

## **The EPS Sector Group, *Plastics Europe AISBL* \***

April 2024

### **Subject: Plastics Europe Voluntary Commitment for EPS raw bead quality.**

The objective of these guidelines is to ensure a high product quality and safety level with respect to EPS raw beads. This is relevant for a safe handling and processing of such beads, as well as during the use phase of finished products obtained from such beads that will have to comply with fire, food contact and indoor air quality requirements, amongst others. To this aim, these guidelines go beyond the applicable regulatory requirements imposed to EPS beads.

All members of the Plastics Europe EPS Sector group have committed to adhere to these voluntary guidelines and retain documentary evidence. Companies producing EPS beads and not being members of Plastics Europe are encouraged to sign up to this Voluntary Commitment too.

The details of the Plastics Europe EPS Raw Beads Voluntary Commitment:

#### **1. Residual styrene monomer**

Residual styrene monomer in raw beads will not exceed 0.1 % by weight (1000 ppm). This limit value is set to minimize the possible exposure to styrene and its release to air (occupational exposure, indoor air quality) as well as to water and to soil.

#### **2. Choice of blowing agent**

In order to minimize the risk of fire, the blowing agent blends are limited to normal (n-) and iso-pentane. Cyclo-pentane or butane is not used for this purpose.

Elevated levels of residual pentane could significantly increase the risk of fire during block cutting and during end use of the boards. Therefore, board manufacturers shall take appropriate measures, e.g., through proper ageing after production, to control residual pentane levels in finished goods.

#### **3. Fire Performance (applies only to fire retardant containing grades)**

Raw material suppliers hold certificates which confirm that boards and shape-molded parts made from their beads pass at least the requirements of Euroclass E according to EN 13501-1.

This means that surveillance contracts are in place, which include initial Class E control, continuous Class E testing, as well as regular audits by fire certification laboratories.

Converters may have different control and inspection intervals themselves, provided they use certified products. This provision is limited to the maximum foam density indicated on the individual E class certificate from the raw material supplier.

#### 4. **Effective packaging of EPS beads**


EPS beads supplied are packaged and shipped generally in cardboard containers (IBCs), usually in octagonal shape (octabins). Alternatively, big bags (FIBCs) can also be used. To minimize emissions of the blowing agent, the octabin or the big bag has a specially designed plastic inner liner with gas barrier properties. Further, the special liner has antistatic properties to prevent electrical discharges especially during filling and unfilling. This combination can be considered as optimum packaging, to both protect the product during transportation and storage, as well as to prevent potential incidents.

More information can be found here:

[Guidelines for Transport and Storage of Expandable Polystyrene Raw Beads • Plastics Europe](#)

#### 5. **Indoor Air Quality**

Products manufactured from beads of Plastics Europe EPS beads producers will meet all and the most stringent Indoor Air Quality regulations as set out by the regulatory bodies of EU member States:

Regulation or protocol	Conclusion	Version of regulation or protocol
French VOC Regulation		Regulation of March and April 2011 (DEVL1101903D and DEVL1104875A)
French CMR components	Pass	Regulation of March and April 2011 (DEVL1101903D and DEVL1104875A)
AgBB	Pass	AgBB of February 2015. DIBt of October 2010
Belgian Regulation	Pass	Royal decree of May 2015 (C-2014/24239)
Indoor Air Comfort®	Pass	Indoor Air Comfort 5.3a of March 2015
EN 717-1	E1	2004
BREEAM International	Compliant	GN22: BREEAM Recognised Schemes for VOC Emissions from Building Products

#### 6. **Microplastics**

Plastics Europe has made OCS (Operation Clean Sweep), the programme for zero pellet loss, compulsory for its members. All signatory companies will be audited by accredited third parties to establish their compliance with OCS requirements.

### **Relevant regulations governing the manufacturing and processing of EPS beads:**

A. EPS raw beads supplied must comply with EU Directives 2011/65/EU (RoHS) and 1907/2006/EU (REACH). In particular, SVHC shall not be present above a limit of 0.1 % w/w according to the candidate list, article 59 (1, 10) European REACH regulation (EC) No. 1907/2006.

The Restriction of Hazardous Substances (RoHS) Directive limits the maximum concentration of Lead, Mercury, Chromium-VI, Polybrominated Biphenyls, Polybrominated Diphenylethers, Cadmium and several phthalates.

B. European Regulation (EC) 1907/2006 requires manufacturers and importers of chemical substances to demonstrate the safety of their products. Whilst polymers, such as EPS beads, are exempt from registration under REACH, the raw materials and additives in these polymers are subject to the regulation. Companies are working with their suppliers to ensure that these raw materials are duly registered and that communication with down-stream users is appropriate.

Any company importing EPS beads (or any other polymer) into the EU must ensure that all the raw materials contained within the polymer are registered (if the quantity used is greater than one metric ton per year).

The REACH regulation has been amended by Regulation (EC) 1272/2008 which relates to classification, labelling and packaging of dangerous substances (the CLP Regulation). The classification in the Safety Data Sheets (SDS) issued by each EPS raw beads manufacturer reflects the required classification of the material.

### **Conclusion:**

We recommend that converters review these voluntary guidelines carefully as they may help them to ensure the safe and efficient conversion of EPS to foamed products in their own factories.

Please note that all guidelines are subject to further technical development and the EPS Sector Group member companies \* reserve the right to update them if need be.

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