Toxics in Packaging Clearinghouse
Draft Model Legislation

Comments Submitted by Arkema Inc.

August 21, 2020

Arkema Inc. ("Arkema") appreciates the opportunity to provide comments to Toxics in Packaging Clearinghouse's call for comments on draft model legislation regarding packaging standards and restrictions. Arkema is a global chemical manufacturing company with operations in 22 states, including Pennsylvania where our North American headquarters is located. Arkema provides over 3,500 jobs in the U.S. and our presence is greatly important to the local communities that are home to our manufacturing and/or research facilities, as well as to the many customers that use our products. In particular, Arkema manufactures Kynar® PVDF fluoropolymers that are used in a variety of important applications, including in the processing of some plastic packaging applications manufactured by our customers. Other key applications for Arkema's PVDF fluoropolymers include uses in lithium ion batteries, wire and cable jacketing, semiconductors, solar energy, water filtration, cool roofing and construction coatings.

Arkema produces PVDF homopolymer and copolymer grades, which are used by some customers as additives (in the range of 100 to 2000 ppm) to improve the extrusion and molding efficiency of some common plastics often used in packaging. Arkema has been a pioneer in the reformulation of these grades to be produced entirely **without the use of PFAS surfactants**. This extraordinary technical innovation required almost a decade of dedicated R&D efforts. These innovative grades have now been fully industrialized and commercialized for several years.

Arkema supports the move away from PFAS-containing products that may impact human health and the environment. We are concerned, however, that the draft model legislation uses an overly broad definition of PFAS. The draft bill's definition of "one-fully fluorinated carbon atom" unnecessarily captures fluoropolymers themselves. We believe, instead, the PFAS surfactants[1] commonly used to produce certain fluoropolymers are in fact the target of concern. **We believe that fluoropolymers such as Arkema's PVDF meet the OECD definition[2] of 'polymers of low concern' and should not be restricted in any way.** Polymers of low concern are non-toxic, bio-compatible, non-soluble and immobile molecules and they are deemed as such to have no significant environmental and human health impacts.

[1] Examples of PFAS surfactants are PFOA, PFOS, and their replacement "short chain" PFAS surfactants.
[2] https://setac.onlinelibrary.wiley.com/doi/full/10.1002/ieam.4035

The use of these PVDF materials in the industrial production of flexible film packaging is a sustainable, green solution that:

- Saves energy (by producing higher quantities for energy expenditure);
- Simplifies recycling (the processed polymers are easier to recycle on standard equipment);
- Reduces the amount of commodity plastic produced (the PVDF materials enable thinner films, thereby reducing the resultant weight of plastic produced).

In short, Arkema's PVDF polymer additives help optimize energy consumption, improve recyclability, and minimize plastic production volumes. And, they are produced entirely without the use of PFAS surfactants.

Thank you, in advance, for your consideration.