

Safety Data Sheet

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

Version No 11

April 2025

SDS Reference Number 1166165042501

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SECTION 1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Material name: Apiezon PFPE 501.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Product use: High temperature sealing / lubricating vacuum grease, inert.

Uses advised against: None.

1.3 Details of the supplier of the substance or mixture

Company: M&I Materials Limited, Hibernia Way, Trafford Park, Manchester, M32 0ZD, UK.

Telephone: +44 (0)161 864 5409.

Email: apiezontech@mimaterials.com

1.4 Emergency telephone

Emergency telephone: +44 (0)161 864 5409.

Opening hours: 9:00am – 5:00pm (Mon – Fri).

1.5 Other comments

National Poisons Information Service: NPIS contact details

Country	Organisation/Company	Address	Web Address
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	www.npis.org

The NPIS does not provide poisons information to members of the public - you should contact your general practitioner or telephone NHS 111 (England), NHS 24 (Scotland) or NHS Direct (Wales).

SECTION 2. Hazards Identification

This product is not classified as hazardous and this document has been compiled for information purposes, in accordance with regulation REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758 and OSHA hazard communication guidelines.

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567): Not classified.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567): No symbol or signal word.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Thermal decomposition at temperatures >300°C can lead to release of toxic and corrosive gases.

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SECTION 3. Composition/Information on Ingredients

3.1 Substance

Not applicable.

3.2 Mixture

Composition:

Constituent	CAS Number EC Number EU REACH No	Classification	Concentration (%w/w)
PFPE base oil	69991-67-9 Not applicable	None	75 - 85%
PTFE	9002-84-0 618-337-2 Not applicable	None	15 - 25%

All constituents are listed on the TSCA inventory.

SECTION 4. First Aid Measures

4.1 Description of first aid measures

General advice: Have the product container, label or Safety Data Sheet with you when calling the emergency number, or a physician.

Inhalation: None envisaged due to the low vapour pressure of the substance.

Skin: Wash with soap and water. Obtain medical attention if irritation develops.

Eyes: Irrigate with copious amounts of water. Obtain medical attention if irritation develops.

Ingestion: Do not induce vomiting, obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation: No known effect.

Skin: Contact with skin may cause slight irritation.

Eyes: Contact with eyes may cause slight irritation.

Ingestion: Ingestion may cause nausea and vomiting.

4.3 Indication of any immediate medical attention and special treatment needed

No special treatment required. Treat symptomatically. Do not induce vomiting.

SECTION 5. Fire Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media: Carbon dioxide, dry powder, foam or water fog.

Unsuitable extinguishing media: Do not use water jets.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting: Combustion products include fluorine compounds, such as hydrogen fluoride.

5.3 Advice for fire fighters

Special protective equipment for firefighters: Wear full protective clothing and self-contained breathing apparatus.

Further information: Cool closed containers exposed to fire with water spray.

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SECTION 6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to protective measures listed in sections 7 and 8.
Spilt product constitutes a slip hazard. Avoid contact with eyes.

6.2 Environmental precautions

No special precautions required.

6.3 Methods and material for containment and cleaning up

Can be wiped from surfaces and residues cleaned with water and detergent.

6.4 Reference to other sections

For disposal considerations see section 13.

Refer to protective measures listed in sections 7 and 8.

SECTION 7. Handling and Storage

7.1 Precautions for safe handling

Advice on safe handling: No special precautions required.
For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers: Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feed.

7.3 Specific end use(s)

Exposure to air should be minimised. Opened containers should be properly resealed.
For proper and safe use of this product, please refer to the label.

SECTION 8. Exposure Controls/ Personal Protection

8.1 Control parameters

At ambient temperature grease has very low volatility, so development of fumes is highly unlikely. At temperatures approaching 300°C, if thermal decomposition occurs, hydrogen fluoride, carbonyl difluoride and other toxic fumes may be released.

Occupational Exposure Limits:

Component	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
PFPE base oil	69991-67-9	TWA	No relevant control parameters	M&I Materials
PTFE	9002-84-0	TWA	No relevant control parameters	M&I Materials

Biological occupational exposure limits: N/A

Derived No Effect Level (DNEL): N/A

Predicted No Effect Concentration (PNEC): N/A

8.2 Exposure controls

Engineering measures: The extent of these protection measures depends on the actual risks in use. In most cases very small quantities of material are used.

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Personal protective equipment:



Respiratory protection: Not required for normal use.

Skin protection: Not required for normal use.

Hand protection: Wash hands after use. For prolonged or repeated skin contact gloves are recommended.

Recommended gloves:

Material: Nitrile rubber.

Break through time: > 480 min.

Glove thickness: 0.5 mm.

Remarks: Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Eye protection: Safety glasses with side-shields tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Eye washes should be available for emergency use.

SECTION 9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance: Semi-solid white grease.

Odour: None.

pH: Not applicable.

Melting point: Data not available.

Initial boiling point and boiling range: >270°C.

Flash point: Not flammable.

