

Introduction - Claigan Environmental

Claigan Environmental (“Claigan”) is a testing laboratory and consultancy for restricted materials. Claigan has tested over 500,000 parts and products for RoHS, REACH, POP, Proposition 65, and related restricted materials legislation.

The information below is based on test data for a wide range of industries including consumer, professional, medical, industrial, and laboratory products.

Question & Responses

1. Please provide data on typical formulations for MCCPs as a secondary plasticiser or plasticiser (extender) in PVC in relation to the share of plasticisers and in relation to PVC mouldings in total, e.g. for cable and wire sheathing and insulation.

MCCPs is found almost exclusively as an extender for DEHP. For PVC measured for both phthalates and SCCP or MCCP, 100% of PVC that measured positive for SCCP or MCCP contained either > 1,000 ppm DEHP (85% of situations) or > 1,000 ppm DINP (15% of situations). Generally well over 50,000 ppm of either DEHP or DINP.

The MCCP is normally in the form of Chlorinated Paraffins 52% (CP52) which contains both SCCPs and MCCPs.

2. To what extent does the content of MCCPs vary in PVC and to what extent do requirements on flame retardancy determine the use of MCCPs and the amount used?

Claigan does not have extensive MCCP specific data, but does have extensive data on the related SCCPs which are only present part of a CP52 MCCP formulation.

In a 2019 Claigan study of 253 flexible PVC in various consumer products purchased in both Canada and the EU, 29% contained SCCPs above 1,500 ppm (all of which would be present in combination with MCCPs).

Country	Samples	SCCP Fails	Fail %
Canada	143	38	27%

Country	Samples	SCCP Fails	Fail %
Netherlands	37	9	24%
Belgium	30	17	57%
UK	15	8	53%
France	28	2	7%
Overall	253	74	29%

3. Please provide evidence for the above-cited assumption that imports and exports of MCCPs in PVC and/or EEE are largely equivalent.

Correct. The chlorinated paraffin content in a typical formulation such as CP52 is controlled completely by chlorine content, which explains the common presence of SCCPs.

4. Are there different assumptions on use of MCCPs in articles, which take into account the different levels of the supply chain, especially electronic components (including cables and encapsulated components), electronic assemblies, and electronic equipment?

Low cost parts more commonly have chlorinated paraffins as the DEHP/CP52 blend of plasticizer is roughly half the cost of DEHP plasticizer alone.

The most common source of SCCPs are common plastic (PVC) twist ties. But SCCPs can be found in virtually any flexible PVC with DEHP including low cost parts in higher value products.

5. Please provide information on the composition of flexible LED-stripes, i.e. the presence and concentration of MCCPs in the polymeric insulation material.

Any PVC with DEHP is at risk of MCCPs / SCCPs - not specific to any industry.

6. Please provide information contributing to the transparency of disposal routes including information on releases during treatment processes of any kind.

No information on this topic.

Closing Note

MCCPs in electronics would be mostly covered by DEHP and SCCP regulation under RoHS and POP. Any further regulation would not significantly reduce the remaining use of MCCP (which is MCCP with DINP with SCCP concentration below 1,500 ppm. Which is less than 5% of the situations with MCCP in PVC in electronics).

However, more extensive enforcement of DEHP and SCCPs in products is needed to reduce the presence of all three substances in consumer products.

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