

SAFETY DATA SHEET (SDS)

PRODUCT NAME : GREASE - AR555 PFPE

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

1.1 Product identifier

Product name: AR555 PFPE grease
Other means of identification: None
Item numbers: H113-50-013, 000-007-696

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

Identified uses: Lubricant.
Uses advised against: None known.

1.3 Details of the supplier of the safety data sheet

UK contact details

Edwards, Innovation Drive, Burgess Hill, West Sussex,
RH15 9TW, United Kingdom

General enquiries
Tel: +44 (0)8459 212223
Email: info@edwardsvacuum.com

US contact details

Edwards, 6416 Inducon Drive West, Sanborn,
New York, 14132, USA

General enquiries
Toll Free: 1-800-848-9800

1.4 Emergency telephone number

Chemtrec: 1-800-424-9300

2. Hazards Identification

2.1 Classification of the substance or mixture

GHS classification: Mixture.
Classification according to
Regulation (EC) No. 1272/2008: Not hazardous.
Classification according to
Directive 1999/45/EC: Not hazardous.

2.2 Label elements

Hazard pictograms: Not applicable.
Signal words: Not applicable.
Hazard statements: Not applicable.
Precautionary statements: Not applicable.

SAFETY DATA SHEET (SDS)

PRODUCT NAME : GREASE - AR555 PFPE

2.3 Other hazards

PBT criteria: The product is not considered a PBT.
vPvB criteria: The product is not considered a vPvB.
Other hazards which do not result in a classification: Not available.

3. Composition/Information on Ingredients

3.1 Substances

Not applicable.

3.2 Mixtures

Ingredient	% Weight	CAS No	Hazard class*	Risk phrase / Hazard Statements*
Hexafluoropropene, oxidized, oligomers, reduced and hydrolyzed	≥3 - < 10	161075-14-5	Eye Irritant. 2 H319	Xi; Xi; R36/38

*Hazard class, Risk phrase and Hazard Statements. These columns are only completed for ingredients which are classified as hazardous under EU Directive No 1272/2008 (as amended) and are present in sufficient concentration to make the overall substance hazardous. In all other situations, the column will be completed as "Not applicable".

Full text for the declared risk phrases and hazards statements is given in Section 16.

4. First Aid Measures

4.1 Description of first aid measures

Eyes: Rinse immediately with plenty of water for at least 10 minutes occasionally lifting the upper and lower eyelids. Seek medical attention if symptoms persist.

Skin: Remove any contaminated clothing. Wash skin with soap and plenty of water. Seek medical attention if symptoms persist.

Ingestion/Oral: If swallowed, remove to fresh air, give plenty of water to drink and seek medical assistance. DO NOT give anything to drink to an unconscious person. Do not induce vomiting.

Inhalation: If high concentrations of mists or fumes are inhaled, remove to fresh air. If breathing problems occur, a qualified individual should administer oxygen or artificial respiration as indicated. Seek immediate medical attention.

General advice: None.

SAFETY DATA SHEET (SDS)

PRODUCT NAME : GREASE - AR555 PFPE

4.2 Most important symptoms and effect, both acute and delayed

Potential acute health effects:

Eyes: May cause serious irritation.

Skin: May cause irritation.

Ingestion / Oral: Not available.

Inhalation: Not available.

Over-exposure symptoms:

Eyes: Not available.

Skin: Not available.

Ingestion / Oral: Not available.

Inhalation: Not available.

4.3 Indication of any immediate medical attention and special treatment needed

Not available.

5. Fire Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media: None known.

5.2 Special hazards arising from the substance or mixture

Fire and explosion hazard: Not available.

Hazardous combustion products: Not available.

5.3 Advice for fire-fighters

Special precautions for fire-fighters: Not available.

Special protective equipment for fire-fighters: Firefighters should wear appropriate protective equipment and Self-Contained Breathing Apparatus (SCBA) with a full face-piece operated in positive pressure mode.

For Flammability Properties - see Section 9.

SAFETY DATA SHEET (SDS)

PRODUCT NAME : GREASE - AR555 PFPE

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Put on appropriate personal protective equipment and evacuate personnel to safe areas. Avoid inhalation of vapours or mist and contact with skin and eyes. Provide adequate ventilation.

For emergency responders: Not available.

6.2 Environmental precautions

Stop the leak if it is safe/possible to do so. Use dykes or bunding to prevent spreading. Avoid contaminating sewers, streams, rivers and other water courses with spilled product. Notify the appropriate authorities if significant contamination occurs.

6.3 Methods and material for containment and cleaning up

Put on the necessary personal protective equipment: refer to Section 8. Exercise caution; the area of the spill area may be slippery. Extinguish all ignition sources and evacuate the area. Absorb material onto vermiculite, dry sand, earth or similar inert absorbent. Place spilled material into covered container for disposal. Use a suitable cleaning solution to clean up any remaining product. Dispose of according to applicable local, state and federal regulations. Do not flush into surface water or sanitary sewer system.

