GALA
Global Antioxidants & Light Stabilisers Alliance
Administered by
Consortia Management GmbH
Herrnsheimer Hauptstr. 1b, 67550 Worms, Germany

ECHA's Draft Recommendation of Priority Substances to be included in REACH Annex XIV

UV-326
(2-tert-butyl-6-(5-chloro-2H-benzotriazol-2-yl)-4-methylphenol
CAS-No: 3896-11-5, EC-No: 223-445-4

UV-329
2-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol)
CAS Number: 3147-75-9, EC Number: 221-573-5

INTRODUCTION

We appreciate the opportunity to provide our comments to the European Chemicals Agency (ECHA) in the context of its public consultation on the draft recommendation to include UV-326 and UV-329 as priority substances in Annex XIV of the REACH Regulation. In addition, this document will be submitted to the Call for information (on behalf of the Commission) on the possible socio-economic consequences of the authorisation requirement for UV-326 and UV-329.

The Global Antioxidants and Light Stabilizers Alliance (GALA), established in 2026, is dedicated to advancing the scientific understanding of the intrinsic health and environmental properties of antioxidants (AOs) and light stabilizers (LS), while also highlighting their benefits. GALA actively communicates robust scientific information to stakeholders, ensuring accuracy, clarity, and consistency. In addition, it represents the global AO and LS technology sector, supporting its members and market organizations in their engagement with policymakers and regulatory authorities.

GALA's membership comprises the leading global manufacturers of these substances, and its secretariat is managed by Consortia Management in Germany.

UV light stabilizers are a class of additives incorporated into materials - primarily polymers and coatings - to enable the intended end use of polymeric articles and extend the service life of end products by protecting them from the damaging effects of ultraviolet (UV) radiation.

They are used across a wide range of critical sectors and end user applications delivering both economic and environmental benefits. The applications, such as automotive components, construction materials, packaging materials, as well as in adhesives, sealants, and coatings are essential to society, as they underpin key areas including infrastructure, mobility, communication, energy generation, consumer goods, and industrial production. In doing so, these sectors support the functioning of economic markets, contribute to public safety, and enable the transition to a more sustainable and resilient economy through the extended lifespan of materials and products.

The two substances (UV-326 and UV-329) are manufactured and/or imported between 1.000 – < 10.000 tonnes per annum in the EU.

In January 2024, UV-326 and UV-329 were added to the Candidate List based on the MSC's conclusion on their vPvB (very persistent, very bioaccumulative) assessment.

In 2024, the European Chemicals Agency (ECHA) published an Assessment of Regulatory Needs (ARN) for hydroxyphenyl benzotriazoles, including UV-326, UV-329. The ARN outlined a range of potential regulatory actions, including a possible restriction under REACH. The justification for further action highlighted that environmental releases occur from consumer and widespread professional uses, which are often non-contained and therefore lead to releases that are difficult to avoid.

Please note, that the intrinsic properties of certain UV stabilisers may lead to their identification as substances of concern under regulatory criteria. However, exactly these properties are inherent to, and necessary for, their effectiveness and performance as UV stabilisers. As a result, any substitution would likely require substances with similar intrinsic properties .

A ban on this group of substances could leave industry without viable alternatives in Europe, potentially leading to the relocation of manufacturing activities outside the EU.

In addition, we consider that other risk management measures are available to effectively control emissions and exposure to these substances.

This submission is accompanied by a report entitled *"Risk Management and Emissions Reduction of Four UV Light Stabilisers"* (Ricardo, 2026).

COMMENTS ON PRIORITISATION AND AUTHORISATION PROCEDURE

UV-326 and UV-329 were evaluated for bioaccumulation by German authorities using OECD 305 and the newer OECD 321 guidelines, respectively, leading to their conclusions of very bioaccumulating (vB). Based on the available data, industry agrees with the bioaccumulation assessment for UV-326 derived from an OECD TG 305 study. However, we cannot support the German authority's weight-of-evidence approach for UV-329, which relies primarily on the results of an OECD 321 study. The protocol for OECD 321 was adopted on 25 June 2024 which was after the Annex XV SVHC proposal for UV-326 and UV-329 in 2023. Furthermore, the OECD 321 guideline was validated only for substances with log Kow < 5.85. Testing highly lipophilic substances like UV-329 (log Kow > 6.5) falls outside the method's applicability domain, so results are not reliable. The higher weighting of an OECD 321 result over a higher-tier OECD 305 in vivo study is not justified by the evidence. We suggest that allowing the scope of testing methods to expand indefinitely without clear boundaries may compromise the rigor of the assessment framework and even invite allegations of "data selection". Therefore, it is recommended that further justification be provided to ensure the consistency and uniformity of the evaluation standards. UV-326 and UV-329 therefore differ

in their ecotoxicological profiles and vPvB evidence and should not be grouped or treated identically in further regulatory processes. Proceeding with regulatory activity for UV-329 would lack scientific rigor, given that the validity and scope of OECD 321 have not yet been fully substantiated.

