

PIJITF statement on mineral oil used in inks for packaging materials

Introduction

The members of the Packaging Ink Joint Industrial task force (PIJITF) fully support actions to mitigate the presence of mineral oil contamination used in inks for packaging materials. In the present document we touch upon ongoing analytical challenges and regulatory developments.

We exemplify this with the **French Decree 2020-1725 on Mineral Oils in Packaging**.

The above-mentioned French Decree is part of French Law 2020-105 of the 10th February 2020 on the fight against waste and promotion of the circular economy. The decree defines frameworks for waste collections and waste recovery. In its Article 112, the requirements about mineral oils used in inks for packaging materials are laid out. Art 13I and Art II target consumer health and relate to endocrine disruptor and dangerous substances respectively.

Requirements of the French Decree regarding mineral oils in packaging

The limits of mineral oils in inks to be achieved for any sort of packaging materials are defined in official Order of 13th of April 2020 which specifies the substances contained in mineral oils whose use is prohibited on packaging and in printing intended for the public.

Scope:	Oils produced from feedstocks derived from petroleum hydrocarbons used in the manufacture of inks
Substances concerned:	MOAH with 1-7 aromatic rings and MOSH with 16-35 carbon atoms
Date of entry into force:	1st January 2023

Timing:

- Until 31 December 2024: the ban on the use of mineral oils applies when the mass concentration in ink of MOAH with 1-7 aromatic rings is greater than 1%
- From 1 January 2025: the ban on the use of mineral oils applies for
 - MOAH, where the mass concentration in ink of MOAH with 1-7 aromatic rings is greater than 0.1% or the mass concentration in ink of MOAH with 3 to 7 aromatic rings is greater than one part per million (ppm)
 - MOSH with 16-35 carbon atoms, where the mass concentration in ink of these substances is greater than 0.1%

Compliance with the French Decree regarding mineral oils in packaging and analytical challenges

For Food Contact Material Applications, printing inks that do not contain mineral oil aromatic hydrocarbons (MOAH) are available on the market and should be used. This has been the position of the European Printing Ink Association EuPIA¹.

However, the PIJITF would like to highlight that the analytical possibility to accurately quantify MOAH in printed articles is still questionable. The inability to determine the source of MOAH

¹ EuPIA Information Note on French Order on Mineral Oils in Printing Inks ([link](#))

substances in printed articles adds another level of uncertainty. Regardless of this, the French Mineral Oil decree refers specifically to mineral oils coming from printing inks.

In addition to this, there are a number of raw materials which are allowed to be used in Food Contact Material Applications, which can easily be mistaken for mineral oils. Examples of these include paraffin waxes and the lower molecular weight fraction of polyethylene.

For these reasons it is strongly recommended that compliance with mineral oil regulations is done via a chain of custody approach where for a printing ink a discussion with the ink manufacturer, regulatory statements and a Statement of Composition are used to determine compliance.

Demonstrating compliance of the printed packaging through analytical testing is not always practical

1. Allowed substances such as paraffinic waxes covered by Plastics Regulation FCM 95 can be easily mis-identified as mineral oil. Lower molecular weight components of polyethylene waxes (polyolefin oligomeric saturated hydrocarbons – POSH) are similarly easily misidentified as mineral oil. Without a clear understanding of the raw materials used in the printed packaging as a whole it is difficult to draw the right conclusions from analytical results of mineral oils and assure compliance.
2. The French decree has in scope only mineral oil coming from printing ink. However, mineral oil components as defined by the French decree may be present in the printed packaging but originate from different sources and not from the printing ink.

When testing printed packaging it is not normally possible to determine which material in that printed packaging is the source of a specific chemical substance.

The EU Commission is working on several MOAH measures that merit attention

At a EU level, the Commission's DG SANTE is also currently working on different regulatory measures on MOAH based on the 2023 EFSA updated risk assessment of Mineral Oil Hydrocarbons in food². This will include the MOAH content of white mineral oils and waxes used as food additives and food packaging materials. The EFSA has recommended in its opinion that technical specifications of white mineral oils and waxes used as food additives and food packaging materials should be updated, with detailed information about the MOAH content and composition.

We strongly recommend to take these EU initiatives and the resulting measures into account.

² EFSA Update of the risk assessment of mineral oil hydrocarbons in food of 13 September 2023 ([link](#))