# Background information

The Swedish Chemicals Agency (KemI) considers preparing a RoHS Annex II dossier for the restriction of use of MCCP in electrical and electronic equipment (EEE), in accordance with Article 6(1) of the RoHS recast Directive (2011/65/EU) and has commissioned Risk & Policy Analysts Ltd (RPA) to support them in this.

We are contacting you to kindly request your assistance with the collection of relevant information regarding these tasks and we would be grateful if you could assist us by answering the questions in this questionnaire. It is very important that you consider and provide information on:

* Management of WEEE that can contain MCCP
* Releases of and exposure to MCCP throughout its life cycle (including environmental monitoring), paying special attention to emissions during service life and the waste stage
* Alternative substances, materials or techniques, of which you are aware of, regarding their technical feasibility, availability on the market, and relevant costs for substitution.

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| Alkanes, C14-17, chloro (CAS No: 85535-85-9, EC No: 287-477-0), otherwise known as Medium-chained Chlorinated Paraffins (MCCP) are a group of organic substances with a carbon chain length between 14 and 17 containing varying amounts of chlorine, typically ranging from 40-63% w/w[[1]](#footnote-1) chlorine content. MCCPs are extensively utilised in flexible PVC, commonly used for EEE cable sheathing and insulation. The lower volatility of higher chlorination MCCP analogues is compatible with PVC. An estimated 9,200 tonnes/year of MCCP is used for cable products. Use of MCCPs in other plastics is primarily as a flame retardant additive (70-72% wt. chlorination). |

**Thank you in advance for taking the time to complete this questionnaire**

Please email your completed questionnaire

by **6 May 2016**

to **Mr Byron Georgalas** at RPA

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| **ATTENTION – CONFIDENTIALITY ISSUES**  **The correct handling of confidential information is of paramount importance to RPA. RPA and KemI are willing to accommodate justified requests for confidentiality, including the complete anonymity of your submissions, as long as this does not adversely affect the transparency and robustness of the Annex XV dossier under preparation. Before you complete and submit your questionnaire, please ensure that you have read our Confidentiality Note.**  **Please tick the grey box to the right to confirm that you have read this note and you are satisfied with the procedures outlined.**  **Also, note that each question in this questionnaire allows you to mark your responses as confidential** |  |

# Company information

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| Table 2‑1  What is the role of your company? | | |
|  | Tick here if relevant | Provide some brief detail on your activities |
| Manufacturer of MCCP |  |  |
| User of MCCP in materials |  |  |
| Downstream user of materials containing MCCP / EEE manufacturer |  |  |
| Waste (WEEE or plastics) management company |  |  |
| Importer/Distributor of MCCP |  |  |
| Manufacturer/Importer of alternative |  |  |
| Industry association |  |  |

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| Table 2‑2  Details of your organisation | |
| Organisation name: |  |
| Relevant sector / NACE Code: |  |
| Address: |  |
|  |
| Web page: |  |
| Contact person: |  |
| Telephone Number: |  |
| E-mail address: |  |

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| Table 2‑3  If you indicated that you represent an industry association | |
| Question | Details |
| What is the nature of the businesses you represent? |  |
| How many individual companies does your response represent? |  |
| What share of the relevant EU market do your members cover? |  |
| In which countries are your concerned members located? |  |

# Waste treatment

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| **Table 3‑1**  **We would like to obtain a better understanding of the entire lifecycle of electronic equipment under consideration.**  **Please consider the following questions:**   * **What is the typical lifetime of the articles containing MCCP (expressed in years)?** * **How is the waste handled and processed?** * **Do the articles come with explicit or implicit instructions on their disposal?** * **Do waste disposal methods and practices vary across the EU, and if yes, in what way?** | | | | | |
| **Relevant article** | **Typical lifetime (years)** | **Methods for waste disposal at end of life** | **If products come with disposal instructions for the users, please indicate here** | **Recycling possibilities** | **Variability of waste treatment methods in the EU** |
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| **Is this confidential information?** | | | | |  |

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| **Table 3‑2**  **With specific regard to the disposal of WEEE that contains MCCP, please provide, where available, information on:**   * **Current practices with regard to the disposal of waste materials of importance to this study, i.e. plastics or electrical and electronic equipment** * **The breakdown of these types of waste that is reused, recycled, incinerated, landfilled or exported**   **We are clearly interested in the disposal of MCCP-containing equipment; however, if you cannot provide information specifically relevant to MCCP, please respond in relation to the following article categories** | | | | | | | |
| **Describe the waste treatment for…** | **MCCP** |  | | | | | |
| **Plastics** |  | | | | | |
| **Cables** |  | | | | | |
| **Other EEE** |  | | | | | |
| **Breakdown of waste treatment methods** | **Waste category** | **Export to EU %** | **Export to non-EU %** | **Reuse in the EU %** | **Recycle locally %** | **Landfill locally %** | **Incine-rate locally %** |
| **Plastics** |  |  |  |  |  |  |
| **Cables** |  |  |  |  |  |  |
| **Other EEE** |  |  |  |  |  |  |
| **Please describe whether separation takes place for cables when handling WEEE** | |  | | | | | |
| **Please indicate the source(s) of this information** | | | | |  | | |
| **Is this confidential information?** | | | | |  | | |

# Exposure data

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| Table 4‑1  We are interested in collecting information on worker exposure to MCCP during your operations | |
| Do you measure MCCP concentrations and/or emissions in your organisation? |  |
| If yes, what index are you using (e.g. total chlorine, total MCCP)? |  |
| What are the measured or estimated emissions of MCCP in the workplace? |  |
| Are you aware of Occupational Exposure Limits in place for MCCP? |  |
| Number of workers in your organisation that are potentially exposed to MCCP |  |
| Is this confidential information? |  |

