

3M Response to the Call for evidence supporting an analysis of restriction options for PFAS

For 5.1.1c -Enabled Coatings

IV. Information on institute/organisation/person & Data protection rights

Data subject rights: Access, rectification, erasure, blocking, right of revocation

By participating in this survey, personal data may be processed in terms of the General Data Protection Regulation (GDPR) of the European Union. "Personal data" is any piece of information that allows a natural person to be identified directly or indirectly, for example a name or a personified e-mail address. "Processing" may mean, for example, the collection, recording and storing of these data.

PERMISSION FOR INFORMATION PURPOSES: I agree to the personal data I provide in the present survey, including my name and my e-mail address, to be collected, processed and stored for potential follow-up questions regarding this survey by the service provider of Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (BAuA), namely Webropol Deutschland GmbH, and to these being subsequently stored in the database of the Federal Chemicals Office. *

☒ Yes ☐ No

The following information marked with * on institute/organisation/person are mandatory fields.

Information on institute/organisation/person

Name*	5.1.2e	
Surname*		
Name of institute/organisation *	3M Company	
E-Mail*	5.1.2e	@mmm.com

Can we contact you with follow-up questions? *

☒ Yes ☐ No

Are you interested in attending a meeting on specific uses of PFAS, mixtures and articles containing PFAS?

☒ Yes ☐ No

Note on Confidentiality of information and data

I understand that it is my responsibility not to include confidential information in responses to general comments and in any responses to requests for specific information (e.g. company name, email addresses, phone numbers, signatures etc.). The competent authorities for REACH will not be held liable for any damages caused.

☒ Yes

I understand that it is my responsibility to mark confidential data and attachments as confidential. *

☒ Yes

1. Please choose one of the following options. Do you have information on **PFAS**, PFAS-containing mixtures and articles or alternatives being able to replace PFAS.

☒ PFAS, PFAS-containing mixtures and/or articles

☐ alternatives i.e. other substances, non-chemical or functional replacement

PART I – PFAS & PFAS Containing Mixtures and Articles

V. Questions - Section A -PFAS and PFAS-containing mixtures and articles

2. Please define your role(s) with regard to PFAS and/or PFAS-containing mixtures and articles (see above for definitions of different roles). Please choose according to your primary role but multiple roles can be indicated. (please see Supplementary document for further explanation) *

☒ Manufacturer of PFAS and/or PFAS-containing mixtures

☒ Manufacturer of PFAS-containing articles

☒ Importer of PFAS and/or PFAS-containing mixtures

☒ Importer of PFAS-containing articles

☐ Distributor of PFAS and/or PFAS-containing mixtures

☐ Distributor of PFAS-containing articles

☒ Downstream User of PFAS and/or PFAS-containing mixtures

☒ Downstream User of PFAS-containing articles

☐ Other (e.g. NGOs, Scientists)

V. Questions - Section A -PFAS and PFAS-containing mixtures and articles

Information on substance identity and quantities *

- ☒ I have information
☐ I have no information

3. Please fill in following information for PFAS and/or PFAS contained in mixtures and/or articles:

- chemical names, trade names, CAS and EC numbers:

5.1.1c

5.1.1c

V. Questions - Section A - PFAS and PFAS-containing mixtures and articles

Information on hazards *

- ☐ I have information
☒ I have no information

V. Questions - Section A - PFAS and PFAS-containing mixtures and articles

Information on uses *

- ☒ I have information
☐ I have no information

7. Which are the area(s) of use and application of your PFAS and/or PFAS containing mixtures and/or articles.

☒ **Textiles, leather and apparel, and textile related products**

- ☐ Cosmetic products
☐ Food contact materials and non-stick kitchenware
☐ Paper and packaging
☐ Firefighting foams
☐ Household articles/Consumer mixtures (e.g. non-sticking coating, impregnation agents, polishes etc.)
☒ **Construction products (e.g. surface treatments (paints, coatings))**
☐ Lubricants and greases