Flammability (solid, gas): Not flammable.

Upper/lower flammability or explosive limits: Data not available.

Vapour pressure: 1.32×10^{-12} Torr at 25°C.

Vapour density: Not applicable.

Relative density: 2.003 @ 25°C.

Water solubility: Insoluble.

Solubility: Data not available.

Partition coefficient: n-octanol/water: Data not available.

Auto-ignition temperature: Data not available.

Decomposition temperature: Data not available.

Viscosity: Not Applicable.

Explosive properties: Data not available.

Oxidising properties: Data not available.

9.2 Other information

Not applicable.

SECTION 10. Stability and Reactivity

10.1 Reactivity

Stable under normal conditions of use.

10.2 Chemical stability

Stable under normal conditions of use.

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10.3 Possibility of hazardous reactions

Data not available.

10.4 Conditions to avoid

Temperatures >250°C.

10.5 Incompatible materials

Strong acids, alkalis and oxidizing agents; alkaline metals; alkaline earth metals; powdered metals; halogenated compounds.

10.6 Hazardous decomposition products

May liberate toxic fluorine compounds (hydrogen fluoride, carbonyl fluoride) at temperatures >300°C.

SECTION 11. Toxicological Information

11.1 Information on toxicological effects

Likely routes of exposure: Skin and eyes are the most likely routes for exposure. Accidental ingestion may occur. Inhalation is not expected to be a relevant route of exposure.

Product:

Acute oral toxicity: Low toxicity: LD50 (Rat, female): >2000mg/kg.

Acute dermal toxicity: Expected to be of low toxicity: LD50 (Rat, female): >2000mg/kg.

Acute inhalation toxicity: Low volatility makes inhalation unlikely.

Skin corrosion/irritation: Repeated and prolonged skin contact may cause dry skin or irritation.

Eye corrosion/irritation: May cause transient irritation.

Respiratory or skin sensitization: Not expected to be a skin sensitizer.

Aspiration hazard: Not considered an aspiration hazard.

Carcinogenicity/mutagenicity: Not considered a mutagenic hazard or carcinogen.

This product is not considered to be a carcinogen by IARC, ACGIH, NTP or OSHA.

SECTION 12. Ecological Information

When used and/or disposed of as indicated, no adverse environmental effects are foreseen.

12.1 Toxicity

Product: Data not available.

12.2 Persistence and degradability

Data not available.

12.3 Bioaccumulative potential

Data not available.

12.4 Mobility in soil

Data not available.

12.5 Results of PBT and vPvB assessment

The product does not meet criteria for toxicity which requires further assessment. It is not considered PBT or vPvB.

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SECTION 13. Disposal Considerations

12.6 Endocrine disrupting properties

Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No other adverse effects envisaged.

13.1 Waste treatment methods

Product: Do not contaminate any lakes, streams, ponds, groundwater or soil. Avoid flushing into drains.

Product and packaging must be disposed of in accordance with local and national regulations.

Must not be incinerated due to liberation of toxic gases at temperatures >300°C.

Unused product may be returned for reclamation.

Contaminated packaging: Contaminated tubes should be taken to an approved waste handling site for recycling or disposal.

Waste code: Uncleaned packaging code 15-01-02 - Empty packaging contaminated with residues of non-hazardous substances.

SECTION 14. Transport Information

Not classified as hazardous under air (ICAO/IATA), sea (IMDG), road (ADR) or rail (RID) regulations.

14.1 UN number

Not relevant.

14.2 UN proper shipping name

Not relevant.

14.3 Transport hazard class

Not relevant.

14.4 Packing group

Not relevant.

14.5 Environmental hazards

Not relevant.

14.6 Special precautions for user

Not relevant.

SECTION 15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Product is not subject to Authorisation under REACH.

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII): Not applicable.

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59): Not applicable.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: Not

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applicable.

Regulation (EU) 2019/1021 on persistent organic pollutants (recast): Not applicable.

UK REACH List of substances subject to authorisation (Annex XIV): Not applicable.

GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation: Not applicable.

All constituent substances in this product are listed in the TSCA inventory.

15.2 Chemical safety assessment

A chemical safety assessment has been performed for this substance.

SECTION 16. Other Information

Compiled according to regulation 1907/EC/2006, as amended by UK REACH Regulations SI 2019/758 and OSHA hazard communication guidelines.

16.1 Changes from last issue

Section 1.4 - Emergency telephone number has changed and is no longer 24/7.

16.2 Abbreviations and acronyms

TWA: Limit Value - eight hours

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International code for the construction and equipment of ships carrying dangerous chemicals in bulk : with standards and guidelines relevant to the code.

16.3 Key literature references and sources for data

Company data.

16.4 Classification and procedure used to derive the classification

Further information classification of the substance: Not classified.

Classification procedure: Based on product data or assessment.

The information provided in this Safety Data Sheet is correct to our best knowledge, information and belief at the date of its publication. It is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not be construed as guaranteeing any specific property of the product.