

## Glass for Europe's assessment on SVHC in laminated glass

Glass for Europe has taken note of the addition of the substance '**Bumetrizole**' **UV-blocker UV326 – CAS No. 3896-11-5 – EC No. 223-445-4** to the European Candidate List of Substances of Very High Concern and has analysed the impact on flat glass products containing components containing this substance.

*Glass for Europe is the trade association for Europe's flat glass sector. Flat glass is the material that goes into a variety of end products, primarily in windows and facades for buildings, windscreens and windows for automotive and transport as well as solar energy equipment, furniture and appliances. Glass for Europe brings together multinational firms and thousands of SMEs across Europe, to represent the entire building glass value-chain. It is composed of flat glass manufacturers, AGC Glass Europe, Guardian, NSG-Group, Saint-Gobain Glass Industry and Şişecam, and works in association with national partners gathering thousands of building glass processors and transformers all over Europe.*

### SUMMARY POSITION

**Glass lamination interlayers (like PVB) contain several substances and, in the past, some of these constituents have been subject to being placed on the SVHC Candidate List. As laminated glass manufacturers we want to express our logic to consider how this change to SVHC constituent status should impact laminated glass declarations for Article 33 REACH reporting.**

**Based on our detailed interpretation (see Appendix), the interlayer should be considered as a mixture in the laminated glass. In consequence, an SVHC component in the interlayer should be considered with its mass fraction in the finished laminated glass article.**

### 1. BACKGROUND

If an article contains a SVHC on the Candidate List >0.1% by weight, the following legal requirements are triggered:

- Downstream users (i.e., customers, recipients of the article) need to be notified about the presence of the SVHC in articles containing this substance (REACH Article 33).
- Notification of ECHA if the substance is present in those articles in quantities totalling over one tonne per producer or importer per year, and the substance is present in those articles above a concentration of 0.1 % weight by weight (REACH Article 7(2)).

- Products containing this article (and the article as such) must be reported into the SCIP database at ECHA (EU Waste Framework Directive Article 9).

In January 2024 the substance '**Bumetrizole**' **UV-blocker UV326 – CAS No. 3896-11-5 – EC No. 223-445-4** was added to the European Candidate List of Substances of Very High Concern.

This substance is included in polyvinylbutyral (PVB) interlayer formulations for laminated automotive and architectural glass. Suppliers have confirmed the presence of this substance as a **critical component to protect the PVB material from damage by exposure to UV-light**. The UV-326 is encapsulated within the polymer matrix and expected to remain under foreseeable conditions of use. Suppliers have confirmed that they have started to work on substitution of the UV-326 – however, this will take several years.

## 2. MIXTURE VS. ARTICLE CONSIDERATIONS

On 10 September 2015, the **Court of Justice of the European Union** ruled<sup>1</sup> on the “articles present in complex products” topic. The Court’s judgement means that notification and communication obligations apply for each individual component of a complex product (i.e. products made up of more than one article), rather than for the product as a whole.

This ruling aligns with the “once an article, always an article” approach. According to this approach, an object retains its status as an article, even when assembled or joined with other objects in order to form with them a complex product, **unless**:

*“following a production process, that object becomes waste or ceases to have the shape, surface or design which is more decisive in determining its function than its chemical composition”.*

If the interlayer article is melted during the process, it may temporarily form a mixture and lose its article status. Once re-solidified, the shape, surface / design are less relevant than the chemical properties.

Based on the detailed article assessment according to ECHA’s ‘Guidance on requirements for substances in articles’<sup>2</sup>, **Glass for Europe concludes that lamination films are preferred to be considered as a mixture** – see the Appendix for the assessment.

When the PVB is considered to be a “mixture” – adhering the glass sheets together – the SVHC concentration is to be calculated for the total weight of the PVB together with the glass. In this case, **the concentration is highly unlikely to be above 0.1% by weight**, and the notification and reporting requirements would not apply (section 3.2.3 of the ECHA Guidance on requirements for substances in articles<sup>3</sup>).

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<sup>1</sup> The judgement of the Court of Justice in case C-106/14 is available at: <http://curia.europa.eu/juris/liste.jsf?language=en&td=ALL&num=C-106/14>.

<sup>2</sup> See [https://echa.europa.eu/documents/10162/2324906/articles\\_en.pdf](https://echa.europa.eu/documents/10162/2324906/articles_en.pdf).

