Council of Europe activities

on Printing Inks for FCM

Ad Hoc Working Group subordinate to CD-P-MCA

Policy Statement on Packaging Inks (Version 2, 10.10.2007)

The following documents are part of the Council of Europe's policy statement concerning packaging inks applied to the non-food contact surface of food packaging:

- Resolution ResAP (2005)2 on packaging inks applied to the non-food contact surface of food packaging materials and articles intended to come into contact with foodstuffs
- Technical document No. 1: Requirements for the selection of packaging ink raw materials applied to the non-food contact surface of food packaging materials and articles intended to come into contact with foodstuffs (Version 1, 21.12.2006)
- Technical document No. 2, Part 1: Good Manufacturing Practices for the production of packaging inks formulated for use on the non-food contact surfaces of food packaging and articles intended to come into contact with food (prepared by CEPE)
- Technical document No. 2, Part 2: Code for Good Manufacturing Practices for flexible and fiber-based packaging for food (prepared by FPE in co-operation with CITPA)
- Technical document No. 3: Guidelines on test conditions for packaging inks applied to the non-food contact surface of food packaging materials and articles intended to come into contact with foodstuffs

Technical document No. 3
(prepared in 2005)

Methods of analysis: There are no specific international standards for packaging inks dealing with determination of ink substances. The progress in chemical analysis is so rapid that any method may be considered obsolete after a limited number of years. It is therefore recommended that the reader search the literature in order to find an appropriate method. Special attention should be paid to the performance characteristics (trueness and precision) at the specified limit.

Ad Hoc Working Group

Terms of Reference (P-SC-EMB: October 2016)

Focus on **analytical issues** related to the examination of compliance of printed food contact materials with Regulation EC No. 1935/2004.

- Ensure no duplication of work with EC/JRC/EFSA

Meetings:

- May 11, 2017
- March 2-3, 2018
- May 23-24, 2018

Ink Substances

- Over 5,000 substances included in ink formulations*
- Based on information from published surveys (UK and Germany), RASFF notifications and communication with official control laboratories
  - printed FCMs are frequently tested for the migration of photoinitiators
  - multianalyte methods are used for the determination of photoinitiators in FCM, simulants and food (in-house methods, some published in peer-reviewed journals)

* C. Simoneau et al, Non-harmonised food contact materials in the EU: Regulatory and market situation, 2016, EUR 28357 EN; doi:10.2788/234276

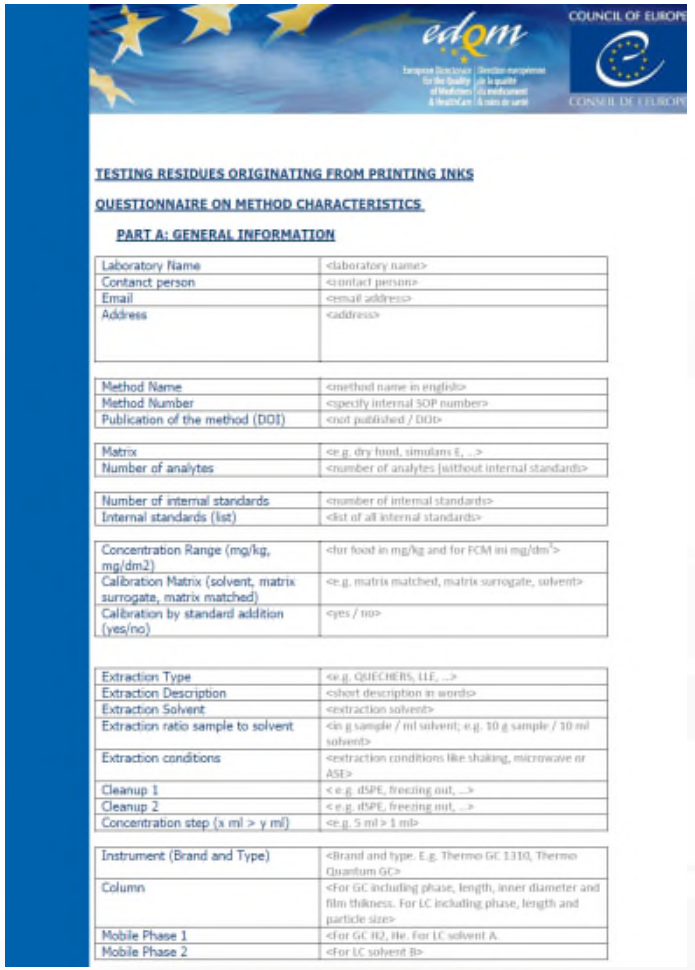
Photoinitiator Lists

- Comprehensive list of commercially used photoinitiators (*in preparation* – currently 115: consolidated Germany/Switzerland/EuPIA) with information on limits and technical function
- Additional information on their physicochemical properties (functional family, molecular weight, vapour pressure, melting point, boiling point, polarity, etc.) available

Literature Search

- Reviews/surveys/methods
- Excel spreadsheet with references on the analysis of photoinitiators + publication link + keywords
- Updated through continuous searches based on keywords
- Prospect to include more information

