

Birthstone summary research paper

[Profession](#), [Student](#)



1. Discuss how aquamarine forms and explain the chemical composition (elements)

Aquamarine gemstones are members of the prominent beryl group of minerals. Beryl crystals are among the valued gems that occur naturally. Aquamarine and beryl in general, is composed of atoms of beryllium, aluminium, silicon, and oxygen. The chemical formula for beryl is $\text{Be}_3\text{Al}_2\text{Si}_6\text{O}_{20}$ (Scheper 12). Aboriginal rocks facilitate the growth conditions for aquamarine formation. As the plutonic plate condensed, minerals were crystallized to create gemstones like aquamarine. The dimension of the crystal is proportionate to the cooling rate. Large crystals are created when the pace of cooling is extremely slow. In addition, Aquamarine is found in naturally occurring geological formations. These crystal configurations are commonly termed as pegmatite. Usually large crystals are created in pockets. These are usually linked with crystals of feldspar, muscovite, and quartz. These gems also take place in cavities in granites and greisens. During the cooling stages of emplacement, granite rocks are displaced and eroded to form hydrothermal carbonate veins that host aquamarine in large quantities (Godiva 23).

2. Describe the crystal shape

Known as the birthstone (month of March), aquamarine differs in shade from an almost colourless, clear blue to a vaguely deeper shadow of blue or blue-green. Frequently it is a translucent gemstone but rarely shows the manifestation of cat's eyes in the stone. Aquamarine is hard adequately to be scratch-resistant, making it a popular choice for jewellery. The crystal

shape is hexagonal with Mohs hardness ranging from 7.5 to 8 with a specific gravity of about 2.68 to 2.74 (Wise 45).

3. Where it is found and the history of the aquamarine crystal

A great deal of the world's source of aquamarine is from Brazil, with one predominantly vibrant blue form called Santa Maria since it derives from the country's Santa Maria de Itabira mine. Aquamarines are as well found in Africa, the Middle East, Mexico, and the United States. The most precious ones come from Brazil, Kenya and Nigeria, Madagascar, Zambia, Tanzania, Sri Lanka, Pakistan, Afghanistan and Russia.

Aquamarines on the market at present are habitually faceted, but when cut as a cabochon, they may exhibit a cat's eye outcome known as asterism (Caitlin 12). Since early times, aquamarine has been supposed to bestow the wearer with prudence, bravery, and pleasure. It is supposed to boost intelligence and make one young. As a healing stone, it is supposed to be efficient as a management for nervousness and in the Middle Ages; it was considered that aquamarine would decrease the effect of poisons. A legend articulates that sailors wore aquamarine gemstones to keep them safe and prevent seasickness.

Work Cited

Caitlin, Zebedee. *Hard rocks*. Chicago: University of Chicago Press, 2006.

Godiva, Amitav. *Gemstones*. London: Granta, 2002.

Scheper, Nancy. *Chemical properties of gemstones*. Berkeley: University of California Press, 2003

Wise, R. W., *Secrets of The Gem Trade, The Connoisseur's Guide To Precious Gemstones*, Brunswick House Pr, p. 15, 2006