

Call for evidence on a possible restriction on 1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene (“Dechlorane Plus”™) [covering any of its individual anti- and synisomers or any combination thereof]

Background document

Introduction

Dechlorane Plus™ (covering any of its individual anti- and synisomers or any combination thereof) was identified as a Substance of Very High Concern (SVHC) and included in the Candidate List due to its very persistent and very bioaccumulative (vPvB) properties according to Article 57(e) of Regulation (EC) No 1907/2006 (REACH) in January 2018¹. Based on its intrinsic properties in combination with high volume and widespread use, ECHA recommended to add Dechlorane Plus™ to the REACH Authorisation List in October 2019².

In May 2019, Norway submitted a proposal to add Dechlorane Plus and its syn- and anti-isomers to the Stockholm Convention on Persistent Organic Pollutants (POPs)³. To align risk management activities within the European Union and the Stockholm Convention, Norway will prepare an Annex XV restriction dossier for Dechlorane Plus in accordance with REACH Article 69(4). The Norwegian Environment Agency intends to submit an Annex XV restriction dossier to ECHA before the submission date on the 9th of April 2021 (ROI expected in Mid-April 2020).

This call for evidence is intended to gather information on the manufacture, use, market development, emissions, potential alternatives and presence of Dechlorane Plus in recycled materials. The information gathered will be used to assess the feasibility of potential alternatives to Dechlorane Plus and the socio-economic impacts of a REACH restriction.

Furthermore, the information will be used in the global regulation process for Dechlorane Plus under the Stockholm Convention. It is therefore encouraged that any stakeholders that might be affected by a global restriction take part in this call for evidence, even if their activities are not under the scope of REACH. Please note that, as a consequence of the new POPs regulation (EU) 2019/1021, ECHA has also a separate consultation ongoing of the draft risk profile for Dechlorane Plus with a deadline for comments on 15 April 2020⁴.

Elements of an Annex XV restriction proposal

The elements that need to be considered during the preparation of a restriction proposal are set out in Annex XV of REACH and further elaboration in ECHA Guidance documents⁵. These can be summarised, as follows:

- A characterisation of exposure and resulting risks to human health from a use of a substance, including via food and water;
- A characterisation of exposure and resulting risks to the environment and wildlife from a use of a substance;
- A justification that risks are not adequately controlled and occur on a Union-wide basis;

¹<https://echa.europa.eu/candidate-list-table/-/dislist/details/Ob0236e181f392bf>

²<https://echa.europa.eu/-/echa-proposes-18-substances-for-authorisation>

³Available from: [Fifteenth meeting of the Persistent Organic Pollutants Review Committee \(POPRC-15/2\)](https://www.pops.int/committees/poprc/15th-meeting/).

⁴<https://echa.europa.eu/proposals-for-new-pop-s/-/substance-rev/25114/term>

⁵<https://echa.europa.eu/support/restriction/how-to-prepare-an-annex-xv-report/general-instructions>

- An analysis of the availability, technical and economic feasibility of alternatives to the substance to be restricted;
- A socio-economic analysis (e.g. costs and benefits to society) that would arise from a restriction.

Problem identification

The Dechlorane Plus (CAS No. 13560-89-9) technical mixture is a commercially available polychlorinated flame retardant that contains two stereoisomers, syn-isomer (CAS No. 135821-03-3) and anti-isomer (CAS No. 135821-74-8). It has been in use since the 1960s; there are no natural sources of the substance.

Dechlorane Plus is used as a flame-retardant in a range of applications, including electronic wiring and cables, automotive, plastic roofing materials, hard plastic connectors in televisions and computer monitors, wire coatings and furniture. It has also been detected in various building materials, including wallpaper (non-woven, PVC, paper), latex paint, boards (e.g. laminated floor, fibre board, solid wood), glue, sealant, PVC pipes and foam (such as sound absorbing foam and expanded polystyrene panel). Dechlorane Plus is used in both thermoplastic (e.g. nylon, polyester, polypropylene) and thermoset (e.g. epoxy and polyester resins, polyurethane foam, neoprene) plastics. It is currently marketed as an alternative/replacement for decabromodiphenyl ether (decaBDE), as well as a substitute for Mirex.

Dechlorane Plus is widely detected in different environmental matrices and biota and is widely dispersed in freshwater, marine and terrestrial food chains, including top predators. It has been detected in many locations across the globe, ranging from production and recycling sites to urban, rural and remote areas. It has been detected in air, water, soil, wastewater, sludge, biosolids, landfill leachate, indoor and outdoor dust, wildlife, as well as in humans. The substance is released to the environment during production, processing and industrial and consumer use, as well as from disposal and recycling activities. Several studies have reported increasing or stable time trends of the substance in the environment.

Scope

The concerns for Dechlorane Plus are similar to other SVHC substances identified as vPvB according to Article 57(e) of REACH. It is therefore expected that the scope of the restriction proposal will be similar to that of other restrictions on halogenated flame retardants under REACH and/or under the POPs regulation with regards to limit values and derogations, including considerations of recycling.

This will, however, be elaborated in more detail during the development of the proposal including the socio-economic assessments, taking into account the information received in the call for evidence and the stakeholder consultation.

Evidence and information to be collected

The objective of this call is to gather information or comments on the following topics:

For all stakeholders

- 1) EU and non-EU market for Dechlorane Plus, including supply, use and market trends;
- 2) Alternatives to Dechlorane Plus (both chemical and non-chemical), including
 - a. Suitable uses (see Note 1);
 - b. Technical properties/performance compared to Dechlorane Plus;
 - c. Prices; and

- d. Overall market, e.g. availability.
- 3) Environment or human health exposure data on Dechlorane Plus (full reference or links to the reports is appreciated);
- 4) Is there anything else you would like to emphasise to the Norwegian Environment Agency to consider in the preparation of the restriction dossier?

