

PFAS restriction : Derogations granted for automotives

Text : § 5 . Derogation granted	TP in years	Parts concerned	Comments
a. polymerisation aids in the production of polymeric PFASs. This derogation does not apply to the production of PTFE, PVDF and FKM.	6.5	Tuyaux, membranes,	PTFE, PVDF and FKM have no derogation
b. maintenance and refilling of existing HVACR equipment put on the market before [18 months after EiF] and for which no drop-in alternative exist;	13.5	Refrigerant HFC /HFO	Still a question if « mobile » HVAC are concerned or not by this derogation? (seems to be yes)
p. refrigerants in mobile air conditioning-systems in combustion engine vehicles with mechanical compressors	6.5	Refrigerant HFC et HFO	1234yf and 134A allowed for ICE cars only No derogations for EV and PHEV . No derogations for all others parts in PFAS functioning with the refrigerant. (eg. compressors)
e. proton-exchange membrane (PEM) fuel cells	6.5	Membrane,	Same as above. What about the others parts in PFAS into the whole system? Like Electrodes , systèmes de diffusion du gaz, tuyaux

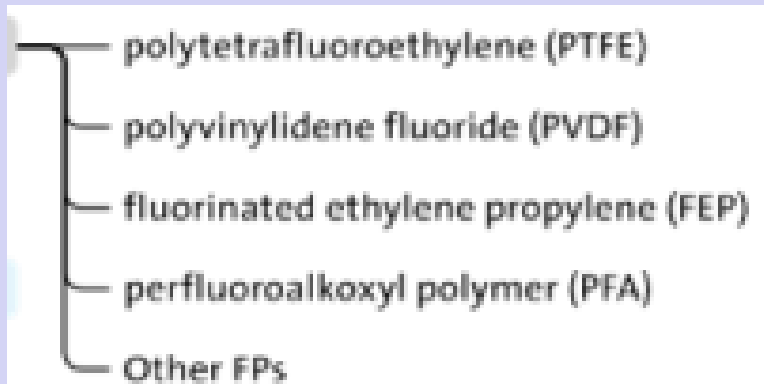
PFAS restriction : Derogations considered

Text : § 5 . The following potential derogations are marked for reconsideration after the Annex XV report consultation	TP after EIF	Parts concerned	Comments
U. [textiles for the use in engine bays for noise and vibration insulation used in the automotive industry];	13,5	Insonorisant sous capot	Only textile for engine bays could be derogated. What about the others textiles into the cars?
V. [hard chrome plating];	6.5	Tige amortisseur, pistons, segments pièces moteurs en générale	?
X. [industrial and professional use of solventbased debinding systems in 3D printing];	13,5	Renault non concerné , pas de PFAS utilisé	?
y. [industrial and professional use of smoothing agents for polymer 3D printing applications];	13.5	Renault non concerné, pas de PFAS utilisé	?
O. [applications affecting the proper functioning related to the safety of transport vehicles, and affecting the safety of operators, passengers or goods].	13.5	Tuyaux a carburant, ceintures de sécurité, ABS Airbag module, capteurs d'impacts. Capteur , ressorts pour système de freinage Non exhaustif	to understand/investigate what could be fall into this definition.

PFAS

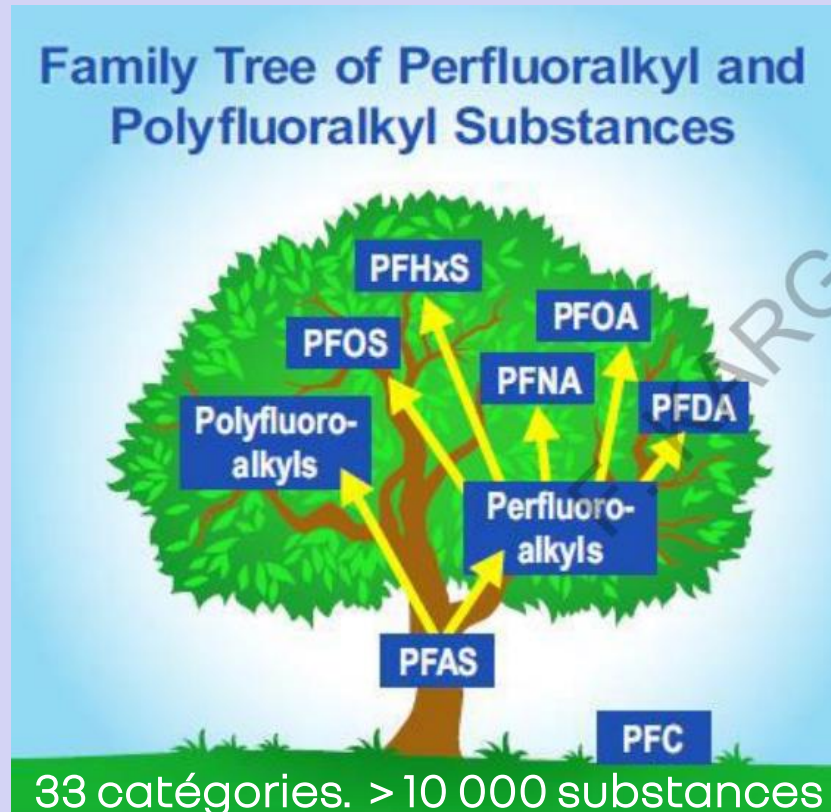
- **PFAS definition** (in the restriction proposal): Any substance that contains at least one fully fluorinated methyl (CF₃-) or methylene (-CF₂-) carbon atom (without any H/Cl/Br/I attached to it).

