

Date: 31st august 2021

Kind attention:

Mr. Martijn Beekman - Netherlands

Dr. Mandy Lokaj - Germany

Mrs. Jenny Ivarsson - Sweden

Mr. Toke Winther - Denmark

Mr. Audun Heggelund - Norway

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Through: Pro-K Industrieverband Halbzeuge und Konsumprodukte aus Kunststoff e.V. (pro-K), Städelstr. 10, 60596, Frankfurt am Main, Germany

The members of pro-K mainly focus on processing of Fluoropolymers, part manufacturing and its applications, the involvement of downstream users in PFAS process.

Subject: PFAS restriction proposal & request for exemption of FLUOROPOLYMERS

Reference: PFAS - Registry of restriction intentions until outcome (RoI) dated 15th July 2021

Dear Sir/Madam,

With regards to Registry of Intention (RoI) filed by 4 EU Member States (Germany, the Netherlands, Sweden, and Denmark) & Norway for the restriction of PFAS, we, a member of fluoropolymer downstream user industry, hereby, would like to share some salient facts related to the importance of fluoropolymers, critical functionalities, performance and benefits of its applications to society, while acknowledging concerns regarding PFAS emissions related to the use of fluoropolymers and their end of life.

Registry of Intention for PFAS restriction was announced by ECHA on 15th July 2021, to prepare a restriction proposal for PFAS. Fluoropolymers are also included in the scope. The restriction proposal is intended to be submitted to ECHA by 15th July 2022.

Fluoropolymers are a distinct subset of PFAS and are inherently safe, non-mobile, non-bio accumulative and non-toxic. Fluoropolymers are different from other PFAS as they **do not share the toxicological and environmental profiles** associated with PFAS of concern. Fluoropolymers have **unique set of physicochemical properties**, they meet OECD polymer of low concern criteria, and are considered to have **insignificant environmental and human health impact**. Fluoropolymers ensure safety, reliability, durability and critical performance in numerous technologies, industrial processes and everyday applications that are important for human health, safety, and the environment. With a unique combination of functionalities, fluoropolymers are irreplaceable across many key sectors/applications. Alternatives to fluoropolymers, if exist, escalate safety risks, carbon footprint, technology regression, and do not match the advanced performance of fluoropolymers. Most importantly, restriction on fluoropolymers will make EU industry lose its technological superiority over other economies and could put Europe's climate and energy goals at risk. Overall, fluoropolymers contribute heavily to Europe's socio-economic status and are critical for the betterment of the society.

The fluoropolymer downstream user industry acknowledges the concerns regarding PFAS emissions due to the use of fluoropolymers and end of life processes. We wish to assure the authorities and EU Member States that, we are implementing Best Available Technologies to ensure reduction in PFAS emissions in a systematic way and eventually eliminating them to achieve EU's sustainability goals. Parallely, we are consciously working on recyclability and reusability to meet circular economy goal.

Fluoropolymers play an important role in achieving EU Green Deal objectives and UN Sustainable Development Goals (UN SDG) because of their vital use in Lithium-ion batteries, Green hydrogen, Fuel Cell, Solar and Wind energy. No new-age technologies are possible without the use of fluoropolymers. Restriction on the use of fluoropolymers would adversely impact implementation of these technologies crucial for planet's future as well as in all existing applications vital for the society.

Considering the benefits of fluoropolymer applications to environment and society, low PFAS emissions and initiatives being taken by the processing industry to further minimize emissions and closing the loop by implementing circular economy wherever possible, we request for a **complete exemption of fluoropolymers from the PFAS restriction proposal**.

Fluoropolymers processed by us:

(By ASTM D1418)

FKM—Fluoro rubber of the polymethylene type that utilizes vinylidene fluoride as a comonomer and has substituent fluoro, alkyl, perfluoroalkyl or perfluoroalkoxy groups on the polymer chain, with or without a cure site monomer (having a reactive pendant group).

Type 1—Dipolymer of hexafluoropropylene and vinylidene fluoride.

Type 2—Terpolymer of tetrafluoroethylene, vinylidene fluoride, and hexafluoropropylene.

Type 3—Terpolymer of tetrafluoroethylene, a fluorinated vinyl ether, and vinylidene fluoride.

Type 4—Terpolymer of tetrafluoroethylene, propylene and vinylidene fluoride.

Type 5—Pentapolymer of tetrafluoroethylene, hexafluoropropylene, vinylidene fluoride, ethylene, and a fluorinated vinyl ether.

FEPM—A fluoro rubber of the polymethylene type only containing one or more of the monomeric alkyl, perfluoroalkyl, and/or perfluoroalkoxy groups, with or without a cure site monomer (having a reactive pendant group).

FFKM—Perfluorinated rubbers of the polymethylene type having all fluoro, perfluoroalkyl, or perfluoroalkoxy substituent groups on the polymer chain; a small fraction of these groups may contain functionality to facilitate vulcanization.

Service application industries:

In general, parts made with our fluorinated rubber compounds are used in the most severe temperature conditions and harshest environments with high and long-lasting performances that are not achievable with other elastomers.

Served sectors and critical articles manufactured with our compounds are:

Automotive:

- i) O-ring and seals in fuel, lubricants, transmission, etc
- ii) Seals for E-mobility components
- iii) Shaft seals
- iv) Valve seals
- v) Fuel injector O-rings
- vi) Fuel hoses
- vii) Tank fuel seals
- viii) Grommets
- ix) EGR valve seals and gaskets
- x) Turbo charge hoses liners
- xi) Manifold gaskets

Industrial:

- i) Hydraulic O-ring, V-ring, delta-ring, and seals
- ii) Diaphragms
- iii) Connectors
- iv) Valve liners
- v) Roll covers
- vi) O-ring, seals, and hoses for food processing
- vii) Heat exchanger gasket
- viii) Chemical reactor gaskets

Sport and leisure:

- i) Luxury watchstrap and bracelets

Medical:

- i) O-ring and seals for medical devices
- ii) hoses

Sincerely yours,



Carsten Rüter - President Technology

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