FEICA The European voice of the **adhesive** and **sealant industry**

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Adhesives are not Plastic

FEICA, the Association of the European Adhesive & Sealant Industry, is a multinational association representing the European adhesive and sealant industry. Today's membership stands at 16 National Association Members (representing 17 countries), 26 Direct Company Members and 24 Affiliate Company Members. The European market for adhesives and sealants is currently worth more than 19.9 billion euros. With the support of its national associations and several direct and affiliated members, FEICA coordinates, represents and advocates the common interests of our industry throughout Europe. In this regard, FEICA works with all relevant stakeholders to create a mutually beneficial economic and legislative environment.

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Introduction

Regulation (EU) 2025/40, the so-called Packaging and Packaging Waste Regulation (hereafter PPWR) regulates and incentivises the recycling of packaging in Europe. Among other requirements, it demands that plastic parts of a packaging contain a recycled content.

Due to the polymeric nature of adhesives, confusion may arise among adhesive utilising industries as to whether adhesives can be considered as plastic and, therefore, industry members may mistakenly

believe that adhesives utilised in packaging applications need recycled content to comply with the PPWR.

FEICA would like to clarify that adhesives are in no case to be considered as plastics.

Are adhesives plastics?

The definitions of 'plastic' in ISO 472 (international standard) and EN 17615 (European standard) and in in the PPWR can be summarised into a list of questions that can be used to decide whether a given material should be considered a 'plastic':

1. Is the material principally composed of a polymer?
2. Can the material be shaped by flow into a finished product?
3. Can the material function as the main structural component of a finished material or an article?

This section examines the properties of adhesives in relation to these three questions.

Are adhesives principally composed of a polymer?

Most adhesives are composed principally of polymers.[1] In their delivery form, reactive adhesives may not be composed of polymers. For example, reactive adhesives may not necessarily be composed of a polymer in their liquid stage.

Can adhesives be shaped by flow into a finished product?

Importantly, adhesives never constitute a finished product or article on their own. Their purpose is to bond together two or more substrates. Thus, adhesives themselves cannot be shaped into a final product.

Can adhesives function as the main structural component of a finished material or article?

Adhesives cannot function as the main structural component of a final product. Instead, their role is to bond the two or more substrates that will form the main structural component(s). Also, adhesives typically constitute only a minor part of a finished article and therefore cannot be considered a main component of any finished article.

Conclusion

The fundamental function of adhesives - to join other materials - distinguishes them from plastics. Adhesives, despite often containing polymers, do not meet the essential criteria for the classification of a 'plastic' as they do not form the finished material themselves, nor do they serve as the primary structural element of a finished product. **In light of these important distinctions, despite being mostly composed of polymers, adhesives cannot be considered 'plastics'.**

	Plastics	Adhesives
Principally composed of a **polymer**	✓	✓
Shapable by flow into a finished product	✓	✗
Function as **main structural component** of a finished article	✓	✗

[1] Following the definition of polymers under REACH.

References

Definition of 'plastic(s)' in European regulations and directives

DIRECTIVE (EU) 2019/904 […] on the reduction of the impact of certain plastic products on the environment [Single use plastic directive]

Article 3(1)

'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 component of final products, with the exception of natural polymers that have not been chemically modified;

Commission guidelines on single-use plastic products in accordance with Directive (EU) 2019/904 of the European Parliament and of the Council on the reduction of the impact of certain plastic products on the environment

2.1. Plastic definition (point [1] of Article 3)

The definition of 'plastic' is provided in point (1) of Article 3:

' "plastic" means a material consisting of a polymer as defined in point (5) of Article 3 of Regulation (EC) No 1907/2006 of the European Parliament and of the Council (3), to which additives or other substances may have been added, and which can function as a main structural component of final products, with the exception of natural polymers that have not been chemically modified' [Emphasis added]

According to Recital 11, point (1) of Article 3 of the Directive refers to the definition laid out in Regulation (EC) No 1907/2006 (hereafter the 'REACH Regulation') and adds further elements to introduce an adapted and thereby separate definition.

Recital 11 explicitly points to paints, inks and adhesives as polymeric materials, which are excluded from the scope of the Directive and not considered to fall under the definition of 'plastic' in point (1) of Article 3. Consequently, a final (otherwise) non-plastic product to which they are applied is not a single-use plastic product under this Directive. Several of the terms and concepts used in point (1) of Article 3 and Recital 11 require further clarification. The following sections provide guidance on the key terms, notably:

- polymer (section 2.1.1)
- can function as a main structural component of final products (section 2.1.2)
- natural polymers that have not been chemically modified (section 2.1.3)

Regulation (EU) No 10/2011 […] on plastic materials and articles intended to come into contact with food

Article 3(2)

'plastic' means polymer to which additives or other substances may have been added, which is capable of functioning as a main structural component of final materials and articles;

Regulation (EU) 2025/40 […] on packaging and packaging waste

Article 3

(52) 'plastic' means a material consisting of a polymer within the meaning of Article 3, point (5), of Regulation (EC) No 1907/2006, to which additives or other substances may have been added, and which is capable of functioning as a main structural component of packaging, with the exception of natural polymers that have not been chemically modified;

Definition of 'plastic(s)' in European and international standards

Note: this section provides the definitions from key standards. Some standards with a very specific focus or for less relevant market sectors are not reproduced here in the interest of brevity.

Terminology standards

ISO 472:2013, Plastics — Vocabulary

plastic, noun

material which contains as an essential ingredient a high polymer and which, at some stage in its processing into finished products, can be shaped by flow

Note 1 to entry: Elastomeric materials, which are also shaped by flow, are not considered to be plastics.

Note 2 to entry: In some countries, particularly the United Kingdom, the term "plastics" is used as the singular form as well as the plural form.

EN 17615:2022-12, Plastics — Environmental Aspects — Vocabulary

plastic

material which contains as an essential ingredient a polymer and which at some stage in its processing into finished products can be shaped by flow

(Source: EN ISO 472:2013, 2.702, modified - 'high polymer' was replaced by 'polymer', Note 2 to entry was replaced.)

Definition of 'adhesive(s)' in European regulations and directives

[None found.]

Definition of 'adhesive(s)' in European and international standards

Note: this section provides the definitions from key standards. Some standards with a very specific focus or for less relevant market sectors are not reproduced here in the interest of brevity.

Terminology standards

EN 923, Adhesives — Terms and definitions

adhesive

non-metallic substance capable of joining materials by surface bonding (adhesion), and the bond possessing adequate internal strength (cohesion)

ISO 21067-1:2016, Packaging — Vocabulary — Part 1: General terms

adhesive

substance capable of holding materials together by surface attachment, other definitions

REGULATION (EC) No 1907/2006 […] concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) […]

Article 3(5)

polymer: means a substance consisting of molecules characterised by the sequence of one or more types of monomer units. Such molecules must be distributed over a range of molecular weights wherein differences in the molecular weight are primarily attributable to differences in the number of monomer units. A polymer comprises the following:

(a) a simple weight majority of molecules containing at least three monomer units which are covalently bound to at least one other monomer unit or other reactant;

(b) less than a simple weight majority of molecules of the same molecular weight.

In the context of this definition a 'monomer unit' means the reacted form of a monomer substance in a polymer;

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