Gemstone Enhancements

Stone (Hardness)	Treatments / Benefits	Care Instructions
Agate (Chalcedony) (6.5 – 7)	Sometimes heat-treated and / or dyed	Normal care
Alexandrite (8.5) (Natural is *extremely* rare)	Usually synthetic; composites; overgrowth on lesser stone	Normal care
Amazonite (Feldspar) (6 – 6.5)	Sometimes heated or irradiated to enhance color; sometimes stabilized with a colorless wax, oil, plastic or hardening agent to enhance appearance	Avoid household chemicals, steam, ultrasonic cleaning
Amber (2 – 2.5)	Sometimes heated, dyed or surface-treated to deepen color; sometimes pressed/compressed with extreme pressure and heat to fuse together small natural pieces	Avoid household chemicals, steam and ultrasonic cleaning
Amethyst (Quartz) (7)	Occasionally heated and/or irradiated to enhance color	Normal care
Ametrine (Quartz) (7)	Often synthetic	Normal care
Ammolite (Ammonite Shell)	Sometimes stabilized to increase durability and to improve appearance	Avoid heat, household chemicals, ultrasonic cleaning
Apatite (5)	Sometimes irradiated and/or heat treated	Avoid household chemicals, steam, ultrasonic cleaning
Aquamarine (Beryl) (7.5 – 8)	Occasionally heat-treated to enhance color	Normal care
Beryl (also listed by type) (7.5 - 8)	Occasionally dyed, heat treated, irradiated to improve color; usually oil-, wax- and/or resin-filled increase durability and to improve appearance; composite possible	Avoid heat, household chemicals, steam, sudden temperature changes, ultrasonic cleaning
Bloodstone (Chalcedony) (6.5 – 7)	None	Normal care
Carnelian (Chalcedony) (7)	Sometimes dyed and/or heat-treated to improve color	Avoid excessive heat
Cat's Eye effect (variety of stones)	Sometimes bleached and/or faked	Normal care
Chalcedony (Quartz) (6.5 – 7)	Usually dyed and/or heat-treated to produce different colors	Normal care
Chrysoberyl (8.5)	Sometimes irradiated to change color; fracture filling	Use caution with ultrasonic and steam cleaning

Chrysoprase (6.5 – 7)	None	Avoid household chemicals, steam/ultrasonic cleaning
Chrysocolla / Azur-malachite (2 - 4)	Occasionally filled with epoxy or resin for smoother surface; sometimes dyed	Avoid household chemicals, steam and ultrasonic cleaning
Citrine (Quartz) (7)	Usually heat-treated or irradiated to improve color	Normal care
Corundum (also listed by type) (9)	Usually heat-treated, diffusion-treated or irradiated to enhance color; occasionally dyed, oiled, glass-filled to enhance clarity	Avoid heat, household cleaning solutions, ultrasonic cleaning and repairs; they can cause damage, as this treatment is not considered permanent or stable
Demantoid (*Andradite Garnet*) (6.5 – 7)	Heat treated	Avoid heat, household chemicals, steam, sudden temperature changes, ultrasonic cleaning
Diamond – clear (10)	Laser; filled, coated to hide off color, etc., etc., etc.	Normal care
Diamond – colored (10)	Usually heat-treated or irradiated for color; coated, etc., etc., etc.	Normal care
Dravite (Tourmaline) (7 – 7.5)	Usually heat-treated and/or irradiated to improve color	Avoid sudden temperature changes, ultrasonic cleaning /steamer
Drusy (Quartz) (7)	Coated and or dyed to create non-natural color	Avoid heat, household chemicals, re-polishing, steam, sudden temperature changes, ultrasonic cleaning
Emerald (Beryl) (7.5 – 8)	Usually oiled to improve color; usually oil-, wax and/or resin-filled to increase durability and/or to improve appearance; composites possible; overgrowth on lesser stone	Avoid household chemicals, steam and ultrasonic cleaning
Feldspar (Labradorite, Moonstone, Amazonite, etc.) (6 – 6.5)	Sometimes heat-treated or irradiated to enhance color; sometimes stabilized with a colorless wax, oil, plastic or hardening agent to enhance appearance	Avoid rough handling, steam and ultrasonic cleaning
Garnet (except Demantoid) (7 – 7.5) Almandine Pyrope Grossularite (includes Hessonite, Tsavorite) Spessartite	Currently, no enhancements. Some species are quite expensive, so composites and fakes are possible	Avoid sudden temperature changes

