

**Stockholm Convention
on Persistent Organic
Pollutants**Distr.: General
25 November 2022

Original: English

**Conference of the Parties to the Stockholm
Convention on Persistent Organic Pollutants
Eleventh meeting**

Geneva, 1–12 May 2023

Item 5 (e) of the provisional agenda*

**Matters related to the implementation of the Convention:
listing of chemicals in Annex A, B or C to the Convention****Recommendation by the Persistent Organic Pollutants Review
Committee to list UV-328 in Annex A to the Convention and
draft text of the proposed amendment****Note by the Secretariat****I. Introduction**

1. At its seventeenth meeting, by decision POPRC-17/3, the Persistent Organic Pollutants Review Committee adopted a risk profile for UV-328¹ and decided that UV-328 was likely, as a result of its long-range environmental transport, to lead to significant adverse human health and environmental effects such that global action was warranted.
2. At its eighteenth meeting, by decision POPRC-18/2, the Committee adopted a risk management evaluation for UV-328² and decided, in accordance with paragraph 9 of Article 8 of the Stockholm Convention on Persistent Organic Pollutants, to recommend to the Conference of the Parties to the Stockholm Convention that it consider listing UV-328 in Annex A to the Convention with specific exemptions as set out in paragraph 2 of that decision.
3. Pursuant to paragraph 2 of Article 21 of the Convention, on 27 October 2022, the Secretariat communicated the Committee's recommendation on UV-328 to the Parties and signatories to the Convention. The communication, in which the Secretariat also invited Parties to provide comments, was circulated more than six months before the eleventh meeting of the Conference of the Parties. A compilation of comments received from Parties relating to the proposed listing of chemicals in Annexes A, B and/or C to the Convention recommended by the Committee is set out in document UNEP/POPS/COP.11/INF/24. The executive summary of the risk management evaluation for UV-328 and the decision of the Committee setting out its recommendation are reproduced in the annex to the present note. The executive summary is presented without formal editing.
4. As is indicated in paragraph 9 of Article 8 of the Convention, the Conference of the Parties, taking due account of the recommendations of the Committee, including any scientific uncertainty, is to decide, in a precautionary manner, whether to list the chemical, and specify its related control measures, in Annexes A, B and/or C to the Convention. If the Conference of the Parties decides to list

* UNEP/POPS/COP.11/1.

¹ UNEP/POPS/POPRC.17/13/Add.3.² UNEP/POPS/POPRC.18/11/Add.2.

the chemical in Annexes A, B and/or C, the respective annex or annexes will be amended in accordance with Articles 21 and 22 of the Convention.

II. Proposed action

5. The Conference of the Parties may wish to adopt a decision along the following lines:

The Conference of the Parties,

Having considered the risk profile and the risk management evaluation for UV-328 as transmitted by the Persistent Organic Pollutants Review Committee,³

Taking note of the recommendation by the Persistent Organic Pollutants Review Committee that UV-328 be listed in Annex A to the Convention with specific exemptions,⁴

1. *Decides* to amend part I of Annex A to the Stockholm Convention on Persistent Organic Pollutants to list UV-328 with specific exemptions by inserting the following row:

<i>Chemical</i>	<i>Activity</i>	<i>Specific exemption</i>
UV-328 (CAS No. 25973-55-1)	Production	As allowed for the Parties listed in the Register in accordance with the provisions of part [XII] of this Annex
	Use	In accordance with part [XII] of this Annex: <ul style="list-style-type: none"> • Motor vehicles • Mechanical separators in blood collection tubes • Industrial coating applications for automotive coating, engineering machine coating, rail transit coating, and heavy-duty coating for large steel structures • Tri-acetyl cellulose (TAC) film in polarizers; photographic paper • Replacement parts for articles in applications in accordance with the provisions of paragraph 2 (b) of part [XII] of this Annex

2. *Also decides* to insert a new part [XII] in Annex A, as follows:

Part [XII]

