostly insoluble. Solutions containing strontium that come into contact with the calcium sulfate nodules dissolve the calcium, leaving a cavity. Strontium is immediately precipitated as celestine, with the crystals growing in the newly formed cavity. <b>Geological age</b> : Relatively recent, some geodes date back to 12 / 15,000 years ago.		
<b>Characteristics of rough stones</b>	It comes in prismatic and tabular crystals or thin plates. Also in thick <i>trills</i> (Intertwining of three orthorhombic crystals that geminate in the center and form a hexagonal-shaped crystal) pseudo-hexagonal, as well as dense or massive, radiant, granular, nodular and botrioidal aggregates. Other crystalline habits include fibrous masses, such as dense clusters of tabular crystals, or brittle clusters of elongated crystals, such as geodes and cleavage fragments. Crystals are sometimes streaked and occasionally contain phantom growths. La Celestina is also found in <b>geodes</b> .		
<b>Main deposits</b>	Most of the Celestite on the market today comes from Madagascar, This is a mineral that is found all over the world. Other important fields are in <b>Libya, Egypt, Peru, Great Britain and Poland</b> . Minor deposits are in: <b>Afghanistan; Algeria; Angola; Antarctica; Argentina; Austria; Australia; Bahamas; Belgium; Bolivia; Brazil; Bulgaria; Canada</b> (Ontario, orange) ; <b>Chile; China; Congo (Democratic Republic of); Croatia; Egypt; France; Finland; Germany; Greenland; Papua New Guinea; Japan; Jordan; Greece; Iran; Italy</b> (Sicily, Caltanissetta, Enna and Agrigento, Perticara, Marche, Montecchio Maggiore in the province of Vicenza) ; <b>Ireland; Kazakhstan; Kyrgyzstan; Latvia; Libya</b> (Jabal Akhda ) ; <b>Malawi; Mongolia; Madagascar</b> (Mahajanga region, red) ; <b>Mozambique; Morocco; Oman; Holland; Pakistan; Portugal Slovenia; India; New Zeland; Namibia; South Africa</b> ( Wessels ) ; <b>Tanzania, Russian Federation; USA</b> (Pennsylvania, New York, Ohio, Michigan, Illinois, California, Utah) ; <b>United Kingdom</b> (Gloucester, Yate England) ; <b>Poland</b> ( Tarnobrzeg ) ; <b>Czech Republic Qatar; Slovakia; Tunisia</b> ( Hammam-Zriba ) ; <b>Romania; Swiss; Spain</b> (Andalusia and Catalonia) ; <b>Sweden; Turkey; Turkmenistan; Mauritania; Norway; Mexico</b> (Chihuahua; Coahuil ) ; <b>Israel; San Marino; Tajikistan; Indonesia, Hungary; Ukraine; Uzbekistan; Vietnam; Yemen;</b>		
<b>Year of discovery</b>	<b>1791-98:</b> Although celestine crystals were certainly known in Sicily in ancient times, it was thought to be a variety of barium, as the element strontium was only discovered in 1790. Celestine was only formally described after 1792. Originally called a <i>fastiger Schwerspat (h) (barite?)</i> By Andreas Gotthelf Schütz in 1791. Renamed <i>Schwefelsaurer Strontianite aus Pennsylvania</i> by Martin Klaproth in 1797, then renamed further with the German term <i>Zoelestin</i> (from the Greek <i>caelestis</i> for celestial) by the German geologist <b>Abraham Gottlob Werner</b> , (1750 - 1817, author of the <i>H andbuch der Mineralogie</i> - Handbook of Mineralogy, 1803) <b>in 1798</b> . It was also reported by the Journal de Physique, de Chimie , d'Histoire Naturelle et des Arts . Dugour , Paris (1792), in allusion to the pale blue color of the original specimen. It was also called <i>Schützt</i> by Dietrich Ludwig Gustav Karsten in 1800, but the previous version, <i>Zoelestin</i> or therefore celestine, remained.		
<b>History</b>	roughly studied by Carmelo Maravigna (1838). There are also several publications by other authors of the same period. In Sicily the mineral has been known for centuries. Known are the mines in the province of Caltanissetta ( Canicassè near Delia, Muculufa and La Grasta and Floristella , the most prolific) that produce blue celestine. Interestingly, a rarer variety of Celestina, the bluish-white one was initially mined from the Lake Erie region of the United States. Some crystals recovered from these mines are also naturally double-ended (two naturally faceted ends). White and orange variants have been spotted in Yate , Bristol, UK, where it was mined for commercial purposes until 1991. <b>Name</b> : The term celestina derives from <i>caelestis</i> which means celestial, which in turn derives from the Latin word <i>caelum</i> which means sky, alluding to the blue color commonly exhibited by its crystals.		