6.4 Reference to other sections

Refer to Section 8 for information on personal protective equipment.

Refer to Section 13 for information on disposal considerations.

7. Handling and Storage

7.1 Precautions for safe handling

Ensure Personal Protective Equipment is used whenever handling the product, see Section 8. Avoid eating, drinking and smoking in areas where the product is used. Practice good hygiene. Wash hands after use and prior to consuming food and drink.

If the contents are exposed, avoid inhalation of vapours or mist and contact with eyes and skin. Provide general ventilation when handling. If necessary provide mechanical exhaust.

7.2 Conditions for safe storage, including any incompatibilities

DO NOT store together with food. Store in original, sealed containers protected from direct sunlight in a dry, cool, well ventilated area away from oxidising agents and sources of ignition. Do not re-use empty containers.

7.3 Specific end use(s)

Not available.

SAFETY DATA SHEET (SDS)

PRODUCT NAME : GREASE - AR555 PFPE

8. Exposure Controls/Personal Protection

8.1 Control parameters

Ingredient	ACGIH - TLV	OSHA - PEL	Occupational Exposure Limits EH40 (UK)
None identified	Not applicable	Not applicable	Not applicable

8.2 Exposure controls

Appropriate engineering controls: Provide adequate ventilation with explosion relief, explosion suppression or oxygen deficient environment. Avoid escape of dust into the work area.

Individual protection measures:

Eye/Face Protection: Safety glasses with side shields that conform to EN166.

Hand/Skin Protection: For prolonged or repeated contact, use protective gloves conforming to EU Directive 89/686/EEC and EN 374. Wear suitable protective clothing such as overalls/coveralls appropriate to the risk at the specific workplace

Respiratory Protection: Use of a personal respirator and approved filter in cases of vapour formation.

Hygiene Measures: Practice good hygiene. Wash face, hands and any exposed skin thoroughly after handling. Immediately remove all soiled and contaminated clothing. Do not eat, drink or smoke while handling the product.

Other/General Protection: None.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance	White paste	Melting point / freezing point	Not available	°C / °F
Odour	Not available	Initial boiling point and boiling range	Not applicable	°C / °F
Odour threshold	Not available	Flash point	Does not flash	°C / °F
pH	Not available	Upper/lower flammability or explosive limits	Not available	°C / °F
Evaporation rate	Not available	Vapour pressure	< 0.001 @ 20 °C	hPa
Flammability (solid, gas)	The product is not flammable	Vapour density	Not available	g/cm ³
Solubility(ies)	Insoluble	Relative density	1.9 @ 20 °C	g/cm ³
Partition coefficient: n-octanol/water	Not available	Auto-ignition temperature	Not available	°C / °F
Explosive properties	Not available	Decomposition temperature	> 290 / 554	°C / °F
Oxidising properties	Not applicable	Viscosity	Not available	cSt

SAFETY DATA SHEET (SDS)

PRODUCT NAME : GREASE - AR555 PFPE

9.2 Other information

Not applicable.

10. Stability and Reactivity

10.1 Reactivity

Not available.

10.2 Chemical stability

Stable under normal conditions of use.

10.3 Possibility of hazardous reactions

Not available.

10.4 Conditions to avoid

None known.

10.5 Incompatible materials

Oxidizing agents.

10.6 Hazardous decomposition products

Not available.

11. Toxicological Information

11.1 Information on toxicological effects

The following information is for Hexafluoropropene, oxidized, oligomers, reduced and hydrolyzed.

Acute toxicity: LD50 Oral: > 2,000 mg/kg (rat).
LD50 Dermal: > 2,000 mg/kg (rat).

Irritation: Irritating to skin and eyes (rabbit).

Corrosivity: Not available.

Sensitisation: Not available.

Repeat dose toxicity: Not available.

Carcinogenicity: Not available.

Mutagenicity: Not available.

Specific Target Organ Toxicity (STOT) - single exposure: Not available.

SAFETY DATA SHEET (SDS)

PRODUCT NAME : GREASE - AR555 PFPE

STOT - repeated exposure Not available.

Aspiration hazard Not available.

Toxicity for reproduction: Not available.

Information on likely routes of exposure

Not available.

Symptoms related to the physical, chemical and toxicological characteristics

Eye Effects: May cause serious irritation.

Skin Effects: May cause irritation.

Ingestion/Oral Effects: Not available

Inhalation Effects: Not available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Not available.

Other information

Information given is based on the components and toxicology of similar products.

12. Ecological Information

The following information is for Hexafluoropropene, oxidized, oligomers, reduced and hydrolyzed.

12.1 Toxicity

EC50: > 100 mg/l, 48h, Daphnia magna (Water flea)

12.2 Persistence and degradability

The product is not considered to be persistent.

12.3 Bioaccumulative potential

The product is not considered to be bioaccumulative.

12.4 Mobility in soil

Not available.

