# MAMMUT WECARE

## PFC POLICY

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## 1 INTRODUCTION

MAMMUT is a market leader in technical and innovative equipment for alpine activities. Our demanding customers, who have been placing their trust in our brand for over 150 years, expect our products to deliver excellent performance together with maximum dependability and durability. To ensure reliable and lasting weather protection, many outdoor products are given a durable water-repellent protective layer. To meet the highest performance demands, the outer materials are also often treated with perfluorinated and polyfluorinated chemicals (PFCs). As PFCs are barely degradable in nature, MAMMUT has set itself the strategic goal of progressively switching all treatments for its clothing range to PFC-free alternatives by 2022. For the remaining product groups, PCF-based treatments should be phased out by 2023 at the latest.

#### 1.1 Scope

This policy refers to the water-repellency treatment (Durable Water-Repellency) for our products. This excludes special make-up styles (SMUs), trims and accessories.

## 1.2 Perfluorinated and polyfluorinated chemicals (PFCs)

PFCs are a group of over 800 substances. As well as their effectiveness in repelling water, dirt and oil, they also offer high mechanical, thermal and chemical stability. This makes PFCs ideal for long-term applications under extreme conditions.

In the outdoor industry, PFCs are used as water-proofing treatments capable of withstanding multiple washes and repeated intensive use. As a Durable Water Repellent (DWR) protective layer, PFCs are responsible for the typical beading effect and prevent the outermost layer of fabric from becoming saturated with water or heavily soiled.

This is important as dry and clean outer materials help to preserve the product's functionality – perspiration is wicked outwards in the form of water vapor, keeping the wearer warm and dry. And it's not just about comfort. In particular in high alpine terrain, dry and warm clothing is important for the wearer's performance, safety and health.

As well as ensuring lasting protection and durable products, the extreme stability of PFCs also means that they are difficult or impossible to break down in the environment and can therefore accumulate. To protect the environment, MAMMUT is working to eliminate PFCs from its supply chain. MAMMUT is pursuing the ambitious goal of progressively switching all treatments for its entire product range to PFC-free alternatives by 2023.

#### 1.3 Alternatives

In comparison to PFC-based DWR treatments, the currently available paraffin, silicone or dendrimerbased PFC-free alternatives still present drawbacks in terms of their water-repellent and dirt-repellent performance, in particular durability. They also have no oil-repellent effect. This reduced effectiveness in repelling dirt and the absence of any oil-repellent effect results in faster contamination of the outer materials and membranes, which in turn negatively impacts on the product's functionality and durability. These restrictions mean that the currently available PFC-free alternatives are suitable mainly for products with lower performance requirements. However, the development of PFC-free alternatives is very dynamic and new and improved products are constantly appearing on the market. We are therefore assuming that in time PFC-free alternatives will be capable of meeting performance, safety and durability requirements in higher performance segments as well.



# 2 MAMMUT ROADMAP TO ZERO PFC<sup>1</sup>



We are progressively working toward the ambitious goal of eliminating all PFC treatments for our clothing range or replacing them with PFC-free alternatives by 2022. By 2023 at the latest, we also aim to phase out PFC-based treatments for all sleeping bags, backpacks, bags, climbing harnesses, ropes, slings and footwear. To reconcile our demanding customers' high requirements and expectations for our products as closely as possible with a switch to PFC-free alternatives, we are following a performance-oriented approach.

MAMMUT has divided its entire clothing portfolio into the three performance segments of FUNDA-MENTAL, COMPETENCE and PROFESSIONAL. We have defined minimum requirements for the DWR treatment for each segment, based on the intended applications and expected usage intensities, and set ambitious but realistic deadlines for the elimination of PFCs from the supply chain. This progressive, performance-oriented approach allows us to ensure the fastest possible progress with the PFC phase-out, while still providing our customers with performance tailored optimally to their needs when they purchase a MAMMUT product.