- ☐ Chrome plating (including mist suppressing agents)
- ☐ Semiconductors
- ☐ Ski waxes
- ☐ Medical devices and applications
- ☐ Applications of PFAS within oil, gas and mining (apart from firefighting foam)
- ☐ F-gases e.g. (PFC, HFC, HCFC, HFE, HFO) in air-conditioning, heat-pump equipment, aerosol cans, foams etc.
- ☐ Uses of C1 perfluorinated carboxylic and sulfonic acids (trifluoroacetic acid (TFA) or trifluoromethanesulfonic acid (triflic acid, TfOH))
- ☒ **Transportation (automotive, aviation etc.) other than listed above (e.g.greases)**
- ☐ Photographic surface layers
- ☐ Other

8. If possible, please assign or estimate annual quantities of your PFAS and/or PFAS containing mixture and/or article to the individual uses. If possible, list products in the relevant application area that contain your PFAS and provide information or an estimate on quantities (i.e. concentrations or applied amount per cm²).

Automotive and Industrial applications

- Coated automotive masking paper

Buildings/Construction:

- Window Films

Stationery and Office supplies

- Whiteboard films

Textile Related Products

- Polymer Melt Additive used in medical protective clothing & facemask (Covid-19 related)

V. Questions - Section A - PFAS and PFAS-containing mixtures and articles

Information on functionality and final mixtures/articles *

☒ I have information

☐ I have no information

27. Please describe the technical function of the PFAS, also with regard to the presence of PFAS in mixtures.

5.1.1c-enabled coatings are used in a variety of high-performance applications in automotive and other sectors. 5.1.1c-enabled coatings are used as a flow and leveling agent to help produce a smooth surface during the coating process. In addition, the coatings in many cases also provide a significant level of durability and performance. This level of performance is needed in many industrial applications due to exposure to harsh environments (e.g. medical protective equipment used by the medical personal against infection diseases), as well as construction or automotive applications that have outdoor exposure. The primary uses are in medical protective equipment, automotive and building window films applications and coated marking paper products and automotive protective films.

Polymer Melt Additive

This 5.1.1c-enabled coating is applied during the manufacturing of fibers (polymer melt extrusion application). The treated fibers are used for the production of medical protective clothing & face-mask exterior tissues (Covid-19 related) in the EU & Asia.

3M Polymer Melt Additive is a fluorochemical flake 5.1.1c for incorporation into polyolefin and other synthetic resins (e.g. polypropylene). 3M Polymer Melt Additive is heat and shear stable to a wide variety of extrusion conditions. 3M Polymer Melt Additive is designed to be compatible with synthetic resins at extrusion temperatures. Consequently, the additive can localize at the surface during quenching or within a few hours to provide an effective surface-active treatment, while not significantly influencing fiber properties. When 3M Polymer Melt Additive is properly pre-compounded, blended and extruded with the host resin, the result is a substrate that is repellent to water or other low surface tension liquids. At levels above 5.1.1c %, both oil repellency as water repellency (aqueous alcohol solutions up to 5.1.1c) can be achieved. Fluorochemicals are capable to lower the surface tension of the treated fibers to impart oil & water (aqueous alcohol solutions), there are no non-FC alternatives that can achieve an equal performance profile. It can be used to form a repellent substrate without wet processing, thus no solvents or wetting agents are needed. Various extrusion processes can make repellent films, fabrics, molded parts or fibers when incorporating 3M Polymer Melt Additive. Continuous filament can be chopped into staple fiber and carded to form a repellent web. Examples of finished goods are medical protective clothing (including non-woven types) or other medical protective equipment used by the medical personal against infection diseases (Covid-19).

Window Film

5.1.1c-enabled coatings are used in Commercial/Residential building window films. The 5.1.1c is used to aid in wetting out during the coating step.

Coated Masking Paper

Coated automotive masking paper is a treated paper used to mask vehicle surfaces and parts, to

protect from paint overspray in the auto-body repair business. 5.1.1c treatment allows the paper to resist penetration of solvents, lacquers and enamels, preventing bleed-through to the vehicle surface.

Whiteboard films

5.1.1c coating is used in this product application to provide stain resistant properties. This helps prevent "ghosting" and marker staining on the whiteboard film. The whiteboard films can be applied to a variety of substrates and can be directly applied to a wall, table or as a replacement film over an existing whiteboard.

28. Please specify the final mixtures/articles (with industrial, professional and consumer relevance) resulting from the use(s) of your PFAS. Please indicate whether your substance(s) is/are a component(s) of mixtures and/or articles. List the nature of these articles/mixtures as precisely as possible.