UV-328

1. The production and use of UV-328 shall be eliminated except for Parties that have notified the Secretariat of their intention to produce and/or use it in accordance with Article 4.
2. Specific exemptions for the production and use of UV-328 may be available, limited to the following:
 - (a) For five years from the date of entry into force of the amendment in accordance with Article 4:
 - (i) Motor vehicles;
 - (ii) Mechanical separators in blood collection tubes;
 - (iii) Industrial coating applications for automotive coating, engineering machine coating, rail transit coating, and heavy-duty coating for large steel structures;
 - (iv) Tri-acetyl cellulose (TAC) film in polarizers; photographic paper;
 - (b) For replacement parts for articles in the following applications until the end of the service life of the articles or 2044, whichever comes earlier:

³ UNEP/POPS/POPRC.17/13/Add.3; UNEP/POPS/POPRC.18/11/Add.2.

⁴ UNEP/POPS/COP.11/14.

- (i) Motor vehicles (covering all land-based vehicles, such as cars, motorcycles, agricultural and construction vehicles and industrial trucks);
- (ii) Stationary industrial machines (such as tower cranes, concrete plants and hydraulic crushers) for use in agriculture, forestry and construction;
- (iii) Liquid crystal displays in medical and in-vitro diagnostic devices (such as ultrasound diagnosis devices, flexible endoscopes, immunoassay analysers, clinical chemistry analysers and blood coagulation analysers);
- (iv) Liquid crystal displays in instruments for analysis, measurements, control, monitoring, testing, production and inspection (such as recorders, infrared radiation thermometers, digital storage oscilloscopes and radiographic testing instruments).

Annex

Risk management evaluation for UV-328 and the recommendation of the Persistent Organic Pollutants Review Committee

I. Executive Summary of the risk management evaluation on UV-328¹

1. In 2020, Switzerland submitted a proposal to list UV-328 in Annex A to the Convention. In January 2022, at its seventeenth meeting, the Persistent Organic Pollutants Review Committee (POPRC) decided that UV-328 is likely, as a result of its long-range environmental transport, to lead to significant adverse human health and/or environmental effects such that global action is warranted. An intersessional working group was established to prepare a risk management evaluation for UV-328 that includes an analysis of possible control measures in accordance with Annex F to the Convention for consideration by the Committee at its eighteenth meeting in September 2022.

2. UV-328 is a phenolic benzotriazole that is substituted with two *tert*-pentyl groups at the fourth and sixth positions of its phenolic moiety. UV-328 was listed as a substance of possible concern in 2006 under the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention) and it is subject to national control actions in several countries.

3. UV-328 has been produced with a global production volume above 1,000 tonnes per annum (t/a). Data indicate that most of the countries import the substance instead of producing it domestically. UV-328 is used as a UV absorber as it can absorb the whole spectrum of UV light without being destroyed. Based on the available information, the main uses are in the automotive industry, such as, automotive paints, coatings, sealants, adhesives, plastics and rubbers to protect materials from UV light-induced degradation or color-change, as well as various automotive fluids, such as, cooling and hydraulic liquids, and lubricants in motor oil. It can also be used as additives and printing inks in plastics and rubbers for outdoor furniture, construction materials and food packaging (in non-food contact layer) and wood products. Other uses also include applications in leather and textiles as well as cosmetics. Typical use concentrations in plastics and coatings range from 0.1 to 3% by weight and from 0.1 to 10% by weight in leather, textiles and cosmetics. Furthermore, for consumer use in automotive clear coat finish and topcoat glaze for boats, concentrations of UV-328 ranging up to 10% were identified in material safety data sheets in the USA.

4. Releases of UV-328 occur during all life cycle stages due to past and present production, manufacturing, transportation and final use of the substance as well as during the use, disposal and end-of-life treatment of products containing UV-328. As UV-328 is not chemically bound to materials, the substance may be released from products and enter the environment, indicating the importance of the use and waste phase. Particular attention should be given to plastic litter containing UV-328, which might represent the main source of UV-328 in the marine environment and for biota ingesting plastics. Other sources of release include machine wash liquids, detergents, cosmetics, fragrances and air fresheners as well as textiles. Sewage sludge applied as a fertilizer is another source of release of UV-328 to the environment.