We feel it would be inadvisable to immediately switch the entire product portfolio to PFC-free alternatives as this would involve significant impairments in the reliability, safety, quality and durability of our products. As a market leader in technical mountain sports equipment, we accept no compromises in relation to our customers' safety: they must be able to rely on their MAMMUT equipment in all situations. In terms of quality and durability too, we have always set the highest standards for our products. Because we are convinced that quality and durability provide the greatest sustainability.

<sup>1</sup> The deadlines stated relate to the elimination of PFCs from our supply chain. From the time at which PFCs are eliminated from the supply chain, it will then take up to two years for the new products to be available in stores.





The FUNDAMENTAL segment includes our clothing ranges for sports climbers and urban use. The products in this segment meet the highest requirements in terms of robustness, tailoring and design and, where required, have good water-repellent properties. We have set ourselves the goal of com-

pletely eliminating the use of PFC-based treatments in this segment or replacing them with PFC-free alternatives by the end of 2018. This will take the total proportion of PFC-free materials used for our clothing to 80%.





The **COMPETENCE** segment includes products for use in the mountains and which meet ambitious mountain sports enthusiasts' high requirements for functionality and quality. The basic requirements for weather-protection clothing in this segment encompass very good water-repellent and dirt-repellent properties. We have set ourselves the goal of elim-

inating PFC-based DWR treatments in the Competence segment or replacing them with PFC-free alternatives by the end of 2020 at the latest. When we achieve this interim goal, 95% of the total volume of materials used for our clothing will already be PFC-free.





The **PROFESSIONAL** segment includes topperformance products for ambitious and professional alpinists, developed for uncompromising use in mountain environments and where maximum durable water-repellent, dirt-repellent and oil-repellent performance and robustness are essential for the wearer's protection. Only the best available materials and technologies are used in this segment. We have set ourselves the goal of eliminating PFC-based DWR treatments in the Professional segment or replacing them with PFC-free alternatives by the end of 2022 at the latest. This conversion will result in a 100% PFC-free apparel range by 2022.





As part of the overarching **WE CARE** sustainability strategy, MAMMUT aims to eliminate PFC-based treatments for all other product groups, i.e. sleeping bags, backpacks, bags, climbing harnesses, ropes,

slings and footwear, by 2023 at the latest. Once again, this conversion will take place progressively, based on clearly defined performance criteria.



## 3 BEST PRACTICE MANAGEMENT OF PFCS

Viewed across the entire life cycle, the environmental risks of PFC usage are by far the greatest during the production process. MAMMUT therefore places great emphasis on the consistent application of best practices and maximum process control for PFCs in the supply chain. The use of controlled procedures and comprehensive emission protection measures will specifically eliminate environmental risks and minimize the potentially negative impacts on the environment of PFC processing.

#### 3.1 PFCs

Only the highest quality PFCs are permitted for the production of our products. In this respect, we maintain close contact with industry partners and continuously coordinate the use of optimized chemicals.

#### 3.2 Requirements for suppliers

Where possible, MAMMUT selects only **bluesign® system partners** as material suppliers. Suppliers who use PFCs in their processes are also required to comply with the MAMMUT Sports Group supplier guidelines for the use of PFCs.

### 4 CARE

Correct care of our treatment is vital to ensure that products maintain their functionality over long periods of time and need to be replaced or given new waterproofing treatments as seldom as possible. If a new waterproofing treatment is required, the most environmentally friendly products possible should be applied in a controlled process to minimize potential risks to health and the environment.

#### 4.1 Information

As a company and in cooperation with industry associations (EOG, BSI), competitors and retailers, MAMMUT is taking active steps to inform consumers of the correct care required for the company's products. Regular care will help our products maintain their functionality at an optimum level for as long as possible and means that repeat waterproofing or replacement will be required only rarely, significantly reducing their environmental footprint.

#### 4.2 Care products

MAMMUT completely discontinued sales of PFC-based care products for domestic use at the end of 2017 and stocks only PFC-free care products in its stores.

#### 4.3 Waterproofing service

MAMMUT has introduced a professional PFC-free waterproofing service in its stores in Germany. This should ensure that repeat waterproofing treatments are applied in a controlled procedure with appropriate protection from emissions to achieve the best possible and long-lasting results. Plans are in place to roll out this service to other countries.



