

SCOPE OF RESTRICTION OPTION ANALYSIS

The aim of this analysis is to comment on the ECHA proposed restriction on PFAs (incl. fluoropolymers and FKM rubber) as well as provide arguments that fluoropolymers, in particular FKM, will be included in the general derogation from the proposed restriction on PFAs by the ECHA.

This abstract has been prepared by the [REDACTED] on behalf of its coil coating companies [REDACTED]. Coil coating is a continuous multi-step & all-in-one process including cleaning, pretreatment, coating (incl. FKM rubber) and cross-linking in order to produce coated metal strips as coils. These semi-finished products are used in various industries as such as automotive, construction, pharmaceutical, etc.

Since fluoropolymer (FKM) coated metal coils are very important products, the ban will not only have a negative impact on the coil coating companies that are processing fluoropolymers incl. FKM rubber, but also impact the value chain starting from suppliers, to their customers and end-users.

1. Comments on argument “broad ban/restriction proposal due to persistence of PFAs”:

Fluoropolymers (incl. FKM) have a long-life cycle and are very stable to environment (C-F is one of the strongest chemical bonds in nature) and therefore are used in different, partly aggressive media in e.g., sealing applications. However, there is no evidence, that FKMs are generally toxic to creatures and nature. In fact, due to its stability and no risk of carry-over, it is safe and clean, so that is also used in food, beverage and pharmaceutical industries with direct product contact. Therefore, persistency as an isolated property should not be the key argument to ban a whole class of irreplaceable fluoropolymers without examining their individual properties first.

2. Comments on argument “reversed burden of proof”:

In the given short time, it is almost impossible to provide all facts and data, in order to prove that all fluoropolymers (incl. FKM), are essential for the economy and society and are safe to handle as well as not replaceable. Considering the ban/restriction, the hazard assessment process according to REACH should be followed.

The example of processing additives, fluorosurfactants, is a single issue and has already been solved by the ban of water-soluble PFOAs (perfluorooctanoic acid). In contrast, fluoropolymers are substances of low concern, water-insoluble and non-reactive and hence are also used as parts of implants in the human body.

3. Statement to handling & environmental emissions:

FKM compounds contain FKM rubber, where fluoropolymers together with fillers/additives are embedded into a matrix. As part of the matrix, they do not transfer/leach out into the environment. During the coil coating process, the dissolved FKM, applied via rollers to the metal strip, does not evaporate into the environment, due to its high molecular weight. Due to the controlled process of coil coating, defined thicknesses of a few μm in tolerance can be produced. Thus, only minor residues of FKM coating are created. The coating residues are handled safely according to the closed substance cycle waste management regulation (KrWG). During the curing step in the oven at approximately 240 °C, it is highly unlikely that fluoropolymers will be emitted, since its thermal degradation is highly above the curing oven temperature. In the unlikely event that fluoropolymers are released into the oven, they would be captured and thereafter destroyed by the oxidizer. In summary, the coil coating process using FKM coatings does not contribute notably to environmental emissions.

4. Statement to essential use and potential alternatives:

Up to now and in the foreseeable future there is no equivalent material that meet the high-performance properties of FKM in terms of its uniquely combined chemical and temperature resistance, see confidential attachments, slide 1 - 3. These properties are essential for e.g., high-demanding sealing applications for gear units in various industries. Additionally, in aircraft and petrochemical sector, FKM sealing parts are essential and used to prevent leakage due to its impermeability and mechanical resistance.

5. Added value / benefits to the European Green Deal:

Fluoropolymers are an important class of materials, that are used in different applications and therefore highly essential for the industry and society. With the expansion of renewable technology for CO₂ footprint reduction, the importance of fluoropolymers incl. FKM will even increase, since those materials are used e.g., in wind turbines.

The coil coating industry supports the European Green Deal, since the coil coating process has a low environmental impact and the produced semi-finished goods are essential, as described in this abstract. In summary, the whole process value chain shouldn't be put at risk by banning its feedstock (fluoropolymers incl. FKM).