5. The most efficient control measure would be to list UV-328 in Annex A to the Convention, banning the production, use, import and export with no exemptions. Since releases occur during the whole life cycle, environmentally sound management of stockpiles and wastes containing UV-328 are also essential.

6. Alternatives for the substitution of UV-328 are widely available, i.e., other phenolic benzotriazoles, benzophenones, hindered amine light stabilizers (HALS), oxalanilides and cyanoacrylates. Safer alternatives for the most relevant applications of UV-328 seem to be technically feasible and accessible. Information on specific uses, where chemical or non-chemical alternatives are not available, could not be identified. This is supported by industry feedback, which suggests that the alternative substances represent viable alternatives to UV-328. Since no applications for authorization have been submitted in the European Union (EU), the placing of UV-328 on the market is expected to discontinue in the EU before 2024. Depending on the specific requirements of the final plastic application, alternative chemistries indicated above are available to stabilize plastics. However, each UV absorber has its specific substance properties and several substitutes to UV-328 could be as harmful as UV-328. This applies in particular to the substitution with other phenolic benzotriazoles,

¹ UNEP/POPS/POPRC.17/13/Add.1.

which were added to the EU's Authorisation List or which are under persistent, bioaccumulative and toxic (PBT) assessment, but also to other potential alternatives such as benzophenones. Therefore, the selection of a replacement candidate must be evaluated in order to avoid reduction of the specified product performance. Alternatives to UV-328 should be selected carefully in order to avoid regrettable substitution. Safer alternatives should be pursued. According to statements by individual companies, UV-328 has a higher cost efficiency compared to alternatives. They may not be as efficient as UV-328 but show improved hazard profiles. The evaluation of alternatives to UV-328 may take considerable time, up to several years.

7. The European Automotive Manufacturer's Association (ACEA) is currently in the process of phasing out UV-328. By 2026 the substance will be phased out from their new products. Therefore, ACEA concludes that a ban of UV-328 should not be effective prior to January 2026. However, also beyond this date, there would be challenges for replacement parts containing UV-328. According to ACEA, the substitution of UV-328 in replacement parts will not be feasible, in particular for vehicles, which are no longer in mass production or where the manufacturing of replacement parts has ceased, and they have been put on stock. A time-limited exemption for replacement parts could avoid unwanted impacts on manufacturers of replacement parts and on the reparability of vehicles, however, the exemption should be as narrow and specific as possible to avoid unnecessary exposure. Likewise, replacement parts of industrial machines (agricultural machinery, construction machinery, medical equipment, electric and electronic instruments) face a similar situation. Further, the United Kingdom of Great Britain and Northern Ireland (UK) have requested a time-limited exemption for the use of UV-328 in the manufacture of a mechanical separator in blood collection tubes until November 2027, to align with domestic regulation. China has also requested time-limited exemptions for industrial coating applications for automotive coating, engineering machine coating, rail transit coating, and heavy-duty coating for large steel structures as well as for tri-acetyl cellulose (TAC) film in polarizers; photographic paper.

8. UV-328-containing waste should be managed in an environmentally sound manner in accordance with paragraph 1 (d) of Article 6 of the Convention. To enable destruction or irreversible transformation of the UV-328 content of waste and to avoid recovery, recycling, reclamation, direct reuse or alternative uses, the materials containing UV-328 should be separated from waste streams. Reuse and recycling of POPs-containing wastes and stockpiles is not allowed under the Convention. However, when products are entering the waste stream it is not always clear whether they contain UV-328 and they may be difficult to separate. For separation, it may be important to know which products and/or components contain UV-328. This information should be provided by the producers.

9. The destruction of UV-328-containing waste in accordance with Article 6 of the Convention is seen as the most efficient way of ensuring no further spread and emission of the substance. Available data indicate that UV-328 decomposes at a temperature of 448 °C and that it may therefore be completely destroyed in appropriate waste incineration facilities. Technologies for the destruction and irreversible transformation of UV-328 in wastes will be evaluated jointly with the Basel Convention.