Garnet continued Uvarovite also mixed species: Malaya; Rhodolite	[See above]	[See above]
Gaspeite (4.5 – 5)	Occasionally stabilized with plastic/resin increase durability and to improve appearance	Normal care
Goshenite (Beryl) (7.5 – 8)	None	Avoid sudden temperature changes
Heliodor (Beryl) (7.5 – 8)	Irradiated for color enhancement	Normal care
Herkimer Diamond (Quartz) (8)	Possible lesser quality substitutes	Avoid sudden temperature changes
Hiddenite (Spodumene) (6.5 – 7)	Irradiated to enhance color	Avoid exposure to excessive light, rough handling, sudden temperature changes
Indicolite (Tourmaline) (7 – 7.5)	Usually heat-treated to enhance color	Avoid exposure to excessive light, rough handling, sudden temperature changes
Iolite (7 – 7.5)	None ?	Avoid sudden temperature changes
Jade (Nephrite) (6 – 6.5)	None ?	Normal care
Jade (Jadeite) (6.5 – 7)	Almost always dyed and/or heat-treated to change color; two-step bleach then wax or polymer impregnation; occasionally wax-coated to enhance appearance	Avoid household chemicals, may discolor in time
Kunzite (Spodumene) (6.5 - 7)	Usually irradiated to enhance color; irradiated and heated to darken	Avoid exposure to excessive light, rough handling, sudden temperature changes
Kyanite (5 - 7)	Penetration of oil into fissures to improve appearance; occasionally heated to enhance color	Avoid rough handling, steam and ultrasonic cleaning
Labradorite (Feldspar) (6 - 6.5)	Possibly heat treated andesite	Avoid rough handling, steam and ultrasonic cleaning
Lapis Lazuli (5 - 6 varies with impurities)	Usually dyed and wax-coated to enhance color and shine	Avoid household chemicals, steam and ultrasonic cleaning
Larimar (5)	Possible fake	
Malachite (3.5 – 4)	Occasionally infused with wax or epoxy to enhance durability and appearance; possible fake	Avoid household chemicals, steam and ultrasonic cleaning
Moldavite (6)	None; possible fake	Avoid sudden temperature changes
Moonstone (Feldspar) (6 – 6.5)	None; sometimes backed or doublet	Avoid rough handling, steam and ultrasonic cleaning

Morganite (Beryl) (7.5 – 8)	Commonly heat-treated to enhance color; irradiated	Normal care
Mystic Topaz (8)	Surface-enhanced with a coating to give non-natural color	Avoid abrasive and harsh chemicals, do not re-cut
Onyx (Chalcedony) (6.5 – 7)	Usually dyed to enhance color	Normal care
Opal (4.5 – 6)	Often composite; sometimes infused with wax, oil or plastic to enhance appearance and durability. Often sugar solution infilling in acid bath to darken background and enhance color play and intensity.	Avoid heat; avoid household chemicals, steam and ultrasonic cleaning
Peridot (6.5 – 7)	Sometimes infused with oil, wax , resins and/or colorless hardened substance to enhance appearance, fill in surface fractures	Avoid household chemicals, sudden temperature changes, steam, ultrasonic cleaning
Prasiolite (praziolite) (Quartz) (7)	Irradiated and heat-treated to produce color	Avoid household chemicals, steam and ultrasonic cleaning
Quartz (also listed by type) (7)	Dyed; irradiated and/or heated to produce different colors; sometimes surface-enhanced with coating for color	Avoid abrasives, harsh chemicals, steam, ultrasonic cleaning; surface enhanced-stones should not be re-cut
Rainbow Calsilica	Fake - stabilized and compressed with a binding agent under extreme pressure and heat to bind together small pieces of natural material into a larger whole	Avoid household chemicals, steam and ultrasonic cleaning
Rhodochrosite (4)	Often dyed; sometimes waxed	Avoid household chemicals, rough handling, and excessive heat.
Rhodonite (5.5 – 6.5)	Sometimes dyed	Normal care
Rubellite (Tourmaline) (7 – 7.5)	Usually heat-treated or irradiated to enhance color	Avoid sudden temperature changes
Ruby (9)	Usually heat-treated, diffusion-treated and/or irradiated to enhance color; occasionally dyed, oiled, glass-filled to enhance clarity; composite; overgrowth on lesser stone	Avoid heat, household cleaning solutions, ultrasonic cleaning, repairs; they can cause damage, as this treatment is not considered permanent or stable
Rutilated Quartz (7)	None; needle-like rutile crystals trapped in quartz are natural characteristics	Avoid heat, household chemicals, sudden temperature changes, steam, ultrasonic cleaning
Sardonyx (Chalcedony) (6.5 – 7)	Usually dyed to enhance color	Avoid household chemicals, stem/heat, ultrasonic, sudden temperature changes