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| Table 4‑2  **We are interested in obtaining information on emissions of MCCP to the environment, which are associated with the handling, use and disposal of MCCP and the products that contain it. Please provide any relevant information that is available to you in the table below.** | | | | | | | | | | | |
| **Lifecycle stage** | **Year** | **Emissions of MCCP (t/y)** | | | | | | | | | |
| **Air** | | **Waste-water** | | **Surface water** | | **Soil** | | **Solid waste** | |
| **Value (unit)** | **M/E\*** | **Value (unit)** | **M/E\*** | **Value (unit)** | **M/E\*** | **Value (unit)** | **M/E\*** | **Value (unit)** | **M/E\*** |
| Raw material handling (emissions from transportation and storage) |  |  |  |  |  |  |  |  |  |  |  |
| Formulation stage |  |  |  |  |  |  |  |  |  |  |  |
| Article manufacturing |  |  |  |  |  |  |  |  |  |  |  |
| Article service life |  |  |  |  |  |  |  |  |  |  |  |
| Waste treatment |  |  |  |  |  |  |  |  |  |  |  |
| Recycling |  |  |  |  |  |  |  |  |  |  |  |
| Other (please specify) |  |  |  |  |  |  |  |  |  |  |  |
| **Please indicate the source(s) of this information** | | | | | | | |  | | | |
| **Is this confidential information?** | | | | | | | |  | | | |
| \*M/E: measured or estimated data | | | | | | | | | | | |

# Alternatives

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| **Table 5‑1**  **In the following table, please provide details on alternatives you are aware of as MCCP substitutes. We are asking here for a ranking of potential alternatives on the basis of your past experience with and/or knowledge of them. If you have used/trialled any identified alternative, would you describe it as**  **(A) Suitable to replace MCCP in all situations/applications**  **(B) Suitable to replace MCCP in some situations/applications**  **(C) Promising but requires further research**  **(D) Feasible, but overall poor**  **(E) Unsuitable, not a real alternative**  **(F) You have not produced/trialled/used it, you do not know** | | | | |
| Name (or trade name) of alternative | CAS/EC No (where relevant) | Your ranking of the technical feasibility of the alternative – **A to F** (see above) | In which specific applications could/has this alternative been used to replace MCCP? | Please justify the ranking you have given; describe any particular problems or failures to achieve the required performance but also any advantages in comparison to MCCP |
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| **Table 5‑2**  **Please consider each alternative substance you have identified above and explain how it compares to MCCP against the identified technical criteria shown below.**  **If you believe that there are additional relevant technical feasibility criteria, feel free to add them to the table.**  **If you have information for more alternatives, please feel free to replicate the table.** | | | |
| Technical criterion | Comparison with MCCP | | Please provide comments where necessary. |
| Alternative A | Alternative B |
| PVC / polymer compatibility |  |  |  |
| Processibility |  |  |  |
| Plasticiser efficiency |  |  |  |
| Permanence |  |  |  |
| Elastic recovery |  |  |  |
| Other (please describe…) |  |  |  |
| **Is this confidential information?** | | |  |

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| **Table 5‑3**  **Please help us evaluate the current market availability of alternatives and whether/how this may change in the future** | | | |
| Potential alternative | To the best of your knowledge, has this alternative been commercially used? | | |
| Yes  ⇩ ⇩ | | No  ⇩ |
| If yes, explain if this applies to the EU market or elsewhere | If yes, please confirm whether the substance is available in quantities sufficient to replace MCCP in the EU | If no, do you have specific views on the likelihood of each alternative becoming commercially available/successful in the future? Please explain these in the boxes below |
| Alternative A |  |  |  |
| Alternative B |  |  |  |
| Alternative C |  |  |  |
| Etc. |  |  |  |
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| **Is this confidential information?** | | |  |

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| **Table 5‑4**  **Please help us determine the economic feasibility of the suggested alternatives by giving information on:**   * **The relevant dose (loading) of the alternative compared to MCCP** * **The price difference between MCCP and the alternative in €/tn** * **The key costs that would arise for your organisation after a switch from MCCP to an alternative** | | | |
| Potential alternative | Relevant dose (loading) of alternative compared to MCCP | Price difference between alternative and MCCP (€/tn) | Key costs that would arise during substitution. Examples include:  Investment costs, changes in operating costs or changes in quality of product |
| Alternative X |  |  |  |
| Alternative Y |  |  |  |
| Alternative Z |  |  |  |
| Etc. |  |  |  |
| **Is this confidential information?** | | |  |

# Other information

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| **Table 6‑1**  **If you feel that we have missed anything important, or would like to comment on any of the issues raised by this questionnaire, please let us know (and continue on a separate sheet, if required)** | |
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| **Is this confidential information?** |  |

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| **Table 6‑2**  **If you have any additional relevant information sources (e.g. studies, published data, etc.) that can complement your answers to the questions posed in this questionnaire, please do so by posting a link here or by attaching the documents to your response e-mail.** | |
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| **Is this confidential information?** |  |

1. ECB (2005), *European Union Risk Assessment Report – Alkanes, C14-17, Chloro (MCCP) – Part I - environment*, European Commission, EUR 21640 EN, Volume 58, Luxembourg: Office for official publications of the European Communities [↑](#footnote-ref-1)