Note 1: if a possible alternative chemical additive or non-chemical alternative technology only applies to one or some current uses of Dechlorane Plus but not all, this information is still useful.

For suppliers of Dechlorane Plus

Please provide any information you have on

- 1) Annual volumes supplied to different regions, both EU and non-EU;
- 2) Main downstream uses of Dechlorane Plus – where known please mention which sectors, specific end products, and / or polymer types are used where possible, as exemplified below:

Sector	Application / End-product	Polymer type
<i>e.g. consumer electronics</i>	<i>Wire/cable</i>	<i>polyolefins</i>
<i>e.g. automotive</i>	<i>Electronic connectors</i>	<i>Nylon</i>

- 3) Potential alternatives to Dechlorane Plus (e.g. alternatives to decaBDE identified by ECHA);
- 4) Historic and future market developments for Dechlorane Plus and/or key known alternatives, e.g. anticipated yearly growth; and
- 5) Among the identified downstream uses (noted in response to Q2), please identify in particular any high-volume or rapidly growing end uses you are aware of;
- 6) Are you aware of any uses for which Dechlorane Plus has been phased out?
- 7) How you would respond to a potential REACH restriction and any anticipated impacts of your response on your business, customers and society as a whole.

For downstream users of Dechlorane Plus

Please provide any information you have on

- 1) Annual consumption of Dechlorane Plus and anticipated yearly growth or decline in use;
- 2) Specific applications of Dechlorane Plus (e.g. type of products and/or polymers made)
 - a. For each application identified, please provide information on the key technical function of Dechlorane Plus in each application;
 - b. Concentrations of Dechlorane Plus in each type of the final products;
 - c. Key performance criteria relating to specific applications (e.g. thermal stability up to (x)°C; colourless/odourless; stable to chemical degradation for (x) years);
 - d. Guidance provided to end users (within and outside EEA) on end-of-life disposal of each type of products containing Dechlorane Plus (please mention recycling guidance, if applicable)
- 3) Potential alternatives to Dechlorane Plus (e.g. alternatives to decaBDE identified by ECHA⁶) and their technical and economic feasibility; and
- 4) Barriers for substitution, e.g. product approvals, fire safety legislation, unavoidable impurities

⁶ <https://echa.europa.eu/previous-consultations-on-restriction-proposals/-/substancerev/1897/term>

in the manufacturing process, equipment design and operating conditions, impact on recyclability or other barriers;

- 5) Necessary time to transition away from the use of Dechlorane Plus and the underlying transition steps required to achieve substitution; and
- 6) How you would respond to a potential REACH restriction and any anticipated costs and benefits associated with this response to your business, your customers and society as a whole.

For recyclers and downstream users of recycled plastic from End-of-Life Vehicles (ELV) and Waste Electrical and Electronic Equipment (WEEE), and building materials

Please provide information you have on:

- 1) Types/fractions of plastic waste in which Dechlorane Plus is present, and:
 - a. typical concentrations for each waste category;
 - b. related total tonnages per year in different regions (EU and non-EU) and anticipated yearly growth or decline;
 - c. downstream uses of the recycled materials;
 - d. if the recycled materials are processed and/or supplied to customers as shredded material, regrind, pellets or other forms.
- 2) Do you have in place technology that could separate out plastics with added chlorinated flame retardants such as dechlorane plus?
 - a. If not, how much time would be necessary to implement separation techniques to remove Dechlorane Plus (or other chlorinated flame retardants) from the waste stream?
- 3) Would a concentration limit of 0.1% w/w Dechlorane Plus in plastic and recycled plastic affect your business?
 - a. What would be your response/actions if a restriction would be implemented with this specific limit value?
 - b. Please elaborate on the types of impacts (e.g. cost for incineration, lost profits from lost raw materials etc.) a restriction would induce and quantify if possible.
 - c. Would a lower concentration limit (e.g. 0.01% w/w) affect the cost/impact mentioned in question b? (please elaborate on the impacts of lower concentration limits, providing justification).

Additional information that could also be relevant is welcome and should be submitted. Please note that the Norwegian Environment Agency will undertake their own search of the scientific literature, but they would be interested in being informed of any ongoing research that might be published during 2020-2021 (e.g. ongoing research or submitted but not published literature).

Who should participate in the call for evidence?

This call for evidence is intended for interested parties such as private companies (manufacturers, suppliers, recyclers, downstream users, distributors, importers etc.), trade associations, scientific organisations, NGOs and other stakeholders or Member State Authorities holding relevant information. Information can be submitted confidentially and will be treated as such by ECHA and the Norwegian Environment Agency.

Any information provided will be used, amongst other issues, to determine if any derogations are required in any restriction that is proposed. However, derogations cannot be proposed without adequate information on risk and socio-economic information, including alternatives. If a derogation is not proposed in the initial restriction proposal then it will be incumbent on relevant stakeholders to provide a full justification based on a comprehensive information on risk, socio-economic elements and alternatives, during the opinion-making process after submission of the proposed to ECHA.

Interested parties are invited to respond to the call for evidence by 25 May 2020.

<https://echa.europa.eu/calls-for-comments-and-evidence>

Please note that the Norwegian Environment agency is being supported in the preparation of the Annex XV dossier by an independent consultant, Economics for the Environment Consultancy Ltd (eftec). Eftec will be collecting more in-depth information on the uses, emissions and alternatives (chemical and non-chemical) of Dechlorane plus through a separate and targeted stakeholder consultation that will be launched in the middle of April 2020.

For any clarifications, please contact: tor.oystein.fotland@miljodir.no