Sapphire (9)	Usually heat-treated, diffusion-treated and/or irradiated to enhance color; occasionally dyed, oiled, glass-filled to enhance clarity	Avoid heat, household cleaning solutions, ultrasonic cleaning and repairs; they can cause damage, as this treatment is not considered permanent or stable
Sard (Chalcedony) (6.5 – 7)	Sometimes dyed and/or heat-treated to enhance color	Avoid excessive heat and light
Serpentine (2.5 – 5)	Usually dyed or waxed to enhance appearance or to alter color. Often passed off as jade.	Avoid steam and ultrasonic cleaning
Smokey Quartz (sometimes called Smokey Topaz) (7)	Irradiated and/or heat-treated to enhance color	Avoid heat, household chemicals, sudden temperature changes, steam, ultrasonic cleaning
Sodalite (5.5 – 6)	None; (rarely dyed)	Avoid household chemicals, steam and ultrasonic cleaning
Sphene (also called Titanite) (5 – 5.5)	Heat treated	Avoid household chemicals, sudden temperature changes, and rough handling
Spinel (8)	Heat treated and/or irradiated; composites to fake other gems	Normal care
Spodumene (Hiddenite, Kunzite) (6.5 – 7)	Irradiated to enhance/change color	Avoid exposure to excessive light (fades easily), rough handling, sudden temperature changes
Sugilite (5.5 – 6.5)	Occasionally dyed to enhance color; possible fake	Avoid household chemicals, stem and ultrasonic cleaning
Sunstone (Feldspar) (6 – 7)	Heat treated including infusion	Avoid household chemicals, steam and ultrasonic cleaning
Tanzanite (Zoisite) (6 – 7)	Usually heat-treated to produce violet-blue color (natural = usually brownish)	Avoid steam, ultrasonic cleaning and sudden temperature changes
Tiger's Eye (Quartz) (7)	Possibly heat-treated (red), bleached then dyed for non-natural colors	Avoid harsh chemicals, sudden temperatures changes
Topaz, Blue (8)	Almost always irradiated and heated to produce blue color	Avoid steam, sudden temperature changes, ultrasonic cleaning
Topaz (colors other than blue) (8)	Almost always irradiated; possible heat-treated to produce different colors; sometimes surface-enhanced with a coating to enhance color	Avoid abrasives, harsh chemicals, sudden temperature changes, steam, ultrasonic cleaning; surface-enhanced stones should not be re-cut

Tourmaline (7 – 7.5)	Usually heat-treated and/or irradiated to improve color; sometimes penetration of coloring agents into voids to improve color	Avoid sudden temperature changes, ultrasonic cleaning and steamer
Tourmalinated Quartz (Quartz) (7)	None; needle-like tourmaline crystals trapped in quartz are natural characteristics Sometimes dyed for unnatural effect	Avoid household chemicals, steam and ultrasonic cleaning
Turquoise (5 - 6)	Often faked. Usually stabilized with plastic to enhance durability and color; sometimes stabilized and compressed with a binding agent under extreme pressure and heat to bind together small pieces of natural material into a larger whole	Avoid household chemicals, steam and ultrasonic cleaning. Perspiration and cosmetics may alter color.
Unakite (6 – 7)	None	Avoid household chemicals, steam and ultrasonic cleaning
Variscite (3.5 – 5)	None	Avoid household chemicals, steam and ultrasonic cleaning
Yellow Beryl (Heliodor) (7.5 – 8)	Usually heat-treated to enhance color	Avoid sudden temperature changes, ultrasonic cleaning and steamer
Zircon (6 – 7.5)	Usually heat-treated, especially to create blue color	Avoid abrasives, exposure to excessive light, rough handling