
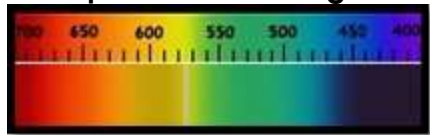



Warning: this version was completed with Google Translate, it certainly contains errors or inaccuracies.

Technical data sheet – general: Musgravite

Gemma – names	(Italian - Musgravite) (English - Musgravite) (French - Musgravita) (Spanish Musgravita) (Portuguese - Musgravita) (Thai - มัสกรราวิท (mus-kra-wai-t)		(Arabic - موسغرافيت maws-gar-fi-t) (Russian - Мусгравит (mus-gra-vit) (Mandarin - 穆斯格拉维特 mù sī gé lā wēi tí) (Swahili – Musgravite) (Hindi - मस्रावित (mas-gra-vit) (German - Musgravit)	photo 
Colors (GIA)	Typically greenish, however can vary from colorless, to red, blue and purple , to grey to grey-green . Purple colored varieties are the most desirable. They are transparent or translucent gems. Finding tested and certified Musgravite can be a difficult and time-consuming task due to the exceptional rarity of these stones.			
Cause of Color	<p>The elements that cause the color of musgravite are present in the crystalline structure of the stone in the form of ions. Chromium is a transition element that can take on multiple values. Chromium 3+ is the type of chromium found in musgravite. Chromium 3+ has a positive charge of +3. Iron is a transition element that can take on multiple valences. Iron 2+ is the type of iron found in musgravite. Iron 2+ has a positive charge of +2. Iron 3+ is another type of iron that can be found in musgravite . Iron 3+ has a positive charge of +3. Vanadium is a transition element that can take on multiple valences. Vanadium 3+ is the type of vanadium found in musgravite. Vanadium 3+ has a positive charge of +3. The ionic valence of an element determines its color. Elements with a higher ionic valence tend to produce more intense colors. In musgravite, chromium is responsible for the deep green color. Iron is responsible for the olive green color. Vanadium is responsible for the bluish green color. Idiochromatic and allochromatic gem (chromium and vanadium)</p>			
Classification	Mineral class Musgravite - Taaffeite	Species – Group (mineral) Musgravite - Taaffeite	Variety --	
Optical properties	Specific Gravity: 3.62 to 3.68 <small>Municipality: 3.66</small>	RI: 1,718-1,740 Polariscope : DR Birefringence: 0.004-0.016	Character optical Uniaxial negative	Pleochroism Not detectable
	Luster (luster) – luster of the fracture Vitreous/adamantine - <i>vitreous</i>		Dispersion (fire) 0.018	
Light	Fluorescence SWUV (254 nm) : Absent LWUV (365nm) : Absent		Phosphorescence Absent	
Form	Crystalline dress Prismatic Melting point: 1800°C	Phenomenal optical effects Iridescence	Crystalline system Trigonal Crystal class	
Chemical formula	Beryllium-aluminum oxide $\text{Be}(\text{Mg,Fe,Zn})_2 \text{Al}_6 \text{O}_{12}$		Spectrometer image  <small>Small absorption band at 576 nm</small>	
Fracture	Flaking Perfect – 1 direction	Breakup- Parting Rare - contact	Fracture Conchoidal	
Durability	Hardness (Mohs) - Absolute 8-8.5/ 200-300	Toughness Moderate	Stability (heat, light, chemicals) Good	