All applications (apart from the Whiteboard films) are sold to industrial or professional installers. The final product is an article treated with a 5.1.1c-based coating including tapes and labels.

Whiteboard films are sold in the consumer and professional product space. The final products containing PFAS components are articles.

29. Please give information for every mixture/article you are producing/using on the tonnage of PFAS you are producing/using per year.

We would need more time to reproduce this data for all our products in response to this call for evidence.

30. To whom do you supply the PFAS and mixtures/articles containing PFAS you manufacture/import?

Polymer Melt Additive

This article is supplied to the manufacturers of medical protective clothing & facemasks.

Coated Masking Paper

The article is supplied to Industrial and professional users in the auto-body repair industry.

Window Films

Window films are used in both automotive aftermarket as well as in public, commercial and residential buildings.

Whiteboard Films

Whiteboard films are supplied to Facilities Managers for office/workspace, schools, building designers.

31. If possible, indicate the concentration (or concentration range) of PFAS or application levels (i.e. in mg per m²) for the PFAS and/or PFAS in your articles/mixtures, including polymers, and uses. Are they impurities, residues or intended additives?

We would need more time to reproduce this data for all our products in response to this call for evidence.

32. Which minimum concentration of PFAS alone or in your mixtures including polymers is feasible using the best available technique?

We would need more time to reproduce this data for all our products in response to this call for evidence.

33. Is the concentration mentioned in question 32 necessary for the performance of your substance, mixture, polymer? What is the minimum concentration of PFAS, mixtures including polymers that is necessary to maintain its function?

We would need more time to reproduce this data for all our products in response to this call for evidence.

40. Would it be possible for the use referred to in Question 7, listing the applicable use areas), to substitute this use with a different technical solution without environmental emissions?

There is no substitution in the applicable use areas as marked in Question 7 with equally high performing, technically and economically feasible products without environmental emissions from an overall life cycle assessment point of view. The strong C-F bond in the substance is key to get the required high performance and durability of the products in the various use areas. Any non C-F substance is expected to perform less and a detailed and comprehensive life cycle assessment would still need to evaluate the potential impact on the environment. Many of these high performing and highly durable products, used in a critical environment from a health and safety point of view, have to be externally certified, which means that any different product developed, if at all possible for the reasons mentioned above, would need to go through a lengthy certification process.

Questions 41-48

Please see the answer to question #40.

PART II – SPECIFIC USES

V. Questions - Section A - Specific Uses: Textiles, leather, apparel and textile related products

10. What specific functions do PFAS fulfil?

3M Polymer Melt Additive is a fluorochemical flake 5.1.1c for incorporation into polyolefin and other synthetic resins (e.g. polypropylene).

3M Polymer Melt Additive is heat and shear stable to a wide variety of extrusion conditions. 3M Polymer Melt Additive is designed to be compatible with synthetic resins at extrusion temperatures. Consequently, the additive can localize at the surface during quenching or within a few hours to provide an effective surface-active treatment, while not significantly influencing fiber properties. When 3M Polymer Melt Additive is properly pre-compounded, blended and extruded with the host resin, the result is a substrate that is repellent to water or other low surface tension liquids. At levels above 5.1.1c both oil repellency as water repellency (aqueous alcohol solutions up 5.1.1c 5.1.1c can be achieved. Fluorochemicals are capable to lower the surface tension of the treated fibers to impart oil & water (aqueous alcohol solutions); there are no non-FC alternatives that can achieve an equal performance profile.

It can be used to form a repellent substrate without wet processing, thus no solvents or wetting agents are needed. Various extrusion processes can make repellent films, fabrics, molded parts or fibers when incorporating 3M Polymer Melt Additive.

Continuous filament can be chopped into staple fiber and carded to form a repellent web. Examples of finished goods are medical protective clothing (including non-woven types) or other medical protective equipment used by the medical personal against infection diseases (Covid-19).

11. In what types of textiles are they used?

Medical protective clothing or other medical protective equipment used by the medical personal against infection diseases.

12. In what types of personal protective equipment are PFAS used?

Medical protective clothing or other medical protective equipment used by the medical personal against infection diseases.