	<p><b>Celestina</b> is the name approved for this mineral by the IMA Commission on New Minerals and Mineral Names (CNMMN). Although <b>celestite</b> finds frequent use in some mineralogical texts, that name <b>has been discredited</b> as a valid mineral term by that organization. The original name has a clear etiology that points directly to the "celestine" version.</p> <p><b>Other trade names:</b> Sicilianite , Celestite, Coelestine , Eschwegite (from Lévy ).</p> <p><b>Variety :</b> celestine comes in 2 main types: as geodes and as clusters of crystals. Other varieties: Celestina Bariana , Calcioclestina , Strontian Baritosulphate .</p> <p><b>Angelite is</b> sometimes claimed to be compressed Celestite, however this is incorrect. Angelite is a variety of anhydrite, an anhydrous calcium sulfate (composed of calcium, silicon and oxygen). Celestite is instead a strontium sulphate (strontium, silicon and oxygen), therefore chemically well separated and separable.</p>		
<b>Property attributed</b>	<p>Some say that the main purpose of this stone is <b>contact with angelic and divine beings</b> . This mineral helps to tap into the powers in the divine spirit world.</p> <p>It is not promoted as the stone indicated for those who pursue material wealth, or love, but instead, it is said to be optimal for developing <b>one's sense of spiritual strength</b> and enlightenment. This leads to a feeling of calm and serenity.</p> <p>This gem has no direct effect on aspects of the physical world such as love or money, but that doesn't mean it can't have long-term benefits in these fields. People will develop positive associations with others and will want to help them.</p> <p>For those troubled by <b>unwanted negative emotions</b> , celestite is the perfect stone for learning to let them go. Energies redirected to more positive goals will lead to greater health and self-realization than you would have believed possible. Celestine is also said to <b>open and enhance psychic abilities</b> .</p> <p>It is said that this stone does not judge faith or its lack of those who come in contact with it, making its unconditional love available to all. This stone is associated with the archangels Michael, Gabriel, Haniel and Serafiel .</p> <p>A unique feature of Celestite is that it is <b>highly flammable</b> when ground into a powder. For this reason it is commonly used in <b>fireworks and tracer bullets</b> . It naturally shows a bright and bright carmine color when burning. Strontium is also used in the nuclear industry, in the paint industry and to refine beet sugar.</p> <p><b>Planet:</b> Venus and Neptune  <b>Month:</b> NA <b>Zodiac sign:</b> Gemini  <b>Chakra:</b> Corona (but also Etheric, Throat, Third Eye)</p>		
<b>Treatments</b>	<p>If the celestine is heated to about 200 ° C or exposed to light, the blue color may fade. The irradiation restores or produces the blue or purple color, sometimes in a banded form; the color may be light stable or may fade, depending on the nature of the material. Several color centers are involved in celestite, including SO-3, SO-2 and O-, all stabilized by a potassium impurity.</p>		
<b>Synthetic counterpart</b>	<p>There is no commercial version of celestine.</p>		
<b>It can be confused with</b>	<p>Celestine has the same structure as barite (BaSO4) and forms very similar crystals. The two may look identical by ordinary methods, but a flame test can tell them apart.</p>		
<b>Indicative gemological tests</b>	<p>It is rare that celestine reaches the gemmologist's analysis table, its low hardness makes it a hardly usable gem in jewelry. This feature normally makes it easy to identify. Celestine can sometimes be confused with other sulphates, such as barite, whose specific weight is considerably higher. with hydrochloric acid and bringing everything to the flame of a gas stove, this is colored in carmine red by strontium.</p>		
<b>Value (2021)</b>	<b>High :</b> \$ 20 + <b>For exemplary</b>	<b>Medium:</b> 5-10 \$ + <b>For exemplary</b>	<b>Bass:</b> 1- 2 \$ + <b>For exemplary</b>
<b>Typical cut</b>	<p>Rarely multifaceted, as it is too tender (3.5 on a Mohs scale) and crumbly. It is a popular mineral among collectors and geodes (especially from Madagascar) are used as ornamental stones. Stones that are cut rarely exceed 10 carats.</p>		
<b>Famous stones</b>	<p>There are no particularly valuable pieces known.</p>		
<b>Record stones</b>	<p>The largest known celestial geode in the world, it measures <b>11m in diameter</b> at its widest point. It is located near the village of Put-in Bay , <b>Ohio</b> , on South Bass Island in Lake Erie in the United States. This specimen was converted <b>into a viewing cave</b> , called the Crystal Cave. The crystals from the floor of the geode have been removed to allow visits. The largest crystals measure almost 50 cm in length, and weigh around 140 kg each.</p>		