#### DISPOSAL 5

To minimize PFCs entering the environment at the end of products' service life, clothing treated with PFCs should be disposed of safely in conventional garbage incineration facilities. Post-consumer recycling of textile laminates is currently not scalable on an industrial level. A recycling program for functional clothing introduced by W.L. Gore, also involving MAMMUT, was discontinued due to the very low return rate.

### RESEARCH & DEVELOPMENT

Since 2017, MAMMUT has been involved in a largescale, interdisciplinary and cross-industry research project for the development and implementation of PFC-free solutions. Together with other industry and research partners, a project supported by the Swedish government is identifying and testing the environmental friendliness of PFC-free alternatives for different applications. Suitable alternatives are then subjected to extensive functional tests. The alternatives that perform best in these tests are then optimized and modified, with the aim of achieving performance at least equal to PFC-based treatments.

https://www.swerea.se/en/POPFREE

In particular, MAMMUT is playing an active role by passing on relevant know-how, defining and communicating requirements, as well as through intensive field tests of new products and technologies.



# 8 INFORMATION & COMMUNICATION

We place great importance on high transparency for consumers and other stakeholders in relation to PFC usage and the phasing out of PFCs. Our customers should be in a position to make an informed decision as to which product is best suited to their application and usage intensity and in line with their needs. To achieve these goals, MAMMUT uses the following communication tools:

#### 8.1 PFC Policy

This PFC Policy provides our customers and stakeholders with an overview of our PFC strategy. The PFC Policy is reviewed at regular intervals and updated. In the interests of transparency, all previous versions of the Policy can be viewed online.

#### 8.2 Website

An overview of the PFC issue can be found on our website. Furthermore, in the online shop, all products from the clothing collection produced without PFC-based treatments are identified accordingly.

#### 8.3 Product

At the moment, our PFC-free clothing is identified by the "PFC-free DWR" symbol on the care label.



# 9 CONTINUOUS IMPROVEMENT

Management of chemicals in a multi-step procurement chain is a highly complex task. We are constantly working to improve our chemical management, to meet high requirements for sustainability throughout the textile supply chain, as well as building up specific know-how and resources.

# APPENDIX GUIDELINES FOR SUPPLIERS





# BEST ENVIRONMENTAL PRACTICES FOR HANDLING PERFLUORINATED AND POLY FLUORINATED CHEMICALS (PFC)

#### 1. Capacity building

Increase environmental awareness among all employees

#### 2. Chemicals

- PFC treatments should be used only in situations where no alternatives exist to achieve the effects desired by the customer
- Use only optimized PFC products
- Mix only the quantity required for the planned treatment
- Limit the proportion of active ingredients in the formulation to a minimum
- Re-use/recycle residual liquids/surpluses as far as possible
- Comply with the specifications in the material safety data sheet and in the technical data sheet in relation to handling (use, storage)
- Use the PEC/PNEC values calculated by experts as a basis where possible

#### 3. Equipment

- All equipment must be maintained in an excellent condition; regular audits should be carried out
- Use optimized application equipment with a minimum volume of residual liquids; minimal application process; where using padding technology, make sure that the volume of residual liquid is reduced to a minimum by using a displacement system or similar to minimize the volume of the padding machine (foulard)
- Use an automated dispensing system with an integrated self-analysis system to precisely calculate the inclusion and use of liquids
- Optimize the curing conditions in the clamp frame

#### 4. Planning

 Optimize planning to avoid the need to replace the liquid

#### 5. Operational procedures

- Do not channel active ingredients directly into waste water; collect residual liquids with active ingredients separately and ensure their incineration
- Provide sufficient and appropriate personal protective equipment (gloves, safety glasses, gas masks, etc.)
- When using fluorinated chemicals with extenders, follow the instructions precisely with regards to the curing time and temperature stated in the technical data sheet
- Fluorocarbon products applied using spraying technology should be used only with the appropriate equipment and monitoring devices



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