Fluoropolymers



Fluoro elastomers (FKM)

Short Chain



FGas

hydrofluorocarbons (HFCs)
hydrofluoroolefins (HFOs,

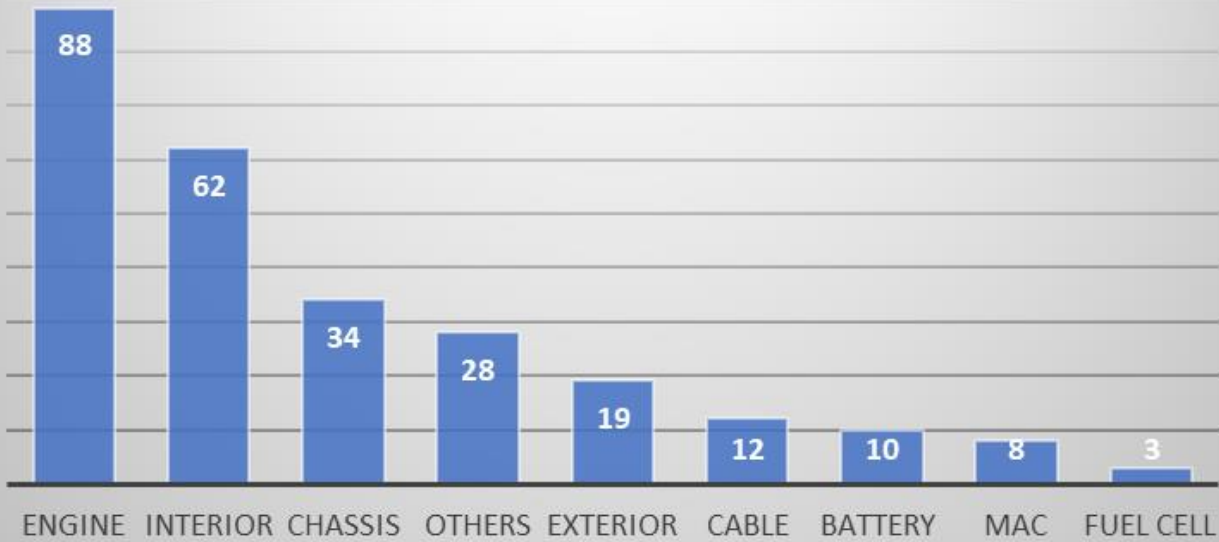
Timeline PFAS Restriction

- Restriction of all PFAS included, polymers and fluids, some limited exemptions are considered
- Application mid 2026/beg 2027 for all Type
- Answer the consultation between march – Sept 2023

