



CEPE position paper on bio-based materials

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Bio-based materials in the paint, printing ink and artist's colors industry

Bio-based products are wholly or partly derived from biomass, such as plants, seeds, trees, or animals. **The demand for bio-based products in the paint, printing ink and artist's colors Industry is growing rapidly firstly because these materials can be seen as being more sustainable (lower resource depletion and lower effect on climate change), and represent a more efficient way of using natural resources. Secondly and targeting at the long term, these materials could become an alternative to most petroleum derived raw materials and as such they would contribute to the security of supply and improve the cost stability. Finally, some of the bio-based materials can give access to new original chemical or physical properties that can translate into new product characteristics unachievable with petrochemical sources.**

The topic is not new to our Industry: bio-based materials are already largely used in the paint and ink industry and this since a long time. Today, the traditional solvent based formulations such as these used for the decoration and protection of wood, metal, furniture, etc. are based on materials such as linseed oil, rosin or alkyd resins which are made out of vegetable oils. More recently, around a bit more than one decade ago, water-based versions of such products have also been placed on the market; such products utilize emulsified versions of these natural oils and resins and became also very popular amongst painters.

The water based dispersion paints technologies which probably make up today for more than ca. 70% of the volume of decorative paints sold in Europe were created after the 1950s thanks to the invention of dispersion polymers (acrylics, vinyls, etc.) based on petrochemical feedstock. Nowadays upgraded versions of these technologies are still largely in use and these are difficult to outperform on performances and application characteristics. From a technical perspective, our Industry will always place performance as the number one criterion to choose its raw materials. For this reason, a few more years are probably needed before materials coming from the petrochemical feedstock can be replaced by bio-based materials.

But things are going at a good pace and we see many raw materials suppliers to our Industry developing new bio-based materials, such as polymers built from bio-based monomers, bio-solvents or bio-additives.

From a sustainability perspective, the Industry is actively looking for proofs that bio-based materials are effectively more sustainable than their petrochemicals counterparts. Issues related to bio-based materials have emerged at international level, such as food competition, and also increased use of water and pesticides. Only complete Life Cycle Assessment comparative studies can be used to favor bio-based materials over the materials currently in use. This is in line with the CEPE Life Cycle Thinking position and also with the European Union projects related to Environmental Footprint such as the PEF. The European Commission is showing precisely a high interest in bio-based materials. In the last few years,



it adopted a strategy for a sustainable bioeconomy¹; named bio-based products as one of the Lead Market areas²; and launched a bio-economy observatory³. Individual Member States are also demonstrating their interest, such as Finland and its National bio-economy strategy⁴.

To help increase market transparency and avoid misleading claims around sustainability and bio content of materials, a standardization group at European level was launched in 2011, CEN TC 411 Bio-based Products. This group is tackling various issues: terminology; how to measure bio-based content; which sustainability criteria could be used for bio-based products; how to communicate on bio-based products; and bio-solvents. Other standardization groups were addressing specific bio-based products before, such as CEN/TC 19 for bio-lubricants or ISO/TC 61 for plastics.

¹ <http://ec.europa.eu/research/bioeconomy/>

² <http://ec.europa.eu/enterprise/policies/innovation/policy/lead-market-initiative/biobased-products/>

³ http://europa.eu/rapid/press-release_IP-13-113_en.htm

⁴ <http://www.uncsd2012.org/index.php?page=view&type=99&nr=118&menu=137>