

Polymer dispersions, redispersible powders made thereof and the Single Use Plastics Directive (EU/2019/904)

EPDLA (European Polymer Dispersion and Latex Association, a Cefic Sector Group) is dedicated to promoting the safe manufacture, transportation, distribution, handling and use of waterborne polymer dispersions and redispersible powders made thereof, in compliance with regulatory requirements and industry guidelines.

EPDLA members are committed to Responsible Care® principles and have implemented risk management according to the precautionary principles.

Polymer dispersions

Polymer dispersions are used as raw materials (binders) in many waterborne applications, for example, adhesives, varnishes and coatings, printing inks, non-wovens, paper and paperboard and textile finishing agents. Polymer dispersion technology has been used safely and successfully for more than 50 years and has contributed to a significant reduction in the release of organic solvents in the environment. The use of polymer dispersions has helped to reduce the use of organic solvents in workplaces leading to improved worker health and similarly has contributed to cleaner air in the home. Common to all dispersions, and covered by this paper, is a film forming process during application. The same is true for redispersed powders.

Polymer dispersions are mixtures as defined under Article 3(2) of the REACH Regulation¹, consisting mainly of water and high molecular weight polymer droplets. Based on polymer molecular weight and chemical nature, the polymer droplets can be solid or highly viscous. The particle size of such polymer droplets can vary widely between ca. <100 nm (<0.1 µm) and 10,000 nm (10 µm)² in diameter.

The polymer droplets are dispersed and stabilised in water and regarded as bound in the liquid matrix. They cannot be isolated as discrete droplets or particles by simple separation techniques and do not exist without their waterborne environment. Their fate is to form a film e.g. as an adhesive or paint. As the water in the mixture evaporates, a separation between the aqueous and the polymeric phase begins and leads to the film formation via coalescence of the polymer droplets³.

¹ Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC

² nm = nanometre / µm = micrometre

³ <https://specialty-chemicals.eu/epdla/> EPDLA position paper on polymer dispersions and nanotechnology (updated June 2018)

The Single Use Plastics Directive (EU/2019/904)

A single use plastic product means a product that is made wholly or partly from plastic and that is not conceived, designed, or placed on the market to accomplish, within its life span, multiple trips or rotations.

Directive EU/2019/904 of the European Parliament and of the Council (the single use plastics directive (SUPD)) aims to facilitate the reduction of the impact of certain plastic products on the environment⁴.

EPDLA supports the promotion of a circular approach that gives priority to sustainable, non-toxic, reusable products and reuse systems rather than single use products with the aim, first and foremost, of reducing the quantity of waste generated.

EPDLA welcomes waste management measures such as the recycling target for plastic packaging waste laid down in European Parliament and Council Directive 94/62 EC and the objective in the European Strategy for Plastics to ensure that, by 2030, all plastic packaging placed on the Union market is re-usable or easily recycled.

Single use plastic products can be manufactured from a wide range of plastics. According to the definition given in article 3 of the directive (EC) No 2019/904, 'plastic' means a material consisting of a polymer as defined in point 5 of Article 3 of Regulation (EC) No 1907/2006, to which additives or other substances may have been added, and which can function as a main structural components of final products with the exception of natural polymers that have not been chemically modified.

The EPDLA considers a main structural component as the skeleton of an article. Without this skeleton the article will have no body nor strength.

Important applications of polymer dispersions i.e. paints (dispersion coatings), inks and adhesives are explicitly excluded from the scope of the SUPD and consequently are not considered to function as a main structural component. Also, the use of binders in certain nonwovens with natural fibers is not covered by the SUPD, as a binder can be seen in such case as a more specific form of adhesive, which is not considered to be a plastic.

Furthermore, polymer dispersions and redispersible powders made thereof have contributed as a sustainable technology for many years. They may be used as raw materials in the production of plastic based materials but not as main structural components thereby falling outside of the above definition.

The EPDLA members therefore strongly advocate that polymer dispersions and redispersible powders made thereof are out of scope of this directive, when they are used as raw material for (barrier) coatings, inks, adhesives or construction materials such as screeds, plasters and mortars, as long as they do not function as a main structural component.

⁴ <https://eur-lex.europa.eu/legal-content/nl/TXT/?uri=CELEX:32019L0904>

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About EPDLA

EPDLA (European Polymer Dispersion and Latex Association), a Cefic Sector Group founded in 1991, is dedicated to promote the safe manufacture, transportation, distribution, handling and use of waterborne polymer dispersions, in compliance with regulatory requirements and industry guidelines. EPDLA members are committed to Responsible Care® principles and have implemented risk management according to the precautionary principles.

