

Acota Limited
Knights Way, Centrepoint
Battlefield Enterprise Park
Shrewsbury Shropshire
SY1 3BF
UNITED KINGDOM

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Safety Data Sheet
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MSDS ID: Certonal FC-746 Release Date: 03/01/08 Version : 100
Supersedes Date n/a Printed : 03/01/08 Page 1 of 8

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

1.1 Tradename:
Acota Certonal FC-746 Coating diluent

1.2 Intended Use of Product:
Diluent for Certonal FC-742.

1.3 Acota Product ID:
Certonal FC-746

1.4 Contact Address:
Acota Limited
Knights Way, Centrepoint
Battlefield Enterprise Park
Shrewsbury Shropshire
SY1 3BF
UNITED KINGDOM

1.5 E-mail Address and Emergency Contact Number:
admin@acota.co.uk
+44-1743-466200

2 HAZARDS IDENTIFICATION

Risk Phrases:
R53 May cause long-term adverse effects in the aquatic
environment.

Acota Certonal FC-746 Engineering Fluid

3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient name and classification	CAS number	Percentage
Methyl nonafluoroisobutyl ether Acota Classification: R53	163702-08-7	20 - 80
Methyl nonafluorobutyl ether Acota Classification: R53	163702-07-6	20 - 80

Ingredients on the European Detergents Directive 2004/648/CE:

Methyl nonafluoroisobutyl ether	163702-08-7	>10%
Methyl nonafluorobutyl ether	163702-07-6	>10%

4 FIRST-AID MEASURES

- 4.1 Eye Contact:
No need for first aid is anticipated.
- 4.2 Skin Contact:
No need for first aid is anticipated.
- 4.3 Inhalation:
If signs/symptoms develop, remove person to fresh air. If signs/symptoms persist, get medical attention.
- 4.4 Ingestion:
No need for first aid is anticipated.

5 FIRE-FIGHTING MEASURES

- 5.1 Suitable Extinguishing Media:
Not specified.
- 5.2 Unsuitable Extinguishing Media:
Not specified.
- 5.3 Exposure Hazards:
No unusual fire or explosion hazards are anticipated. Exposure to extreme heat can give rise to thermal decomposition. Material will not burn.
- 5.4 Combustion Products from Fire:
Not determined.

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5.5 Fire-Fighting Procedures:

Water may be used to blanket the fire. Wear full protective equipment and a self-contained breathing apparatus. No unusual effects are anticipated during fire extinguishing operations. Avoid breathing the products and substances that may result from the thermal decomposition of the product or the other substances in the fire zone. Keep containers cool with water spray when

exposed to fire to avoid rupture.

6 ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions:

Please observe precautions from other sections of this Safety Data Sheet.

6.2 Methods for Cleaning up:

Ventilate the area with fresh air.

Contain spill.

Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry.

Collect as much of the spilled material as possible.

Clean up residue with an appropriate organic solvent. Read and follow safety precautions on the solvent label and health and safety data sheet.

Collect the resulting residue containing solution.

Place in a metal container approved for transportation by appropriate authorities.

Seal the container.

Dispose of collected material as soon as possible.

7 HANDLING AND STORAGE

7.1 Precautions for Safe Handling:

Keep container tightly closed. Avoid continuous exposure of the material to extreme conditions of heat, i.e., above 150 C (welding, open flame, misuse or equipment failure). Avoid exceeding a watt density of 50 watts/inch² from a heater surface. Continuous exposure to 150 C results in very slight decomposition of this product and therefore, is a very conservative use temperature threshold. Applications involving exposure of the fluid to temperatures exceeding 150 C or watt densities exceeding 50 watts/inch² have been safely implemented. Applications which may exceed these use parameters should be reviewed with Acota Technical Service. For industrial or professional use only. Contents may be under pressure, open carefully. No smoking: Smoking while using this product can result in contamination of the tobacco and/or smoke and lead to the formation of the hazardous decomposition products. Store work clothes separately from other clothing, food and tobacco products.

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7.2 Precautions for Safe Storage:

Store away from strong bases.

- Ventilation:

Keep container in a well-ventilated area.

- Incompatible Materials/Conditions:

Store away from heat.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Recommended Ventilation:

Use with appropriate local exhaust ventilation. Provide appropriate local exhaust ventilation at transfer points. Provide appropriate local exhaust when product is heated. For those situations where the fluid might be exposed to extreme overheating due to misuse or equipment failure, use with appropriate local exhaust ventilation sufficient to maintain levels of thermal decomposition products below their exposure guidelines. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits. If ventilation is not adequate, use respiratory protection equipment.

8.2 Exposure Limits:

None of the substances in the section 3 ingredient list are listed in the EH40 Exposure Limit Inventory.

8.3 Exposure Controls:

8.3.1 Eye Protection:

Avoid eye contact.

The following should be worn alone or in combination, as appropriate, to prevent eye contact: Safety glasses with side shields.

8.3.2 Hand Protection:

Avoid skin contact with hot material.

