



Brussels, 12 March 2021

FEICA input to the DEFRA draft proposal to list “Chlorinated paraffins with carbon chain lengths in the range C14-17 and chlorination levels $\geq 45\%$ chlorine by weight” in Annex A, B or C to the Stockholm Convention on Persistent Organic Pollutants

FEICA, the Association of the European Adhesive & Sealant Industry, is a multinational association representing the European adhesive and sealant industry. Today's membership stands at 15 National Association Members, 25 Direct Company Members and 19 Affiliate Company Members. The European market for adhesives and sealants is currently worth more than 17 billion euros. With the support of its national associations and several direct and affiliated members, FEICA coordinates, represents and advocates the common interests of our industry throughout Europe. In this regard, FEICA works with all relevant stakeholders to create a mutually beneficial economic and legislative environment.

One-component polyurethane foams (“OCF”) manufacturers have a Technical Working Group within FEICA, creating a strong voice for the industry in Europe and driving forward continuous improvement within the sector. OCF manufacturers represented in FEICA are: Aerosol-Services, Bostik, DuPont, Hanno-Werk, Henkel, Krimelte, Polypag, Selena, Soudal, TKK Srpenica and Tremco CPG Netherlands BV.

Overview

MCCP, medium-chained chlorinated paraffins, are chlorinated paraffins with a carbon chain length from C14 to C17, CAS 85535-85-9. They are used as plasticisers and flame retardants in moisture-cure, one-component polyurethane foams (“OCF”). Information on the specific chlorination range of chlorinated paraffins used in OCFs may be provided by the individual product formulators.

During formulation, the MCCPs are combined with other raw material ingredients in a dedicated blending tank and filled with isocyanates and liquefied gases (propellants) to form a pre-polymerised mixture or pre-polymer into dedicated pressurised containers. The term “pre-polymer” is used to describe an intermediate stage in the polymerisation process of the final product. The MCCPs are physically bound in this pre-polymer mixture during the formulation process. It is important to note that the filling process is highly water sensitive due to the reactivity of isocyanates used in product formulations. No part of the formulation process is in contact with water and, therefore, should not present the potential for environmental exposures.

OCFs are sold to the consumer in pressurised single-use cans or canisters that contain this pre-polymerised material. During use by consumers, the contents of the can or canister are dispelled under pressure as a viscous foam gel that solidifies by reacting quickly with moisture in the atmosphere to form a chemically and physically stable and rigid polymer foam product. The curing

times for OCFs are typically within minutes of use for the initial cure (tack-free) and then several hours for the final cure (fully cross-linked solid). Higher atmospheric humidity can result in faster cure times. In some instances, users may lightly spray the work surface with a water bottle to speed cure times.

Delivery of Compounds

The delivery, handling, and storage processes for the Compounds at OCF formulation sites are designed to minimise any potential for environmental releases.

The MCCPs are delivered to the formulation facility by bulk truck and are stored in above-ground, indoor storage tanks, or are delivered in intermediate containers. Industry best practices followed dictate that delivery sites be located within diked areas to contain accidental spills, with all drains sealed to prevent any discharge to water and sewer systems.

Blending Process

The blending and formulation processes for OCFs are designed to minimise any potential for environmental releases of the Compounds.

The MCCPs are pumped directly from bulk storage tanks or intermediate containers and are added to dedicated blending tanks. Like other raw material ingredients for OCFs, the Compounds added to the blending tank in precise amounts to ensure product quality and performance. The MCCPs pumped from storage into the blending tank are typically fully consumed leaving no excess or residual material.

Again, it is important to note that the formulation process for OCFs is highly water sensitive due to the reactivity of isocyanates used in product formulations. Therefore, no part of the formulation process is in contact with water. Additionally, formulators use solvents to conduct any required equipment or storage tank cleaning. It is important to note that tank cleaning is rare because all materials in the dedicated blending tanks are typically consumed in the formulation process and cleaning is not typically necessary.

Quality Control

OCF formulators properly handle and dispose of any quality control materials or off-spec products to minimise any potential for environmental releases of the Compounds.

Product formulators conduct quality control inspections of formulations during processing and final product filling. Any material that fails quality inspection may be reworked to allow it to be used in the formulation process. In the event that the final product is rejected, the off-spec product is handled as hazardous waste as required by applicable regulations due to the presence of other chemical components that are under pressure in the can or canister.

Further argumentation/Conclusions

FEICA would like to provide the following remarks/additional information regarding this call for evidence as an acknowledgement that the risks related to MCCPs in OCFs are controlled:

- To further understand how FEICA members have managed any environmental releases and prevented impacts to the environment we are inviting you to go through the following FEICA Fact Sheets/studies:
 - a. FEICA Fact Sheet on the classification and labelling of one-component moisture curing polyurethane foams containing medium-chained chlorinated paraffins (MCCP) – *Attachment 2*
 - b. Leaching Test Report of 30% MCCP containing pulverised PU foam – *Attachment 3*. The report represents an extreme worst-case simulation of water contact where the foam was pulverised and in contact with the water continuously for 28 days. These do not represent common scenarios for the use of OCFs.
 - c. MCCP - Biological tests on OCF for two detection candidates: Daphnia and Alga (*desmodesmus subspicatus*) – *Attachment 4a, 4b*
 - d. A certification and a formal confirmation (in Czech language) from an independent laboratory to proof that PU-foams containing MCCP C14-17 (clearly showed at page 5) may be in permanent contact with potable water as per Czech Ministry of Health Care - Regulation no. 409/2005 Sb. This regulation has to fill limits for dangerous substances as per Regulation no. 252/2004 Sb. – *Attachments 5a, 5b*
- Cured OCFs are being kept far away from external environmental influence weather.
- Potential alternative products/technologies are not expanding similarly to the current ones, so they will not fill all the openings like an OCF would fill in. OCFs have a superior long-term performance and better insulation value compared to some alternatives. Further, the volume transported to construction sites is only up to 1/40 of the applied volume; this is not the case for alternative technologies.
- PU foams (OCFs) are relatively low-cost products providing excellent thermal insulation. They are products safely used in construction sites all over the world. Additionally, they are energy efficient products. MCCPs clearly contribute to the success of the PU Foam thus, enabling easy access to increased energy savings in construction. MCCPs help PU foams to become more attractive to the users and provide good performance qualities.

Contact

FEICA Regulatory Affairs:

FEICA is registered in the **EU Transparency Register** with ID no. **51642763262-89**

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Publication ref.: POP-EX-K03-016

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