<sup>3</sup> See [https://echa.europa.eu/documents/10162/2324906/articles\\_en.pdf](https://echa.europa.eu/documents/10162/2324906/articles_en.pdf).

APPENDIX

ASSESSMENT: THE INTERLAYER IS AN ARTICLE VS. THE INTERLAYER IS A MIXTURE

Assessment in accordance with chapter 2 of “ECHA Guidance on requirements for substances in articles, June 2017 Version 4.0”<sup>4</sup> (questions are marked in italics; Glass for Europe’s answers are marked in blue).

**Step 1:** *Define the function of the PVB:*

- The PVB layer adheres the sheets of laminated glass together and provides mechanical properties for impact resistance as safety glass. The PVB interlayer can also dampen/absorb vibration and sound waves attributing to the noise reduction properties of laminated glass.

**Step 2:** *Compare the importance of shape, surface or design vs. the Chemical composition properties for the function of the PVB:*

- The gluing property and the toughness of the PVB in between the glass sheets is the dominating importance for the function. (In theory, the PVB material could be applied as a paste or liquid on the glass...)

**Step 3:** *Can substances from the PVB be physically separated?*

- No.

**Step 4 / Step 5:** *Not relevant since the answer in Step 3 is “No”.*

**Step 6:** *Consideration of semi-finished products (PVB film) that are further processed to final articles (laminated glass)*

**Question 6a:** *Does the object have a function other than being further processed?*

- No.

*If the object predominantly has other functions (i.e. end-use functions), then this may be an indication that it is an article according to the definition of REACH.*

**Question 6b:** *Does the seller place the object on the market and/or is the customer mainly interested in acquiring it because of its shape/surface/design (and less because of its chemical composition)?*

- No.

*If the object is mainly put on the market or acquired because of its shape/surface/design, this is an indication that the object is an article.*

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<sup>4</sup> Reference to ECHA Guidance: [https://echa.europa.eu/documents/10162/2324906/articles\\_en.pdf](https://echa.europa.eu/documents/10162/2324906/articles_en.pdf).

**Question 6c:** When further processed, does the object undergo only “light processing”, i.e. no gross changes in shape?

→ Yes.

Processes are cutting, stretching, and melting (in autoclave) including changing the surface and the visual characteristics of the film to become transparent.

“Light processing”, such as drilling, surface grinding or coating, may improve or modify an object’s shape, surface or design for carrying out a function and is thus frequently applied to objects which are already articles. Thus, if only “light processing” is applied, this is an indication that the object is an article.

Processes leading to gross changes in shape, meaning changes of depth, width and height of an object, are not regarded as “light processing”. These can for example be primary shaping processes (such as casting or sintering) or forming processes (such as extrusion, forging or rolling). If the object preserves at least one of its characteristic dimensions (depth, width and/or height) when further processed, the process can be regarded as “light processing”.

**Question 6d:** When further processed, does the chemical composition of the object remain the same?

→ Yes.

A change of the chemical composition in the next processing steps may indicate the object being a mixture. However, some treatments of an object which is an article may result in a change in its overall chemical composition, but not in the status of the object being an article. Examples are printing onto the surface, painting, applying coatings, dyeing etc.

As we have answered two of the questions of assessment step 6 with “Yes” and two with “No”, we go back to step 2 as indicated by the guidance.

**Step 2:** Compare the importance of physical form and chemical characteristics for achieving the object’s function. If it can be unambiguously concluded that the shape, surface or design of the object is more relevant for the function than its chemical composition, the object is an article. If the shape, surface or design is of equal or less importance than the chemical composition, it is a substance or mixture.

The glass industry usually selects the interlayer that allows to reach the intended function of the laminated glass, e.g.:

- PVB for its mechanical properties for impact resistance
- PVB for its vibration and sound insulation properties for noise reduction
- EVA for its long-term durability in outdoor applications
- Ionomer films for mechanical properties

All interlayers have the form of a film, but they are selected because of properties that are linked to their chemical composition. Therefore, they can be seen as mixture as the chemical composition is for the user more important than the shape.

According to our analysis the lamination films is to be considered as a mixture.

Therefore, Glass for Europe conclusion is that there is a preference for the lamination films being considered as mixtures.

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