13. What PFAS-substances or PFAS-groups are used?

5.1.1c based fluoro-polymeric material.

14. Please give information for every textile you are producing/using on the tonnage of PFAS you are producing/using per year.

We would need more time to reproduce this data.

15. Please indicate the concentration (or concentration range) of the PFAS(s) in your textile products and uses. Please also indicate the technical function of the PFAS(s) in the products.

We would need more time to reproduce this data.

16. Please also specify potential PFAS-impurities, residues or intended additives and indicate their possible concentration ranges.

We would need more time to reproduce this data.

17. Please specify any robust data you might have on reduced service life when only water-repellent properties are available (but no grease-, stain-repellence).

Fluorochemicals are capable to lower the surface tension of the treated fibers to impart oil & water (aqueous alcohol solutions), there are no non-FC alternatives that can achieve an equal performance profile.

18. Please specify any information you might have on technical textiles (e.g. can you differentiate between essential and non-essential uses in automotive/aerospace, quantities used in medical applications would be valuable, information on sacks/tarpaulins. Do they mainly need water repellence?)

See answer 10.

V. Questions - Section A - Specific Uses: Construction Products

10. What specific function do PFAS fulfil in construction products?

5.1.1c enabled coatings are used in a variety of high-performance applications 5.1.1c enabled coatings are used as a flow and leveling agent to help produce a smooth surface during the coating process. In addition, the coatings in many cases also provide a significant level a durability and performance. This level of performance is needed in Window films used in both automotive aftermarket as well as in public, commercial and residential buildings. 5.1.1c is used to aid in wetting out during the coating step.

5.1.1c enabled coatings are used in window film applications for construction because these films deliver superior performance over standard polyester films in blast and impact events; yet still maintain a high level of optical clarity.

For construction applications window films are used for the following properties:

- Mitigates hazards from shattered glass during natural disasters.
- Helps protect people from flying glass shards, one of the most common causes of blast-related injuries and fatalities.
- Patented, co-extruded micro-layered and tear-resistant to help increase security and provide added protection against smash and grab burglaries.
- Significantly blocks the amount of harmful UV rays that cause fading, helping to extend the life of furnishings.

11. In what types of construction products are they used?

Safety & Security Window Films

12. What PFAS-substances or PFAS-groups are used?

5.1.1c

13. Please give information for every construction product you are producing/using on the tonnage of PFAS you are producing/using per year.

We would need more time to reproduce this data.

14. Please indicate the concentration (or concentration range) of the PFAS(s) in your construction products and uses. Please also indicate the technical function of the PFAS(s) in the products.

We would need more time to reproduce this data.

15. Please also specify potential PFAS-impurities, residues or intended additives and indicate their possible concentrations or concentration ranges.

We would need more time to reproduce this data.

16. Please specify any robust data you might have on reduced service life when only water-repellent properties are available (but no grease-, stain-repellence) for coated construction products

We would need more time to reproduce this data.

17. If you use alternative substances, do you have any information on their risk profiles?

No alternate chemistry has been identified.

18. Please specify any information you have on reformulation costs

No specific information.

PART III – ADDITIONAL INFORMATION

Additional information on Automotive Aftermarket for Coated Masking Paper

5.1.1c-enabled coatings are used in a variety of high-performance applications. 5.1.1c-enabled coatings are used as a flow and leveling agent to help produce a smooth surface during the coating process. In addition, the coatings in many cases also provide a significant level of durability and performance. This level of performance is needed in certain masking papers used in the automotive industry. Coated automotive masking paper is a treated paper used to mask vehicle surfaces and parts, to protect from paint overspray in the auto-body repair business. 5.1.1c treatment allows the paper to resist penetration of solvents, lacquers and enamels, preventing bleed-through to the vehicle surface.

Usage of these coatings creates a durable product necessary for operators. Operators can use strong, flexible, pliable masking paper to protect a large variety of irregularly shaped surfaces from overspray, speeding up worktime and improving results in auto body masking and painting. These papers are specially treated to resist penetration of liquids including solvents and enamels, greatly reducing rework due to bleed-through. Some of the products can also withstand a bake cycle up to 400°F (204°C) for one hour, making it suitable for use in paint booths as well. There are no known substitutes for these coatings that enable this level of performance and productivity.