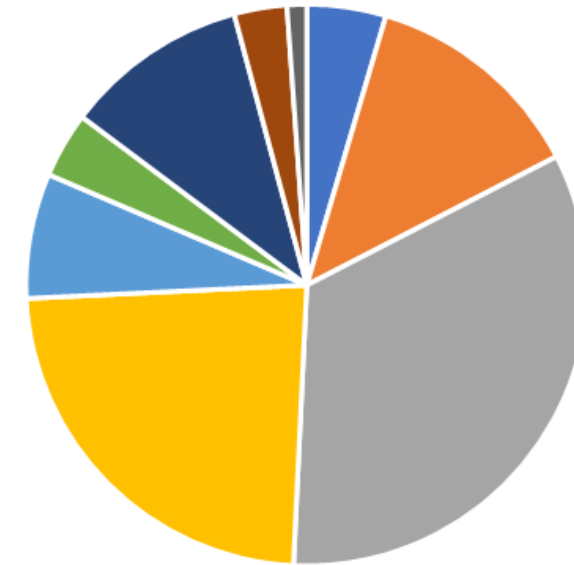


Usages of fluoropolymers in automotive industry

Quantity of application



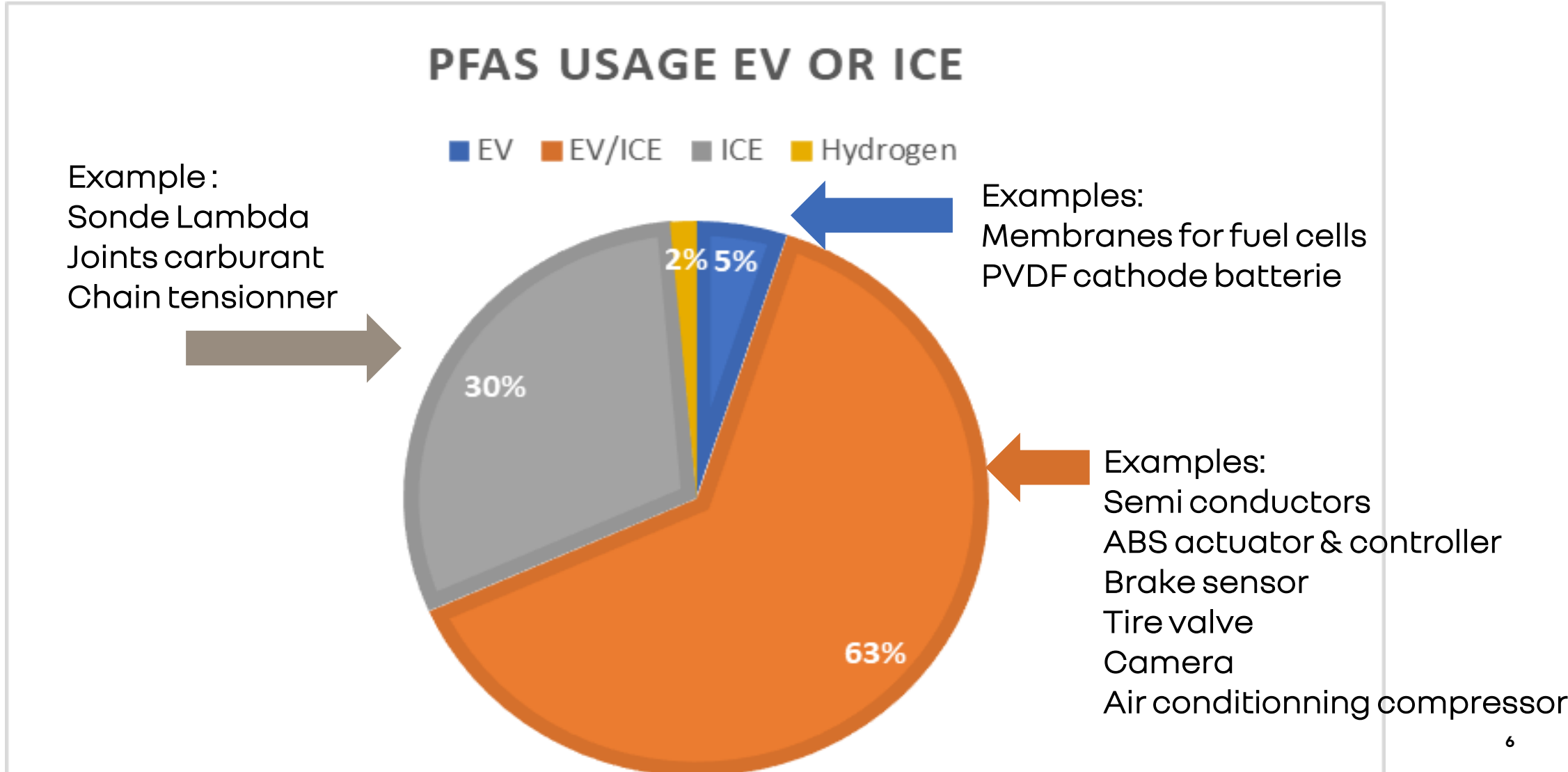
PFAS locations



■ Cable ■ Chassis ■ Engine ■ Interior ■ Exterior ■ Battery ■ Others ■ MAC ■ Fuel cell

Fluoropolymers usages :

1/3 specific in ICE 2/3 needed to EV



Why using fluoropolymers? :

several properties like :

EXAMPLES:

heat resistance

- Low friction
- Heat resistance
- Low permeation
- Chemical / fuel stability
- Durability

