Avantor Responsible Packaging Statement

Avantor recognizes the contribution it has to packaging waste and the role it can play to improve this. Many of Avantor's products require high specification and sterile packaging, and only through close partnerships with its customers and suppliers can Avantor achieve more sustainable outcomes.

This Statement relates to primary, secondary, and tertiary packaging associated with products which are sold under the Avantor brand or its subsidiary brands. Suppliers whose products are distributed by Avantor are also obligated to follow this Statement where specified in their contracts. Primary packaging is the packaging that comes into direct contact with the product itself and constitutes a sales unit. Secondary packaging is used to group products together into cohesive units, for brand exposure or making the display and handling of a single product unit easier or is used to protect people or product in accordance shipping laws and regulations. Tertiary packaging, also referred to as transport packaging, facilitates handling and transport of several sales units or grouped packaging to prevent damage during transportation.

Packaging should abide by the standards outlined in this document, unless stricter global or national legislative or regulatory standards apply, in which case these legislative or regulatory standards will apply.

MANUFACTURING AND COMPOSITION OF PACKAGING

Packaging shall be so manufactured that the packaging volume and weight be limited to the minimum adequate amount to maintain the necessary level of safety, hygiene and acceptance for the packed product and for the end customer.

- Performance criterion should be set to determine acceptable packaging volume and weight.

Elemental chlorine shall not be used as a bleaching agent to bleach virgin or recovered content fiber used in paper-based and fiber-based packaging.

Cobalt dichloride, typically used in silica gel desiccants and humidity indicators, shall be avoided where alternative solutions exist.

Packaging shall be so manufactured that the packaging does not contain the presence of lead, cadmium, mercury and hexavalent chromium in quantities which exceed 100ppm combined concentration.

- Procedures for measuring the presence of heavy metal should be defined.

Packaging materials and components shall be so manufactured that the presence of noxious and other hazardous substances is minimized, and emissions generated end of life, through incineration and landfill, are also reduced. Substances or preparations classified as dangerous are listed with a symbol N in the Safety Data Sheet.

- Procedures for measuring the presence of hazardous substances should be defined.

PACKAGING REUSE AND RECOVERABILITY

Packaging shall be designed, produced and commercialized in such a way as to permit its reuse or recovery where other applicable quality considerations and regulations allow.

REUSABLE PACKAGING

Reusable packaging shall adhere to the nine-point verification procedures outlined in Annex C in EN 13429 standard.

The physical properties and characteristics of the packaging shall enable a number of trips or rotations in accordance with quality and good manufacturing practices (GMP) standards.

Reusable packaging can be emptied, clean, washed and refilled.

The possibility of processing the packaging should be outlined, where worker health and safety is at risk and the packaging can no longer be reused.

Reusable packaging should be recoverable at end-of-life when no longer in use.

A system which supports reuse of packaging shall be made available and all actors in the system shall confirm availability of the system.

RECOVERABLE PACKAGING

After prevention and reuse of waste, packaging must be recoverable by at least one of three methods: recycling, energy recovery or organic recovery. These requirements can be fulfilled through the implementation of the following standards respectively: EN13430, EN 13431 and EN13432.

Packaging data records shall be maintained which show the weight, recoverability and available waste routes for each packaging component.

Packaging data records should be made available to all relevant actors in the supply chain where legislative and regulatory reporting requirements exist.

Recycling

Packaging shall be manufactured in such a way as to enable recycling of a certain percentage of the weight of packaging materials. The following percentages targets can be used as a guide:

- 55% of plastic
- 30% of wood
- 80% of ferrous metals
- 60% of aluminum
- 75% of glass and
- 85% of paper and cardboard.

Design of packaging shall make use of materials or combinations of materials which are compatible with known and accessible recycling technologies. Packaging design considerations should include, but are not limited to:

- Components should be easily separated
- Adhesives should be minimized or avoided
- Use of multi-layered plastic packaging should be avoided
- Use of foamed plastics, including but not limited to, expanded polystyrene, expanded polypropylene, expanded polyethylene and polystyrene paper, should be avoided
- Inclusion of metallic pigments should be avoided
- Polyvinyl chloride should be avoided
- Black or dark colored virgin plastics should be avoided
- Oxo-biodegradable plastics should be avoided

A system shall be established to monitor and identify new recycling technologies so this may inform packaging design.

Energy recovery

Packaging waste processed for the purpose of energy recovery shall have a minimum inferior calorific value to allow optimization of energy recovery. The minimum net calorific value of the packaging material should be equal or greater than 5MJ/kg.

Organic recovery

Packaging waste processed for the purpose of composting shall be of such a biodegradable nature that it should not hinder the separate collection and the composting process or activity into which it is introduced.

Biodegradable packaging waste shall be of such a nature that it is capable of undergoing physical, chemical, thermal or biological decomposition such that the majority of finished compost ultimately decomposes into carbon dioxide, biomass and water.

Demonstrate and record each assessment that shows the characterization, biodegradability, disintegration, and compost quality of recognizability of packaging components, in accordance with EN13432.

INCLUSION OF RECYCED CONTENT IN PACKAGING

Paper packaging to include a minimum of 50% recycled content by average weight by 2030, where no additional quality-critical or regulatory requirements exist.

Rigid plastic packaging to include a minimum of 30% recycled content by average weight by 2030, where no additional quality-critical or regulatory requirements exist.

APPLICABLE EXCLUSIONS

A system will be created to record packaging components which are excluded from the standards outlined in this statement.

- Exclusion criterion should be set to identify why packaging or packaging components are not in scope of these standards and the Directive 94/62/EC on packaging and packaging waste.

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