10. UV-328 has been detected in various environmental media, including ambient air, water, soil, sediment, biota and humans. It is considered to be persistent and bioaccumulative, with significant adverse human health and/or environmental effects. Due to its long-range environmental transport, it has been detected in many regions across the world. A positive impact on human health and the environment can be expected from a global elimination of UV-328.

11. The Committee recommends, in accordance with paragraph 9 of Article 8 of the Convention, the Conference of the Parties to the Stockholm Convention to consider listing and specifying the related control measures of UV-328 in Annex A with specific exemptions for production and use of the following: motor vehicles; mechanical separators in blood collection tubes; industrial coating applications for automotive coating, engineering machine coating, rail transit coating, and heavy-duty coating for large steel structures; TAC film in polarizers; photographic paper in accordance with Article 4; as well as for replacement parts for articles in the following applications until the end of the service life of the articles or 2044, whichever comes earlier:

- (a) Motor vehicles;²
- (b) Stationary industrial machines³ for use in agriculture, forestry and construction;

² Covering all land-based vehicles, such as cars, motorcycles, agriculture and construction vehicles and industrial trucks.

³ Such as tower cranes, concrete plants and hydraulic crushers.

- (c) Liquid crystal displays in medical and in-vitro diagnostic devices;⁴
- (d) Liquid crystal displays in instruments for analysis, measurements, control, monitoring, testing, production and inspection.⁵

II. Decision setting out the recommendation of the Committee

POPRC-18/2: UV-328

The Persistent Organic Pollutants Review Committee,

Having concluded in its decision POPRC-16/3 that the screening criteria set out in Annex D to the Stockholm Convention on Persistent Organic Pollutants have been fulfilled for UV-328 (CAS No. 25973-55-1),

Having evaluated the risk profile for UV-328 adopted by the Committee at its seventeenth meeting⁶ in accordance with paragraph 6 of Article 8 of the Convention,

Having decided in its decision POPRC-17/3 that UV-328 is likely, as a result of its long-range environmental transport, to lead to significant adverse human health and/or environmental effects such that global action is warranted,

Having completed the risk management evaluation on UV-328 in accordance with paragraph 7 (a) of Article 8 of the Convention,

1. *Adopts* the risk management evaluation for UV-328;⁷
2. *Decides*, in accordance with paragraph 9 of Article 8 of the Convention, to recommend to the Conference of the Parties that it consider listing UV-328 in Annex A to the Convention with specific exemptions for production and use for the following: motor vehicles; mechanical separators in blood collection tubes; industrial coating applications for automotive coating, engineering machine coating, rail transit coating, and heavy-duty coating for large steel structures; TAC film in polarizers; photographic paper in accordance with Article 4; as well as for replacement parts for articles in the following applications until the end of the service life of the articles or 2044, whichever comes earlier:
 - (a) Motor vehicles;⁸
 - (b) Stationary industrial machines⁹ for use in agriculture, forestry and construction;
 - (c) Liquid crystal displays in medical and in-vitro diagnostic devices;¹⁰
 - (d) Liquid crystal displays in instruments for analysis, measurements, control, monitoring, testing, production and inspection.¹¹
3. *Recommends* that the Conference of the Parties encourages Parties and others to use alternatives to UV-328, where available, feasible and efficient, while considering that some alternatives identified could have negative environmental, human health and socioeconomic impacts due to their potential harmful effects.

⁴ Such as ultrasound diagnosis devices, flexible endoscopes, immunoassay analysers, clinical chemistry analysers and blood coagulation analysers.

⁵ Such as recorders, infrared radiation thermometers, digital storage oscilloscopes and radiographic testing instruments.

⁶ UNEP/POPS/POPRC.17/13/Add.3.

⁷ UNEP/POPS/POPRC.18/11/Add.2.

⁸ Covering all land-based vehicles, such as cars, motorcycles, agriculture and construction vehicles and industrial trucks.

⁹ Such as tower cranes, concrete plants and hydraulic crushers.

¹⁰ Such as ultrasound diagnosis devices, flexible endoscopes, immunoassay analysers, clinical chemistry analysers and blood coagulation analysers.

¹¹ Such as recorders, infrared radiation thermometers, digital storage oscilloscopes and radiographic testing instruments.