

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

For 5.1.1c Enabled Fluorosurfactants - Acrylic Foam Tapes

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	
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).

Industrial articles used in general industry, construction, automotive, energy, building, transportation, and aerospace markets:

- Foam Tapes

Consumer/Household articles:

- Outdoor Mounting Tape

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.

Foam tapes are a core 3M technology and used around the world since the 1980s. These tapes are used in various industries including automotive, construction, transportation, structural and aerospace market.

3M Confidential 5.1.1c-enabled surfactants are critical process aids to provide the necessary

performance and quality that allows our foam tapes to perform consistently and in accordance with industry standards. This critical performance property is necessary because it guarantees consistent adhesion, strength and foam integrity across the bond. Inconsistencies in the bond line are unacceptable in the industries we serve. For example, foam tapes are used to bond exterior components to cars and large commercial vehicles, as well as support large structural glazing and architectural panel components on buildings. Tape failures in these applications for example could potentially be catastrophic. **End 3M Confidential**

3M Foam Tape has been used around the world since 1980 to replace liquid adhesives and mechanical fasteners in permanent bonding and sealing applications. Its main benefits are:

- Acrylic adhesive chemistry offers long-term outdoor durability against heat and UV
- Closed-cell foam construction seals against dust, dirt, and rain
- Viscoelastic response of foam accommodates for differential thermal expansion/contraction between bonded surfaces
- Uniform thickness provides consistent separation between bonded surfaces when optical path-length is critical, as in Concentrated Photovoltaic (CPV) applications
- Saves time and money – pressure sensitive adhesive tape holds immediately and neatly without the mess, clamping and curing time of liquid adhesives and sealants.

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.

Industrial and Professional

Acrylic Foam Tapes – Various products with different thicknesses, adhesive properties and final forms in different markets.

Consumer

3M Outdoor Mounting Tapes are leveraging the same base technology as the industrial / automotive products but are sold in smaller quantities and more consumer focused forms.

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?

Industrial and Construction

3M Foam Tapes are supplied to industrial converters and direct users, in the general industrial, building construction, and renewable energy.

Transportation, Automotive and Aerospace

3M Foam Tapes, or assemblies containing Foam Tapes, are supplied both direct to automotive and aerospace OEMs as well as Tier suppliers in the industry.

Consumer / Household

3M Outdoor Mounting Tape is supplied to Retailers.

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: Construction Products

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

Many 3M Foam Tapes that are using 5.1.1c-enabled tapes are used in the construction sector.

3M Confidential 5.1.1c-enabled surfactants are critical process aids to provide the necessary performance and quality that allows our foam tapes to perform consistently and in accordance with industry standards. This critical performance property is necessary because it guarantees consistent adhesion, strength and foam integrity across the bond. Inconsistencies in the bond line are unacceptable in the industries we serve. **End 3M Confidential**

Three main applications in construction are structural glazing, architectural panel and general industrial.

Architectural Panels

Architectural Panel Tapes are used for many applications in the construction industry, including the manufacture of architectural panels for curtain walls, exterior building cladding and interior panel and trim attachment. In many situations, 3M Foam Tapes can replace liquid adhesives, sealants, welds and mechanical fasteners. 3M Foam Tapes provide immediate handling strength during the fabrication process and do not shrink after curing, like with some liquid applied sealants. This shrinkage can result in isolated panel stress that may be visible on the exterior face of the architectural panel. Many 3M Foam tapes that are used in architectural panel applications are GREENGUARD Gold Certified for low VOC emitting adhesives and qualify for LEED® credits in appropriate applications.

Structural Glazing

3M Foam Tape provides an extraordinarily strong double sided foam tape that adheres to a range of substrates, including aluminum, painted aluminum and glass. Our bonding tapes provide excellent strength, conformability, surface adhesion and temperature resistance. The 3M Foam Tapes are used to attach glass panels to metal frames in curtain wall systems, commercial windows and doors, skylight and canopy systems replacing commonly used mechanical fasteners, gaskets and structural silicone sealants. The tapes offer up to 20-year warranty for qualifying applications, bonds with excellent dynamic strength to replace conventional wet glazing and resists environmental conditions such as UV, moisture, heat, and cold.

General Industrial

3M Foam Tapes are used broadly in multiple industries for high performance applications. Key areas of use:

- Metal Fabrication – replacing riveting and welding for safer more sustainable assembly
- Signage – attachment of large signage application for outdoor usage
- Appliances – Allows assembly of dissimilar materials and MSE/LSE plastics
- Electronics and Renewable Energy– Enabling design flexibility in consumer electronics and critical devices for modern society. Tapes are also heavily used in the bonding of solar panels

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

They are used in certain 3M VHB Tape branded structural glazing tapes and architectural panel tapes and general industrial.

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 for all our products in response to this call for evidence.

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 for all our products in response to this call for evidence.

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 for all our products in response to this call for evidence.

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

Not applicable.

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 / Transportation and Consumer

Automotive and Transportation

Many of the 5.1.1c enabled foam tapes are used in the automotive and commercial vehicle sector.

3M Confidential 5.1.1c enabled surfactants are critical process aids to provide the necessary performance and quality that allows our foam tapes to perform consistently and in accordance with industry standards. This critical performance property is necessary because it guarantees consistent adhesion, strength and foam integrity across the bond. Inconsistencies in the bond line are unacceptable in the industries we serve. **End 3M Confidential**

Certain 3M Foam Tapes are designed for attaching exterior automotive trim to painted surfaces, without the time and expense of adhesion promoters. 3M Foam Tapes are also used for commercial vehicle panel attachment such as trailers, truck bodies, ambulances, fire trucks and busses. The double-coated tape allows for primerless application to low-surface energy (LSE) substrates and paints. Acrylic foam core is designed for robust performance even to complex contours and difficult paint surfaces. This tape reduces or eliminates labor and equipment expenses related to primers and offers a robust solution to many OEMs around the world. Common components attached are Attaching window visors, pillar garnishes, nested components, Sensor bonding, Small side body moldings (PP), Claddings, body side moldings, rocker panels, running boards, wheel flares (TPO), ABS nameplates and Chrome nameplate applications.

The use of 5.1.1c in automotive tapes is as a manufacturing process aid. PBSF does not serve a function in the performance of the final product but without its use the final product does not consistently meet quality and performance requirements as defined by the automotive OEM's. Adhesive tape in Automotive manufacturing allows for the replacement in some application of mechanical fasteners (rivets, nuts and bolts, welding processes, or steel clips and retainers). This allows for constructions that are lighter than metal fastening methods which enables lighter vehicles.

Consumer / Household

3M Foams Tapes are also used in general consumer applications or household items.

Outdoor Mounting Tape is the used for permanent bonding application for general consumers. Designed to deliver exceptional adhesion, this double-sided tape holds up to 15 pounds and is weather resistant for permanent mounting outdoors. It is compatible with a variety of surfaces and conforms easily. Ideal for use on finished/painted surfaces, metal, plastic, vinyl and more.