Synthetic Amorphous Silica (SAS): how a potential harmonised classification can threaten the competitiveness and continued existence of a vulnerable chemicals sub-sector in Europe

Socio-Economic Analysis demonstrates damaging impact on competitiveness and economic viability of producers and downstream users of SAS[1]

The chemical industry drives innovation and enables technologies for achieving the EU's environmental, climate goals, and defence resilience. The sector faces intense pressure from rising energy prices and increasing regulatory and administrative burdens. These challenges have already prompted several companies to relocate production outside Europe. **The production of Synthetic Amorphous Silica (SAS) is a clear case in point.**

Confronted by a potential harmonised classification of Synthetic Amorphous Silica (SAS) as Specific Target Organ Toxicity Category 1 (STOT RE 1), the Association of Synthetic Amorphous Silica Producers (ASASP), decided to perform a **Socio-Economic Analysis (SEA) to evaluate the impact on producers as well as downstream users.**

SAS, a highly versatile substance, is key for **innovative applications** in strategic sectors, notably **automotive, defence, renewable energy (batteries), construction, cosmetics, food, pharmaceuticals, paints, adhesives**. Europe is a global leader in SAS production and a net exporter. The downstream user sectors using SAS have a combined estimated added value of more than 300 billion EUR/year *(Eurostat, 2022).*

If classified as STOT RE 1, SAS **producers** anticipate a **significant loss in demand**. The classification would also **decrease competitiveness** on the European market and negatively impact exports. By further amplifying the pressure on the sector, the risk for additional **production shifts to non-EU countries (e.g., China)** increases, reducing the resilience of Europe in critical sectors. Relocating outside Europe, or ceasing operations completely, would lead to a direct reduction in European demand for SAS.

On the **downstream-user side**, there are currently **no suitable alternatives** to SAS, matching its unique combination of properties required to enable critical functionalities. A substitution of SAS would require costly investments by downstream user sectors as well as considerable time, with a risk of regrettable substitution.

In quantitative terms, the total direct impact of a classification is monetised as reaching >840 million EUR:

> 144 million EUR of economic impacts (EBIT loss) on active substance suppliers;
> 90 million EUR of social impacts (i.e., unemployment in the EU-27);
> 219 million EUR of economic impacts (loss in sales) on downstream users and end-users;
> 195 million EUR of public health impacts for society;
> 192 million EUR of economic impacts from direct expenditures for consumers.

A potential classification would generate additional regulatory requirements under Ecodesign for Sustainable Products Regulation (ESPR), REACH GRA, Industrial Emissions Directive, as well as other regulatory frameworks (e.g., ecolabel, water management, due diligence). This would again lead to substantial cost increases for producers and a loss in sales of SAS-containing products for the downstream using chemical sector (>325 million EUR for ESPR impact).

STOT RE 1 classification risks undermining Europe's industrial leadership, strategic autonomy, and economic and defence resilience—with far-reaching consequences for innovation, sustainability, and competitiveness. The SEA concludes that a harmonised classification as STOT RE 1 and cascading regulatory changes affecting SAS, would have disproportionate negative impacts on the European economy, innovation, and society overall.

[1] SAS is a manufactured substance class which includes pyrogenic silica, precipitated silica, silica gel, and colloidal silica.

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