UV-326 and UV-329 can, in principle, serve as alternatives to other benzotriazole UV stabilisers such as UV-327, UV-328, UV-320, and UV-350, as they share a similar mode of action as UV absorbers. However, substitution between these substances is not straightforward and depends strongly on the specific application and associated performance requirements. A one-to-one replacement is often not possible; substitution must be evaluated and implemented on a case-by-case basis for each individual application. In many cases, higher concentrations of UV stabilisers may be required to achieve equivalent protection, which can affect polymer processing and end-use properties (e.g., mechanical strength, colour, clarity, and thermal behaviour). Therefore, thorough formulation testing and performance validation are necessary before any substitution is implemented.

Nevertheless, it is understood that some degree of substitution has already taken place, as reflected by the absence of Applications for Authorisation (AfAs) submitted to date for the four benzotriazole substances already listed in Annex XIV. UV-326 and UV-329 should therefore be regarded as critical substances within an evolving regulatory landscape.

The inclusion of additional UV benzotriazoles in Annex XIV would further increase regulatory pressure on industry and is likely to drive the need for AfAs.

The authorisation process under REACH is inherently designed as a use-specific regulatory instrument, requiring a comprehensive and detailed assessment for each individual use of a substance. This includes the preparation of a Chemical Safety Report, an Analysis of Alternatives, and a Socio-Economic Analysis, all of which must be tailored to the specific technical conditions and operational contexts of each use. While this approach is appropriate for substances with a limited number of clearly defined applications, it becomes increasingly impractical in cases where a substance is associated with a high number and wide diversity of uses. In such situations, the application of the authorisation regime would result in a substantial number of AfAs. Alternatives, risks, and socio-economic impacts must be assessed separately for each use requiring significant analytical effort, data generation, and coordination across multiple stakeholders. The uses of the two substances are summarised in Table 1.

Table 1: Summary of identified Use Sectors (Source: Ricardo Report, 2026)

Sector	UV-326	UV-329
Adhesives and sealants	x	x
Building and construction	x	x
Coatings, paints and inks	x	x
Electronics	x	x
Mobility and automotive	x	x
Packaging	x	x
Renewable energy		
Sports equipment	x	
Textiles and fibres	x	
Wire and cable	x	x

Given the variability in technical requirements and exposure scenarios, these assessments cannot be meaningfully streamlined. As a result, multiple AfAs impose a disproportionate administrative and financial burden on applicants, requiring significant resources across regulatory, R&D, production, and supply chain functions. This sends a negative signal to an industry that is already under significant pressure and facing serious challenges to its competitiveness and viability.

At the same time, evaluating numerous use-specific applications places a substantial burden on regulatory authorities, potentially leading to increased workload, longer timelines, and reduced efficiency. Experience from past cases shows that handling a high number of complex use scenarios can approach practical limits in terms of feasibility and consistency. Additional challenges arise from uncertainties in the analysis of alternatives and socio-economic impacts, particularly where data gaps exist and conditions vary across sectors.

Taken together, these factors indicate that the authorisation process is not well suited for substances with a wide range of diverse uses, as it leads to disproportionate complexity, cost, and inefficiencies for both industry and authorities.

The regulatory management of hexavalent chromium (Cr(VI)) substances under REACH illustrates these limitations. The broad range of applications led to numerous AfAs covering similar uses, resulting in duplication of effort and significant administrative burden without corresponding regulatory efficiency. Moreover, the authorisation regime has not consistently driven substitution where suitable alternatives are limited and has led to varying risk management measures across similar uses, creating potential inconsistencies in protection levels.

SOCIO-ECONOMIC IMPACT

With regard to UV-326 and UV-329, we draw the attention of the authorities to the fact that equivalent alternatives are not yet readily available or fully validated.

UV stabilizers are an important class of additives used globally to protect materials, primarily polymers, from degradation caused by ultraviolet (UV) radiation. By extending the service life of products, they play a key role in reducing replacement frequency, lowering maintenance costs, and improving overall material efficiency. This has significant economic implications, as longer-lasting products translate into cost savings for both industry and consumers, while also reducing the consumption of raw materials and the energy required for production and replacement.

Across industries, UV stabilizers are essential enablers of performance and durability. They are widely used in construction materials, automotive components, agricultural films, packaging, textiles, and coatings, among others. Their use allows these materials to withstand prolonged exposure to sunlight without losing mechanical integrity, appearance, or functionality. In doing so, they support critical global supply chains and contribute to the reliability of infrastructure and consumer goods.

From a sustainability perspective, UV stabilizers improve resource efficiency and reduce waste by extending product lifespans and minimizing material degradation. By helping products last longer, they support circular economy principles through reduced demand for virgin raw materials and lower environmental impacts from manufacturing, transportation, and disposal. Products that are more durable may be more suitable for reuse, refurbishment, or longer service in recycling loops.

The fundamental role of UV stabilizers helps products contribute to several of the United Nations Sustainable Development Goals (SDGs). These additives are essential for creating durable, long-lasting solutions that support Goal #6: Clean Water and Sanitation through the stabilization of pipes, fittings, and pump components and Goal #7: Affordable and Clean Energy through the protection of materials used in wind turbine blades and solar panels.

