

**Additional information to general comment in response of the
public consultation on the proposed EU restriction for PFAS**

Reference number of the previous answer : 4962d054-b85a-4c8d-bee7-a85b6042a92b

GICAT, The French Land Defence and Security Industry Association responded previously to this public consultation to express its great concern about the proposal restriction of Per-and Polyfluoroalkyl substances (PFAS) that strongly impact its members.

Since then the impact analysis of each members (manufacturers of energetic materials components, ammunitions, rockets, missiles,...) have continued and raised the necessity to explain more in details why the chemical and physical properties of fluoropolymers are so suitable to energetic materials processes and formulations in particular for military applications. Note that most of them have already contributed to the public consultation on their own due to confidentiality and commercial interest, and some others only rely on national association as GICAT and on European associations such as ASD, Aerospace, Security and Defence Industries Association of Europe.

Two tables are enclosed to list the physical and chemical properties of fluoropolymers, essential to answer specifications and performances requested by our military customers and by national and international standards for several decades. The objectives are to demonstrate that fluoropolymers have unique properties that make them the only ones to cover all the extreme conditions required to manufacture, to store, to handle and to work in complete safety and to achieve reliability requirements.

Table 1 lists the properties of fluoropolymers fulfilling the whole scope of requirements in the case of a contact with energetic materials during the process (tools and surface treatment) as well as in the finished product.

Table 2 concerns the key properties of fluoropolymers used to formulate pyrotechnic compositions.

These tables are submitted as a confidential attachment.

Currently there are no substitutes that fulfill all, or even most, of the key properties listed in these tables. Furthermore, even if such substitutes were found, military applications require lengthy and complex processes for qualification and validation.

Given intrinsic hazards of explosive substances and products, safety issues require progressive validation because of the lack of feedback.

To be able to substitute PFAS from our uses we would first need to be able to prove that the substitute is chemically compatible with all constituents and substances. The substitute would then need to be tested in different conditions and environments to ensure their stability and reliability.

Next their performances would need to be tested in products into which they are included, the testing being done through blast tests.

Finally all tests would need to be cross-referenced to obtain a validation according to French instruction DGA 17500 publishing 6. The entire process would take years starting once a substitute is identified during which we would be unable to supply all armed forces.

It has to be noted that gun firings tests are quite expensive and long to be planned.

A major point in the case of fluoropolymers is that there have been no previous regulatory alerts because these polymers do not present any health or environmental hazard classification and therefore no substitution dynamic exists. R&D starts the search for alternatives from scratch: NO KNOWN DEADLINE FOR SUBSTITUTION.

Due to the reliance on products from a wide range of sectors, a sectoral exemption for Defence of fluoropolymers would not protect against widespread obsolescence and unpredictable side effects within the affected industrial supply chains. It is the reason why we request an exemption of fluoropolymers for all sectors of activity.

We remain at your disposal for any questions and exchange on issue.

Sincerely yours

Signed by

Mazeres, the 22 September 2023

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