

INCI Names and Microplastic Ingredients

Polymer ingredients, for the most part, can be identified by the term “poly” within their INCI name. However, the properties of these materials as a group are indeed quite diverse. Polymer ingredients provide a wide range of important functional benefits to enable robust quality and desirable performance in cosmetics and personal care products, with functions including film formers, viscosity modifiers, binders, fixatives, dispersants, and encapsulating agents.

Due to the emerging environmental concerns about polymer ingredients and microplastics, readers should be aware that INCI names alone cannot be used to identify a potential microplastic ingredient. INCI names are based on chemical composition. While materials with the same INCI name might have similar chemistry, they could exhibit dramatically different physical characteristics. In fact, a diverse group of materials could have the same INCI name, yet different attributes and applications.

The assumption that all polymers are microplastics is inaccurate and misleading. There are many factors to be considered when identifying a material as a microplastic. The emerging regulatory definitions for microplastics include particle size, physicochemical properties, and environmental persistence. Perhaps the single most important distinguishing feature is the fact that a microplastic material is a solid particle. This characteristic cannot be identified or implied simply by reading the ingredient’s INCI name, and drawing the inference that the term “poly” means microplastic.

There are polymer names containing the term “poly” which are completely water-soluble materials and could never exist as a microplastic solid particle. An example is the INCI name, Polyquaternium-10 which is used as an antistatic agent in myriad liquid hair care formulations, including baby shampoos. The numerous polypeptides used in liquid facial serums serve as other examples of polymeric ingredients that are not potential microplastics.

While it is true that all plastics are polymers, it is important to remember that not all polymers are plastics. For further information about polymers and microplastics, please consult CosmeticsInfo.Org: <https://cosmeticsinfo.org/microplastic>; <https://cosmeticsinfo.org/polymers>. And for a complete listing of INCI Nomenclature Conventions, please consult: <https://pcpcouncilstg.wpengine.com/wp-content/uploads/2018/11/INCI-Nomenclature-Conventions.pdf>.