Wear appropriate gloves when handling this material to prevent thermal burns.

The following glove material(s) are recommended: Nitrile rubber.

8.3.3 Skin Protection:

Not specified.

8.3.4 Respiratory Protection:

Avoid inhalation of vapours, mists or spray. If thermal degradation products are expected, use full face supplied air respirator. Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection.

Select one of the following approved respirators based on

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airborne concentration of contaminants and in accordance with regulations: Half face piece or full face air-purifying respirator with organic vapour cartridges.

8.3.5 Ingestion:

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

9 PHYSICAL AND CHEMICAL PROPERTIES

- Appearance and Odour: Colourless liquid with a slight ethereal odour.
- pH: Not applicable
- Boiling point/boiling range: 101325 Pa (at 61 :C)
- Melting point/melting range: -135 0C
- Flash point: Not applicable
- Autoflammability: 405 0C (ASTM E659-84)
- Flammable Limits - LEL: NONE acc to ASTM E681-94, (at 100 :C)
- Flammable Limits - UEL: NONE acc to ASTM E681-94, (at 100 :C)
- Vapour pressure: 26931 Pa (at 25 :C)
- Water Solubility: < 12 ppm
- Specific gravity: 1.5 (Water=1)
- Vapour density: 8.6 (Air=1)
- Volatile organic compounds: DETAILS: Exempt
- Evaporation rate: 49 (BuOAc=1)
- Viscosity: 0.6 mPa.s (at 23 :C) (MITS)
- Percent Volatile: 100 %

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10 STABILITY AND REACTIVITY

10.1 Stability and Reactivity:

Stable. Hazardous polymerisation will not occur.

10.2 Conditions to Avoid:

None known.

10.3 Materials to Avoid:

Strong bases.

10.4 Hazardous Decomposition:

Hydrogen fluoride - At Elevated Temperatures.

Perfluorinated Acid Fluorides Hydrogen Fluoride has an ACGIH Threshold Limit Value of 3 parts per million (as fluoride) as a Ceiling Limit and an OSHA PEL of 3 ppm of fluoride as an eight hour Time_Weighted Average and 6 ppm of fluoride as a Short Term Exposure Limit. The odor threshold for HF is 0.04 ppm, providing good warning properties for exposure. Decomposition of this product at temperatures above 300 degrees C can form perfluoroisobutylene (PFIB), but PFIB will only accumulate with continuous exposure to excessive heat in a sealed vessel. The formation rate for PFIB is about 1000 times less than the rate for primary thermal decomposition products such as HF. During normal use conditions, no health hazard is associated with the use of this material due to PFIB exposure.

Perfluoroisobutylene (PFIB) - at elevated temperatures.

11 TOXICOLOGICAL INFORMATION

11.1 Effects from Eye Contact:

Contact with the eyes during product use is not expected to result in significant irritation.

11.2 Effects from Skin Contact:

Contact with the skin during product use is not expected to result in significant irritation.

11.3 Effects from Inhalation:

If thermal decomposition occurs:
- May be harmful if inhaled.

11.4 Effects from Ingestion:

No health effects are expected.

11.5 Other Effects and Information:

Not specified.

12 ECOLOGICAL INFORMATION

12.1 Environmental Data:

Not determined.

12.2 Mobility in Soil and Water:

Not determined.

12.3 Persistence/Biodegradability:

This substance has chemical moieties that are resistant to biodegradation and is likely to only undergo partial biodegradation in the environment.

12.4 Bioaccumulation Potential:

Not determined.

12.5 Ecotoxicity Data:

A Product Environmental Data Sheet (PED) is available on request.

AQUATIC TOXICITY: Testing results indicate that this product has insignificant toxicity to aquatic organisms at its saturation point (Lowest LC50, EC50, or IC50 > substance water solubility). This substance is highly volatile and has a high Henry's Law constant and is thus expected to move rapidly through vapourization from solution in an aquatic compartment or from a soil surface in a terrestrial compartment to the atmosphere.

ATMOSPHERIC FATE: Zero Ozone Depletion Potential (ODP).

Atmospheric lifetime: approximately 4.7 and 3.7 years for n-butyl and isobutyl isomers, respectively. Global Warming Potential (GWP): 320 (100 year ITH, WMO in 1998 method). Atmospheric degradation products are expected to include: For methyl nonafluoroisobutyl ether: predominantly iso-perfluorobutyric acid, CO₂, HF, and perhaps also CF₃COOH; for methyl nonafluorobutyl ether; n-perfluorobutyric acid, CO₂ and HF.

12.6 Ecofate Data:

Not determined.

12.7 Special statements for 2001/58/EC:

Not determined.

12.8 Other Effects and Information:

The high potential of this substance to move from water to the atmosphere means its potential to bioconcentrate is likely to

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disappear rapidly from aerobic environments. Take precautions to prevent direct release of this product to the environment.

13 DISPOSAL CONSIDERATIONS

13.1 Product as Sold:

As a disposal alternative, incinerate in an industrial or commercial facility in the presence of a combustible material. To