Goal #11 Sustainable Cities and Communities: UV stabilizers protect plastics from degradation caused by sunlight, heat, and weathering. This allows plastic products used in infrastructure and community systems to remain safe, functional, and attractive for longer periods, reducing maintenance and replacement needs. By increasing longevity and reliability, UV stabilizers support more resilient, sustainable communities.

Goal #12 Responsible Consumption and Production: UV stabilizers support more responsible use of materials by reducing waste and conserving resources throughout a product's lifecycle. This includes extending product life where fewer replacements mean less material consumption over time. Also, waste generation is reduced because products are less likely to crack, discolor, or fail prematurely. Less frequent manufacturing, packaging, and transportation reduce energy use and emissions which lowers lifecycle impacts.

UV stabilizers enable the use of lightweight polymer-based materials as alternatives to heavier conventional materials. This can further reduce energy consumption in transportation while offering greater design flexibility and performance advantages.

In addition, UV stabilizers play a vital role in agriculture by protecting films and materials used in crop production, thereby enhancing crop yields and contributing to food security. Their use in infrastructure further ensures the durability and resilience of public and private assets, helping to reduce maintenance needs and associated costs over time.

Overall, UV stabilizers provide substantial socio-economic value by enabling durable, efficient, and high-performing materials across a wide range of applications. Their contribution extends from industrial productivity and economic efficiency to sustainability, resource conservation, and the long-term reliability of essential goods and infrastructure worldwide.

According to published reports[1], the global market for UV light stabilisers was valued at approximately USD 1.56 billion in 2024 (around EUR 1.35 billion) and is projected to grow to USD 2.41 billion (approximately EUR 2.1 billion) by 2032. The plastics and polymers sector accounts for the largest share of this market, with these substances widely used in applications such as automotive components, construction materials, and packaging, as well as in adhesives, sealants, and coatings. Estimates of the precise market share by sector—and the relative importance of individual sectors vary across sources. A more detailed analysis of sectoral distribution is provided in the attached report.

ALTERNATIVE REGULATORY MANAGEMENT OPTIONS

As outlined in the Ricardo Report (2026), several measures are identified that can reduce environmental emissions and are widely regarded as industry standard. These include local exhaust ventilation (LEV), solid separators, industrial (on-site) wastewater treatment, sewage sludge management, and wastewater incineration, as well as technical measures such as the use of closed containers and production vessels, incorporation into polymer matrices, and conducting industrial processes under indoor conditions to minimise emissions to air, water, sediment, and soil.

These measures achieve high removal efficiencies, typically between 50% and 100% (e.g. wastewater treatment, sludge handling, and exhaust air filtration), and are therefore expected to significantly reduce emissions associated with the manufacture of the substances covered in this study. Additional standard measures, such as distillation, adsorption, wet electrostatic precipitation, alkaline scrubbing, separation, and activated sludge treatment, are also widely applied, often in combination. Where not yet implemented, their adoption would further reduce emissions across all environmental compartments.

[1] Fortune Business Insights (2025). UV Stabilizers Market Size, Share & Industry Analysis, By Type, By End-Use Industry, and Regional Forecast, 2025-2032. Available at: UV Stabilizers Market Size & Share | Global Report [2032]

Overall, the study demonstrates that emissions from industrial and professional uses of UV light stabilisers are adequately controlled, or can be effectively managed through appropriate risk management measures. Emissions from consumer uses were not assessed in this report.

Consequently, the implementation of emission limits, e.g. through a restriction and mandatory emission controls, could significantly reduce potential environmental emissions and help avoid the need for a substantial number of AfAs.

SUMMARY

UV-326 and UV-329 are critical UV light stabilisers that enable the durability and performance of polymer-based materials used across essential sectors, therefore significantly contributing to a sustainable use of such materials. Their intrinsic properties are fundamental to their function, while a substitution is complex and application specific.

The proposed inclusion of these substances in REACH Annex XIV would trigger extensive and highly complex authorisation requirements for a large number of diverse uses. Experience with other substances demonstrates that the authorisation regime is poorly suited for substances with many heterogeneous applications, leading to disproportionate administrative burden, high costs, and inefficiencies for both industry and authorities, without necessarily delivering corresponding environmental benefits.

At the same time, robust and effective risk management measures are already widely implemented, or can be further strengthened, to control emissions from industrial and professional uses. As demonstrated in the accompanying Ricardo (2026) report, such measures can achieve high emission reduction efficiencies and significantly limit environmental exposure.

Taking into account the limited availability of alternatives, the essential socio-economic value of UV light stabilisers, and the availability of effective emission control measures, a restriction-based approach with clearly defined emission limits and mandatory risk management measures would represent a more proportionate, efficient, and effective regulatory option than authorisation. This is in line with ECHA's own observation in the 2024 ARN document on hydroxyphenyl benzotriazoles, which recognises that restriction is considered a more efficient and effective regulatory instrument than authorisation in this case. Such an approach would ensure continued protection of human health and the environment while safeguarding supply chains, industrial competitiveness, and the sustainability benefits delivered by durable materials.