

AMETRINE

Bicolour quartz variety · Amethyst + Citrine · Mineralogical fact sheet

SiO₂ (silicon dioxide) · Trigonal system · Anahí Mine, Bolivia

Buy Ametrine in our shop

PHYSICAL PROPERTIES		LOCALITIES	
Property	Value	Location	Relevance
Hardness (Mohs)	7	Bolivia – Anahí Mine	90–95% world production · only significant commercial deposit
Specific gravity	2.60 – 2.70 g/cm ³	Brazil	Minor deposits · sporadic finds · variable quality
Refractive index	1.544 – 1.553	Uruguay	Extremely rare specimens · collectors only
Birefringence	0.009	DIFFERENTIATION & TREATMENTS	
Optical character	Uniaxial positive		
Fracture	Conchoidal		
Cleavage	None (indistinct)		
Lustre	Vitreous		
Streak	White		
Fluorescence	Inert or weak under UV		
VARIETIES & COLOUR DISTRIBUTION			
Variety	Description	vs.	Ametrine
50/50 Ametrine	Equal violet/golden distribution · most valued	Bicolour glass	SG 2.60–2.70 Organic transition
Amethyst-dominant	60–80% violet · 20–40% yellow	Glued doublet	Single crystal No visible line
Citrine-dominant	60–80% yellow · 20–40% violet	Heat-treated	Natural: smooth transition
Rainbow Ametrine	Multiple gradual transition zones · extremely rare	Synth. ametrine	Same composition SiO ₂
<i>Weak to very weak pleochroism. The most diagnostic feature is natural bicolour zoning with an organic transition between violet and yellow. A perfectly straight colour boundary is a sign of imitation or treatment.</i>		CARE & MAINTENANCE	
		✓ Cleaning	Warm water + mild soap + soft brush + microfibre cloth
		✓ Storage	Lined case · dark location · away from harder gems
		✗ Avoid	Direct sunlight · heat >250°C · ultrasonic · steam · HF
		■ Critical	Violet zone is photosensitive: may fade with sun exposure
IDENTIFICATION & AUTHENTICITY			
✓ Natural authentic	Organic colour transition · natural inclusions · intensity variation within zones		
✗ Imitation	Perfectly straight boundary · spherical bubbles · wrong weight · glued doublet		
Heat-treated	Partially heated amethyst to create citrine · must be disclosed · lower value		
Practical test	Hardness 7 scratches glass · stays cool to touch · 10x loupe for inclusions		
SPECIAL PROPERTIES			
<i>Electrical insulator and non-magnetic. Resistant to acids and bases (except HF). Photosensitive: the violet zone may fade with prolonged sun exposure. Store in a dark place.</i>			
Historical context	Mineralogical classification	Curiosity	
Also known as 'bolivianite' due to its almost exclusive Bolivian origin. The legend of the Ayoreo princess Anahí (origin of the mine) is modern marketing folklore with no colonial-era historical documentation.	Quartz variety (SiO ₂) · Trigonal system · Tectosilicates. Shares the February birthstone tradition with amethyst. 6th wedding anniversary gemstone.	The bicolour is caused by the same chromophore (Fe ³⁺) in two different structural environments within the same crystal. The Anahí Mine produces 90–95% of the world's ametrine.	