Selection of Method



TESTING RESIDUES ORIGINATING FROM PRINTING INKS

QUESTIONNAIRE ON METHOD CHARACTERISTICS

PART A: GENERAL INFORMATION

Laboratory Name	<laboratory name>
Contanct person	<contact person>
Email	<email address>
Address	<address>
Method Name	<method name in english>
Method Number	<specify internal SOP number>
Publication of the method (DOI)	<not published / DOI>
Matrix	<e.g. dry food, simulans E, ...>
Number of analytes	<number of analytes (without internal standards>
Number of internal standards	<number of internal standards>
Internal standards (list)	<list of all internal standards>
Concentration Range (mg/kg, mg/dm2)	<for food in mg/kg and for FCM ini mg/dm^2>
Calibration Matrix (solvent, matrix surrogate, matrix matched)	<e.g. matrix matched, matrix surrogate, solvent>
Calibration by standard addition (yes/no)	<yes / no>
Extraction Type	<e.g. QUECHERS, LLE, ...>
Extraction Description	<short description in words>
Extraction Solvent	<extraction solvent>
Extraction ratio sample to solvent	<in g sample / ml solvent; e.g. 10 g sample / 10 ml solvent>
Extraction conditions	<extraction conditions like shaking, microwave or ASE>
Cleanup 1	< e.g. dSPE, freezing out, ...>
Cleanup 2	< e.g. dSPE, freezing out, ...>
Concentration step (x ml > y ml)	<e.g. 5 ml > 1 ml>
Instrument (Brand and Type)	<Brand and type. E.g. Thermo GC 1310, Thermo Quantum GC>
Column	<For GC including phase, length, inner diameter and film thikness. For LC including phase, length and particle size>
Mobile Phase 1	<For GC H2, He. For LC solvent A.
Mobile Phase 2	<For LC solvent B>

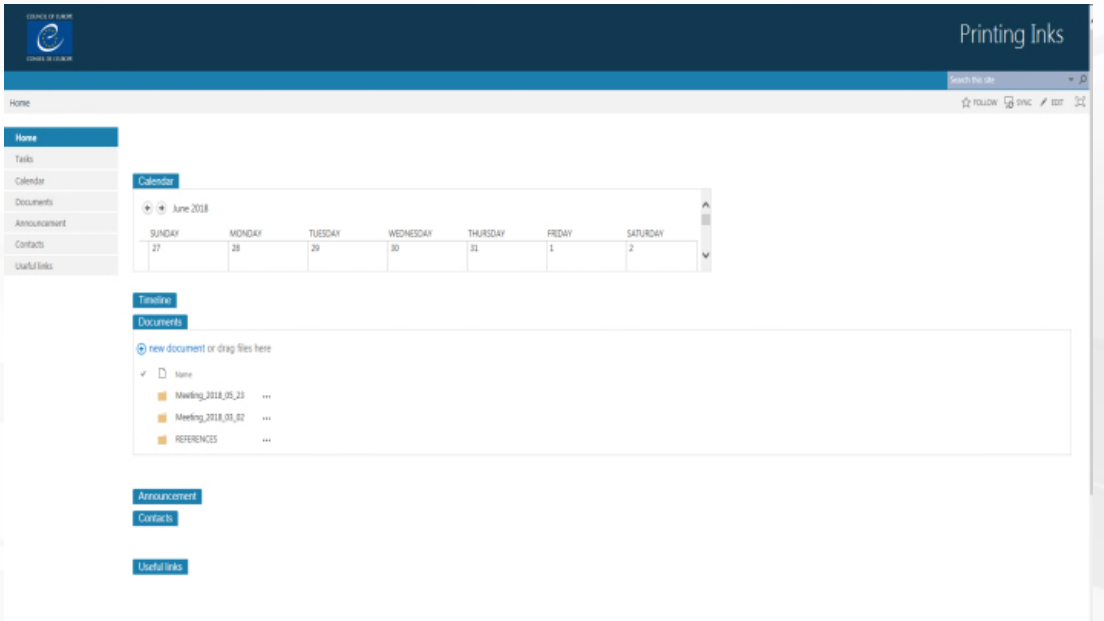
- Questionnaire for existing methods
- Discussion and decision on details
- QUECHERS-based extraction procedure from dry food
- Detailed method protocol for GC/MS, GC/MS-MS: Switzerland/Greece to submit by 31 July 2018
- Detailed method protocol for LC/MS-MS: Belgium to submit by 31 July 2018
- Comments and initial evaluation by 30 November 2018

Follow-up Tasks

- Agreement on method protocol
- Design of study
- Instructions – result forms
- Official invitation of laboratories
- Cooperation with the Czech Republic National Institute of Public Health for sample preparation – homogeneity & stability testing

Working Methods

- Sharepoint Site to facilitate document sharing:
  - References/lists/reports/method protocols



- Useful links
- Tasks
- Messages

Resources

- Participating laboratories own resources
- EDQM's structural support
- EDQM's limited funding

➢ Funding possibilities??

Future Prospects

- Market monitoring – data for estimation of exposure – set priorities for safety evaluation

- Comprehensive Guidance
  - Strategy for the comprehensive analysis
  - Screening methods available – comparisons and limitations