

A Note on Dental Amalgam and its Properties

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DESCRIPTION

Dental amalgam is liquid mercury and a metal alloy mixture used in the dentistry to fill the cavities caused by dental or dubs. Low-Copper Amalgam is often made of mercury (50%), silver (about 22-32%), tin (14%), zinc (about 8%) and other trace metals. Teeth Amalgam first documented Tang Dynasty text written by Suzo and appeared in Germany. In the 1800's, Amalgam was low cost, usage, usage, power, and durable. In July 2018, EU Amalgam prohibits children's dental treatment under 15 years old and prohibits women during pregnancy or breast feeding Algam is used to repair for many years. This is generally called filling, many compositions were tried before 1900, but few were successful when placed in the oral environment. Around 1900, a small amount of copper and, in some cases, zinc was added. Zinc acts as a scavenger by preventing the oxidation of other metals in the alloy during the manufacturing process. Zinc accomplishes this by easily combining with oxygen to form zinc oxide. Amalgam restorations made from this balanced formula have had some success and have a longer lifespan. However, the disadvantage that remained was the fracture on the dental farm interface called common destruction called. Sn8Hg (γ_2 phase) was considered to be involved in this problem. This step is shown as the weakest phase of the set amalgam, and is particularly corroded to the teeth-margam interface. In 1962, spherical silver copper-eutectic particles were added to conventional Rashtz AG3SN particles at a ratio of 1:2 to have a new amalgam alloy called dispersant alloy. Mixtures of these two particles are known as mixed alloys. This alloy set amalgam and

reduced γ_2 phase (Sn8 Hg). Sn8Hg was not formed because the increased copper in the silver-copper eutectic reacted preferentially with tin. The first results from the clinical use of this new amalgam showed an improvement in marginal integrity. About half of the amalgam filling is made up of liquid mercury and the other half is made up of powder alloys of silver, tin and copper. Mercury is used to bind alloy particles into a strong, durable solid filling. Mercury's unique properties, which are liquids at room temperature that bind well with alloy powders, make it an important ingredient in dental amalgam and contribute to its durability. About 10 years later, another alloy called Tytin was introduced by adding a significant amount of Cu3Sn along with Ag3Sn in the form of spherical particles of uniform composition to remove the γ_2 phase. These two relatively new alloys have increased the copper content from the 5% present in the old compositionally balanced alloy to about 13% of the new alloy. Dental amalgam is made by mixing liquid mercury with an alloy of solid particles of silver, tin and copper. Some alloys may contain small amounts of zinc, mercury and other metals. This combination of solid particles is known as an amalgam alloy. The composition of the alloy particles is controlled by the ISO standard for dental amalgam alloys (ISO 1559) to control the properties of hardened amalgam such as corrosion and hardening swelling. It is important to distinguish between dental amalgams and amalgam alloys that are commercially manufactured and sold as a suitable combination of small shavings, spherical particles, or liquid mercury to make dental amalgams.

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