



Do denture materials get their pink coloring from mercury?

The simple answer is *NO*, they do not. With more than 300 commercially available denture products registered in our materials database, we do not know of a single denture product which employs mercury or mercurial compounds for pigmenting or for any other intended purpose. Further, most countries where denture base products are manufactured have stringent standards regarding trace contaminant levels of mercury in raw materials.

Some denture materials do rely on other metals in their pigmenting systems. The metals most frequently encountered might include cadmium, chromium, cobalt, iron, lithium, potassium and titanium. They will be present as oxidized metals and usually bind to various sites in the resin component. The acrylic, acetal and other resins are relatively stable. Any ionization or separation of the metals is quite slow and does not usually result in a systemic toxicity issue. There may be sufficient release to induce irritation in surrounding soft tissues for a few patients who have developed sensitivity to the specific metal(s) involved.

Many newer denture materials use carbon-based dyes for pigmentation. These dyes are FD&C approved colorings and may have some similarities to food colorings found in the kitchen. The stock components used for dye manufacturing may include coal, petroleum and vegetable resources. Some dyes could induce irritation in a few patients due to organic attachments in their polymer structure such as certain aldehydes or phenols. The acrylates themselves may induce irritation for a few patients.

Some denture materials employ a hybrid pigmenting system utilizing both carbon-based dyes and metallic salts. In all cases, these factors are taken into consideration when we screen patients for suitability with a denture material. If, for example, a patient has a cadmium sensitivity, those denture materials which utilize cadmium salts in their coloring system would be flagged as 'Not Well Suited' for this specific patient. Reactable organic moieties are likewise considered. Bear in mind that lack of suitability for one patient does not mean that the product is universally 'bad' or contraindicated. It may be perfect for the next patient.

If you have questions about the selection of a denture product for your use, your dentist will be the best point of reference for information. If there are questions or concerns remaining, the doctor may suggest screening testing as an extra measure of safety, confidence and peace-of-mind.

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