Attachment:

Section III. Non-confidental comments

On item 6):

a. Substance PVDF >1,2 tons p.a.
Substance PTFE >0,7 tons p.a.

b.

- True air microwave level measuring sensor
  - Water resistance, very low water absorption
  - Gliding performance, less friction, low abrasion
  - Dielectric constant
  - Radiation resistance
  - Chemical resistance
  - Flame / burn characteristics
  - Temperature resistance at high and low temperature
  - UV radiation resistance
  - Material strength even at very high and low temperatures
- Guided microwave level measuring sensor
  - Dielectric constant
  - Temperature resistance at high and low temperature
  - Chemical resistance
  - Water resistance, very low water absorption
  - Radiation resistance
  - Flame / burn characteristics
  - UV radiation resistance
  - Material strength even at very high and low temperatures
- Point level sensor
  - Temperature resistance at high temperatures
  - Gliding performance, less friction, low abrasion
  - Chemical resistance
  - Flexibility
- Capacitive level sensor
  - Water resistance, very low water absorption
  - Gliding performance, less friction, low abrasion
  - UV radiation resistance
  - Temperature resistance
  - Dielectric constant
  - Chemical resistance
  - Material strength even at high and low temperatures
  - Flame / burn characteristics
- Conductive level sensor
  - Water resistance, very low water absorption
  - Chemical resistance
  - Electrical isolation
  - Gliding performance, less friction, low abrasion

- Dielectric constant
- Temperature resistance

Housing and probe material for sensors:

- FPs provide a wide temperature resistance range from very low (-50°C) to very high temperature (250°C). Also, they provide an excellent chemical resistance for wide range of application in e. g. Chemical Industry, Water/Waste Water Industry.

- Often, the used materials require material certificates and approvals for e.g. FDA, Water/Waste Water Industry, Pharma/Food-Industry,.... FPs do provide most of these approvals.

- FPs do provide fire defence/protection as well as options for outdoor.

- Therefore FPs are used as standard materials for sensors in industrial process measurement as well as for process automation and factory automation.

Level and Pointlevel Sensors using microwave principles or capacitive principle (e.g. NivorRadar, NivoGuide)

- FPs are used due to their excellent microwave characteristics. They provide a low dielectric constant and a low loss over a wide range of environmental conditions.

- For NivoRadar, a level measurement instruments using RADAR principle in the frequency range between 24 and 80GHz, FPs are used as standard materials for the interface between the sensor and the container or tank in e. g. chemical or pharma industry.

General use:

- FPs are used due to their friction reducing function for joints or threads.

- FPs are used because they provide excellent insulating / electrical characteristics for e. g. high voltage isolation at main supplies and in cables.

c. Sensors for the process and factory automation are being used in numerous industries every time a Level or Point level has to be measured. With millions of sold measuring devices several thousand companies could be affected within the EU.

d. Particularly in radar technology, plastics are needed that cause the lowest possible signal attenuation for microwave signals; this property is particularly given by PTFE. No other plastic is as suitable for radar applications as PTFE. The use of other plastics leads to considerable functional limitations, so that media such as hydrocarbons or solvents can no longer be measured, or only with great restrictions.

e. Various research have taken place to identify FP-free alternative products since 2020. We have not been able to find materials that can directly replace FPs without limits in function (device performance) and in application range.

There are materials without FPs identified (e. g. ceramics, PEEK, PP, PPSU, PEI) that could replace some of the FPs. But this would end in limited usage for our customers as well as of the higher production and market price for sensors.

f.
i. At company level this could be roughly estimated with 5 million Euros.
ii. +12 years
iii.

Potential alternative	Products or product groups examined	Technical feasibility (performance, technical characteristics, etc.)	Economic feasibility (cheaper, more expensive, reason)?
Steel & other metals	X	Not usable	-
High nickel alloys	X	Not usable	-
Polypropylene	X	Limited use due limited to temperature range and chemical and environmental characteristic like e. g. UV radiation	-
PVC	-	Evaporation of chlorine	-
Glass / Ceramics / ~~Mica~~	X	Limited application range (chemical resistance for glass)	Economical reason (much more expensive)
Polyether sulphone	-	-	-
Polyimide	X	Not processable for injection moulding	-
EPDM rubber	X	Limited chemical and temperature resistance	-
Nitrile rubber (NBR)	X	Limited chemical and temperature resistance	-
Hydrogenated NBR	-	-	-
Acrylic rubber	-	-	-
Ethylene-acrylic (AEM) rubber	-	-	-
PEEK	X	not resistant to UV radiation	-
Polycarbonate	X	Poorer chemical resistance to solvents	-
Polyamid	X	Higher water absorption and thus variations in dimensional stability and material properties	-
Other (please describe)	-	-	-

iv.
At the moment no alternatives are available that are equivalent or superior to the used materials. Furthermore, we are not aware of any equivalent alternative materials currently under development.

g.
Currently, 100% of the core technology is produced in Germany. The two production sites in the USA and India are purely assembly sites. This means that the entire production chain is collapsing.
The devices with FPs amount to 80% of the total turnover. Total turnover was around 27,8 million in 2022. 190 employees are affected. It is possible to build up the production facilities abroad within 8 years. By shifting the vertical range of manufacture abroad and thus the value added, additional tax burdens are incurred in Germany.

Ending Statement:

In conclusion, UWT GmbH recommends incorporation of IAMC as a new use sector and a 12-year derogation for fluoropolymers for use in IAMC equipment as part of the upcoming REACH PFAS restriction. This position is consistent with UWT's continued commitment to preserving environmental sustainability and human health and as an advocate of restricting the use of harmful substances. UWT GmbH is also committed to compliance with all relevant environmental laws and regulations in the countries in which we operate.

We appreciate the opportunity to provide this information and invite you to reach out to us for additional information or discussion regarding our request.

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