Coatings: State of the situation

Summary from the Coatings Meeting, Feb 2017

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Coating types are categorised and the categories are not common to all MSs (NL, IT, BE) and CoE.

(Coatings for paper and boards were not discussed and so are not included here).

The different categories do not seem to be related to a specific safety assessment principle for each, although there are systematic specifications/restrictions.

	Coating types	Description
NL	General purpose coatings	All coatings except categories 2, 3 & 4 below
	Waxes coatings	Coatings of solvent free materials existing of wax and wax like products
	Metallic coatings	Coating applied by evaporation of metals onto substrate
	Temperature resistant coatings for reusable end products	Fluoro based sintered polymer. Inorganic and non-fluor based coatings
IT	Polymers (resins)	
BE	Flexible materials	
	Metal materials	Coating on metal
	High performances varnishes	
CoE	Flexible materials etc.....	

At the 3rd Network meeting, May 2016

Coatings type and related substrates covered by coatings according to the Industry platform for non-EU harmonised FCM.

Has a different categorisation:-

Substrates / Coating types	Paper	Al foil	Metal	Plastic	Kitchen ware	Glass	Metal, plastic, concrete	Wood	Textiles
Can (epoxy, acrylic, polyester, organosol)			X						
Heatseal	X	X	X	X					
Coldseal	X			X					
Coatings on plastic film				X					
Porcelain enamel coating on metal					X				
Non-stick treatments and coatings (PTFE and solgel based)					X				
Coatings on paper & boards	X								
Heavy duty							X		
Coatings on metal foil		X							
Polymeric coating on glass						X			
Passivation coatings on metals			X						
Others	X	X	X	X	X	X	X	X	X

Separate **lists of substances** authorised in MSs (that have national legislation on coatings) or as recommended by CoE.

These lists imply that a safety assessment has been done or is required.

- Need to agree on the meaning and safe use of each substance listed and build a common list

MS	Coating types	Substances types	Reference
NL	General purpose coatings	Monomers, starting substances and additives used in plastics	EU 10/2011
		PPA & AP	NL Chapter 1
		Colorant & pigments	NL Chapter 11
		Monomers & additives	NL Chapter 11, part 2
	Waxes coatings	Waxes & polymers	NL Chapter 10 part 3.1 table 3.1
		Additives	NL Chapter 10 part 3.1 table 3.2
	Metallic coatings	Metals & alloys as starting materials	NL Chapter 4
	Temperature resistant coatings	For fluorine base coatings: - Monomers - Binding agents - Additives	NL Chapter 10 part 3.3
IT	All FCM types	Monomers, starting substances and additives used in plastics	EU 10/2011
	Polymers (resins)	Polymers(resins)	IT DM 21/3/73
BE	- Flexible materials - Metal materials - Heavy-duty	- Monomers, starting substances and additives used in plastics - MSs lists - EFSA evaluations, another MS Authority - Monomers, starting substances and additives	EU 10/2011 MSs EU BE Royal Decree on varnishes and coatings (2016)
CoE	- Flexible materials - Metal materials - High performances varnishes	A. Monomers & starting substances evaluated by SCF(SCFL0-4A)/EFSA B. Monomers & starting substances evaluated by MSs, FDA C. Additives evaluated by SCF(SCFL0-4A)/EFSA D. Additives evaluated by MSs, FDA	ResAP(2004) Technical document No.1
		MSs coating lists	MSs
		Aids to Polymerisation	ResAP(92)2

The categorisation, description, terminology would require to be clarified to establish correspondence amongst existing categories from BE, NL and CoE in order to better understand what it refers, what is common and different and ultimately to align.

This would support harmonisation in listing, safety assessment and migration testing.

Migration testing

NL, IT and BE declared using the testing conditions for plastics (Regulation (EU) 10/2011), i.e. simulants, t/T, S/V of 6 dm^2 (unless specific uses), etc.

For varnishes on metal, BE recommends 5g/L citric acid.

At the 3rd Network meeting (May 2016) the industry platform representative for non-EU harmonised FCM, expressed that sometimes "the rules from plastics are miss-applied to non-plastics"

Principle for the safety assessment of substances used (IAS)

The Netherlands, Italy and Belgium make reference to the SCF guidelines and/or the EFSA Note for Guidance with the tiered approach to toxicological data requirements.

Evaluation of NIAS and migrating substances

In the process of safety assessment of substances intended to be used (IAS), NIAS are considered by BE, IT and NL. Even though not stated, the approach for evaluating NIAS seems more flexible e.g. considering TTC, in silico tools and read-across.

NL provides the most detail for evaluation of NIAS.

- NIAS arising in probably all uses (intrinsically linked to the IAS) are evaluated and listed.
- Those NIAS varying from coating to coating (more 'incidental' in character) remain the responsibility of producer.

With regards to oligomers, the fraction of interest for safety assessment is the low molecular fraction (cf. the SCF guide).

Pre-polymers

Pre-polymers can be used as starting substances to manufacture coatings.

IUPAC: A pre-polymer is a polymer or an oligomer composed of macromolecule or oligomer molecule capable of entering, through reactive groups, into further polymerization, thereby contributing more than one constitutional unit to at least one type of chain of the final macromolecules.

Read across from starting substances must be justified.

Pre-polymers made with not already evaluated substances should be considered as any other starting substances and should be evaluated.

- Most reactive functions present in the monomers are expected to react to form the pre-polymers, but some may stay unreacted.
- A new reactive function different from the starting substances may be formed.