12.5 Results of PBT and vPvB assessment

PBT: The product is not considered a PBT.

vPvB: The product is not considered a vPvB.

12.6 Other adverse effects

Not available.

SAFETY DATA SHEET (SDS)

PRODUCT NAME : GREASE - AR555 PFPE

13. Disposal Considerations

13.1 Waste treatment methods

Product: Dispose of the product in compliance with all applicable local and national regulations.

Packaging: Dispose of the packaging in compliance with all applicable local and national regulations.

14. Transport Information

14.1 UN number

ADR/RID	IMDG	IATA	Canadian TDG	United States DOT
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

14.2 UN proper shipping name

ADR/RID	IMDG	IATA	Canadian TDG	United States DOT
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

14.3 Transport hazard class

ADR/RID	IMDG	IATA	Canadian TDG	United States DOT
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

14.4 Packing group

ADR/RID	IMDG	IATA	Canadian TDG	United States DOT
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

14.5 Environmental hazards

ADR/RID	IMDG	IATA	Canadian TDG	United States DOT
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

SAFETY DATA SHEET (SDS)

PRODUCT NAME : GREASE - AR555 PFPE

14.6 Special precautions for user

ADR/RID	IMDG	IATA	Canadian TDG	United States DOT
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code

Not applicable.

15. Regulatory Information

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

European

This product has been classified in accordance with EU Regulation No 1907/2006 (REACH) on the Classification, Labelling and Packaging of Substances and Mixtures.

Classified as dangerous to supply: No.

German Federal Water Management Act: Water contaminating class - Not available.

United States

All materials contained in this product are on the U.S. Toxic Substances Control Act (TSCA).

SARA TITLE III - SECTION 313 SUPPLIER NOTIFICATION:

This product does not contain toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 and 40 CFR Part 372.

California Proposition 65: This product does not contain chemicals known to the State of California to cause cancer or reproductive toxicity.

Canadian

WHMIS Classification: Not available.

No ingredients in this product are included in the Canadian DSL.

15.2 Chemical safety assessment

Not available.

16. Other Information

This SDS is compiled in accordance with ANSI Z400.1, Regulation (EC) No 1907/2006 (as amended by Regulation No 453/2010) concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

16.1 Full text of abbreviated statements and phrases

R36/38 Irritating to eyes and skin.
H319 Causes serious eye irritation.

SAFETY DATA SHEET (SDS)

PRODUCT NAME : GREASE - AR555 PFPE

16.2 NFPA / HMIS hazard codes

NFPA Hazard codes		HMIS Hazard codes		Rating System
Health	Not available	Health	Not available	0 = No Hazard
Flammability	Not available	Flammability	Not available	1 = Slight Hazard
Instability	Not available	Reactivity	Not available	2 = Moderate Hazard
				3 = Serious Hazard
				4 = Severe Hazard

16.3 Sources of information for this data sheet

- Klübertemp GR AR555 North American Safety Data Sheet; Issue Date: 15th April 2015, Revision Date: 15th April 2015.
- Klübertemp GR AR555 Great Britain Safety Data Sheet; Issue Date: 15th April 2015, Revision Date: 15th April 2015.

16.4 Glossary

ACGIH - American Conference of Governmental Industrial Hygienists; **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; **ATE** - Acute Toxicity Estimate; **CAS No.** - Chemical Abstracts Service number; **CEN** - European Committee for Standardization; **CVD** - Chemical vapour deposition; **EC No.** - EINECS and ELINCS Number (see also EINECS and ELINCS); **EC₅₀** - Median effective concentration; **ECHA** - European Chemicals Agency; **EINECS** - European Inventory of Existing Commercial Substances; **ELINCS** - European List of Notified Chemical Substances; **IATA** - International carriage of dangerous goods by air; **IMDG** - International carriage of dangerous goods by sea; **LC₅₀** - Median lethal concentration; **LD₅₀** - Median lethal dose; **NIOSH** - National Institute for Occupational Safety and Health (US); **OECD** - Organisation for Economic Co-operation and Development; **OEL** - Occupational exposure limit; **PBT** - Persistent, bioaccumulative, toxic chemical; **PEL** - Permissible exposure limit; **RID** - International carriage of dangerous goods by rail; **STEL** - Short term exposure limit, 15 minute reference period; **STOT** - Specific target organ toxicity; **TLV** - Threshold limit value; **TWA** - Time weighted average, 8 hour reference period; **vPvB** - Very persistent, very bioaccumulative chemical

16.5 Revisions:.

- April 2010 - Data Sheet updated to reflect the latest supplier safety information.
- June 2012 - Data Sheet updated to reflect the latest supplier safety information & current regulatory information.
- November 2012 - European and US Contact Details updated
- February 2014 - Data Sheet updated to conform to Regulation (EC) No 1907/2006 (as amended by Regulation No 453/2010) and GHS.
- July 2015 - Product description updated
- January 2016 - Contact details updated. Revision date not changed to preserve 2-yearly SDS review date..

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