Clarity - characteristics	Typical inclusions: The most common inclusions in musgravite are: Small apatite crystals, colorless needles, opaque, black, hexagonal graphite tiles. These inclusions may be visible to the naked eye or only under a microscope and can have a negative impact on the appearance and value of the stone.			
	Type I (estimate) Typically clear	Transparency (commercial) - diaphanitiy Transparent to translucent		
Deposits - types of rocks	Geological age : up to over \$4 billion			
Characteristics of rough stones	Musgravite typically crystallizes in the form of elongated prisms or tabular crystals. The shape of rough crystals can vary, but is often associated with well-defined, transparent crystals.			
Main depots	It is occasionally mined in Australia, Greenland, Antarctica, Burma, Tanzania, Madagascar, the France/Spain border and Norway.			
Year of discovery	1967: It was first discovered in 1967 in Australia.			
History	<p>First discovered in 1967 in the Ernabella Mission of the Musgrave Ranges (from which its name originates) in South Australia. Subsequently, due to its chemical composition and structural considerations, Musgravite was renamed as " magnesiumtaaffeite-6N'3S ". However, in the gem trade, it is still commonly known as Musgravite.</p> <p>In 1993 , the first gem-quality Musgravite of significant size was found, large and pure enough to be cut and shaped. Until 2005, only 8 specimens of gem-quality Musgravite had been mined worldwide.</p> <p>Name : Named after its location of discovery, the Ernabella Mission, located in the Musgrave Ranges , Australia. The name "Musgrave" holds significant historical significance. It is derived from the surname of Sir Anthony Musgrave , a British colonial administrator who served as Governor of South Australia from 1873 to 1877. Sir Anthony Musgrave played a prominent role in the development and governance of the region during his tenure.</p> <p>Other trade names: magnesiumtaaffeite, Variety : /</p>			
Attributed properties	<p>This recently discovered stone can be used as a talisman to benefit the user in various ways. It can be beneficial in meditation , since magnesium has calming and soothing properties . These gems, like many others, are used to relieve stress , increase positive energy and bring joy and serenity . For those who are lucky enough to find one of these very rare gems, they can use it to boost positivity in health, work, relationships and academics .</p> <p>Planet: Not known Month: Not known Zodiac sign: Not known Chakras: Crown</p>			
Treatments	Musgravite usually does not undergo significant treatment.			
Synthetic counterpart	There is no commercially common synthetic counterpart of phosphosiderite.			
May be confused with	Some materials such as tanzanite, spinel and garnet can be used to imitate it. To distinguish it from these imitations, a thorough examination using gemological techniques, such as spectroscopy, refractive index measurement and chemical analysis, is necessary.			
Indicative gemological tests	<p>To check if a gem is really a Musgravite, there are a few techniques to follow. Firstly, given its value, it would be important to obtain a gemological certificate from a reliable laboratory that confirms the origin and characteristics of the gem.</p> <p>After that, you can examine the gem visually under the light. Musgravite is known for its extraordinary brilliance and is supposed to reflect light intensely, displaying vibrant colors such as green or purple. Furthermore, it is possible to measure the refractive index of the gem to verify its agreement with the known values of Musgravite. Advanced techniques such as spectroscopy can also reveal the specific absorption bands of Musgravite.</p>			
Value (2021)	High : 30,000+\$/ct	Medium: \$10,000/ct	Low: \$6,000/ct	

	3 carats+	1-3 carats	under the carat
Typical cut	This gem is considered "a rarity among rarities" by the GIA (Gemological Institute of America), who have placed it on their wish list for gemological research.		
Famous stones	Although there are some very expensive examples of this gem, there are no known examples that have been talked about or worn by famous people.		
Record stones	<p>One of the most famous musgravite stones is a 5.2-carat gem that sold for \$200,000 in 2010.</p> <p>The 16 carat purple -grey Musgravite from Sri Lanka. Initially presented as the largest cut Musgravite in the world, it was sold at auction in 2021 for \$800,000 (i.e. \$50,000 per carat) .</p> <p>A 21.07 carat red Musgravite is the largest red Musgravite ever recovered.</p> <p>A 22.64-carat Musgravite was initially recognized as the largest cut in the world by the Guinness Book of World Records. He subsequently lost the title to an even larger crystal.</p> <p>The 214-carat Musgravite Grand is the largest cut Musgravite certified by the GIA. It was initially mistaken for Taffeite, but was later confirmed to be Musgravite.</p> <p>Among the largest species of this gem currently on the market, three of them are owned by the US company Ophir Collection LLC .</p>		