

# SHORT-CHAIN CHLORINATED PARAFFINS (SCCPs)

## Class or Substance Name

Short-Chain Chlorinated Paraffins, C10-C13 (SCCPs)

## Substance List by CAS Number

SCCPs exist as a mixture of substances containing chlorinated hydrocarbons with chain lengths ranging from C10 to C13 and a content of chlorine 20% to 70% with CAS Number 85535-84-8.

## Description of Use in Apparel and Footwear

SCCPs may be used as a flame retardant or plasticiser in plastics, rubbers, inks, paints, adhesives and surface coatings used to produce apparel, footwear and accessories. They also may be found as impurities in fat-liquoring agents in leather production.

Legislation around the world restricts or will soon restrict the use of SCCPs, including the Persistent Organic Pollutants (POPs) Regulation in the European Union (EU).<sup>1</sup> SCCPs are included in the EU list of Substances of Very High Concern (SVHC) of REACH. They are also listed in the Canadian Environmental Protection Act (CEPA) as priority substances and by U.S. EPA as extremely hazardous substances. Leading apparel and footwear brands have banned the use of SCCPs in production of their products.

### SCCP MAY BE FOUND IN:

- Plastic
- Rubber
- Adhesives
- Paints and lacquers
- Coatings
- Plasticisers
- Fat-liquoring agents
- Leather

## Why are SCCPs Restricted?<sup>2</sup>

- SCCPs are suspected of causing certain cancers.
- SCCPs are classified as a persistent organic pollutant.
- SCCPs can be very toxic to aquatic organisms at certain doses and may cause long-term adverse effects in the aquatic environment at certain exposure levels.
- Repeated exposure to SCCPs may cause skin dryness or cracking.

## Guidance: Sourcing SCCP-Compliant Materials from Your Material Suppliers (Textiles, Components and Trim Parts)

- Contact your suppliers and explain that you require materials with no intentionally added SCCPs. Material SCCP concentrations should be <50 ppm (0.005%).<sup>3</sup>
  - This includes textiles and natural or synthetic leather with polymeric coatings or finishes, since SCCPs are common ingredients in coating and finishing formulations to provide flexibility.
  - Plastic components and prints may contain SCCPs as a plasticiser.
  - Pay special attention to textile and plastic materials treated with a flame retardant finish.
  - Natural leather can contain residual SCCPs since they may be found as impurities in fat-liquoring agents used in leather production.
  - Suppliers who use SCCPs in production for other clients may have contaminated machinery that can introduce SCCPs into their manufactured materials. Work with suppliers who have phased out the use of SCCPs for all clients.

<sup>1</sup> See EU Persistent Organic Pollutants (POPs) Regulation (Commission Regulation (EU) No. 519/2012), which bans mixtures containing 1% or more SCCPs with exceptions defined in Annex 1 of the Regulation.

<sup>2</sup> Classification and risk phrases according to EU Council Directive 67/548/EEC or Directive 1999/45/EC.

<sup>3</sup> Limit taken from AFIRM Restricted Substances Guidance (<http://www.afirm-group.com/rsi-guidance/>). This is the lowest agreed upon limit on SCCPs in products among AFIRM brands. Check with brands for their individual limits.

- Share this guidance sheet with your material suppliers and instruct them to work with their chemical suppliers to source SCCP-compliant chemical formulations using the guidance in the next section.
- Have your suppliers confirm that their manufactured materials meet the SCCPs <50 ppm limit with a certification or, if necessary, by providing a test report from a third-party laboratory.
- Perform risk-based checks of your suppliers' materials by submitting samples to a third-party laboratory for testing to ensure the SCCPs <50 ppm limit is not exceeded.

## Guidance: Sourcing SCCP-Compliant Chemical Formulations from Your Chemical Suppliers

- Contact your chemical suppliers and explain that you require chemical formulations with no intentionally added SCCPs. Concentrations of SCCPs in all chemical formulations should be <50 ppm (0.005%).<sup>4</sup>
  - Pay special attention to suppliers of polymeric coatings or finishes for use on textiles, natural leather<sup>5</sup> and synthetic leather since these formulations may contain SCCPs to provide flexibility.
  - SCCPs may be used as a plasticiser for plastic components and printing pastes.
  - Flame retardant auxiliaries in particular may contain SCCPs.
  - Consider that leather fat-liquoring formulations may contain SCCPs as impurities.
- Check the Material Safety Data Sheets (MSDS) of all chemical formulations to ensure that the SCCPs CAS Number above is not listed as an ingredient.
- Have your chemical suppliers confirm that their chemical formulations meet the SCCPs <50 ppm limit with a certification or, if necessary<sup>6</sup>, by providing a test report from a third-party testing laboratory.
- Perform risk-based checks of your chemical suppliers' formulations by submitting samples to a third-party laboratory for testing to ensure the SCCP <50 ppm limit is not exceeded.
- Discuss with your chemical supplier whether the below safer alternatives are suitable substitutes for your production needs.

## Safer SCCP Alternatives

The following substances have been identified as examples of safer alternatives. Any chosen alternative must be ZDHC MRSL compliant.

- Non-chlorinated paraffin alternatives such as alkylphosphates and sulfonated fatty-acid esters are available for specific applications.
- Natural animal and vegetable oils may be used as substitutes in leather production.
- Polyacrylic esters, diisobutyrate and phosphates may be used in paint and coating applications.
- Aluminum hydroxide and phosphate containing compounds can be used as flame retardant alternatives.

Additional information about these alternatives is available at the following links:

[http://www.ospar.org/documents/dbase/publications/p00397/p00397\\_sccp%20update.pdf](http://www.ospar.org/documents/dbase/publications/p00397/p00397_sccp%20update.pdf)

<http://www.subsport.eu/wp-content/uploads/data/chloroalkanes.pdf>

<sup>4</sup>Limit taken from ZDHC Manufacturing Restricted Substances List (MRSL)

(<http://www.roadmaptozero.com/df.php?file=pdf/MRSL.pdf>) and is the limit on unintended SCCPs in chemical formulations accepted by ZDHC member brands.

<sup>5</sup> The ZDHC MRSL does not apply to chemical formulations intended for leather processing at this time.

<sup>6</sup> ZDHC will publish guidance on when testing of chemical formulations is appropriate at a later date.