

# SAFETY DATA SHEET

## AFL- FCC2 - ENHANCED FORMULA

According to Appendix D, OSHA Hazard Communication Standard 29 CFR §1910.1200

### 1. Identification

#### Product identifier

**Product name** AFL- FCC2 - ENHANCED FORMULA  
**Product number** FCC2-00-0902

#### Recommended use of the chemical and restrictions on use

**Application** Cleaning agent.

#### Details of the supplier of the safety data sheet

##### Supplier

AFL  
16 Eastgate Park  
Belmont, NH 03220  
United States of America  
CAGE: ONL21

Tel: +1 603-528-7780

[www.AFLglobal.com](http://www.AFLglobal.com)

##### Manufacturer

MICROCARE CORPORATION  
595 John Downey Drive  
New Britain, CT 06051  
United States of America  
CAGE: OATV9  
Tel: +1 860-827-0626  
Fax: +1 860-827-8105  
[techsupport@microcare.com](mailto:techsupport@microcare.com)

#### Emergency telephone number

**Emergency telephone** CHEMTREC (800) 424-9300

### 2. Hazard(s) identification

#### Classification of the substance or mixture

**Physical hazards** Not Classified  
**Health hazards** Not Classified  
**Environmental hazards** Not Classified

**Human health** Prolonged or repeated contact with skin may cause irritation, redness and dermatitis.

**Environmental** The product contains a substance which is harmful to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

**Physicochemical** Vapors are heavier than air and may travel along the floor and accumulate in the bottom of containers. Gas or vapor displaces oxygen available for breathing (asphyxiant). Not considered to be a significant hazard due to the small quantities used.

#### Label elements

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**Hazard statements** NC Not Classified

**Supplemental label information** Safety data sheet available on request. For use in industrial installations only.

**Other hazards**

This substance is not classified as PBT or vPvB according to current EU criteria.

### 3. Composition/information on ingredients

**Mixtures**

<b>Methyl Nonafluorobutyl Ether</b>	<b>30-60%</b>
CAS number: 163702-07-6	
<b>Classification</b> Not Classified	
<b>Methyl Nonafluoroisobutyl Ether</b>	<b>30-60%</b>
CAS number: 163702-08-7	
<b>Classification</b> Not Classified	
<b>PROPAN-2-OL</b>	<b>5-10%</b>
CAS number: 67-63-0	
<b>Classification</b> Flam. Liq. 2 - H225 Eye Irrit. 2A - H319 STOT SE 3 - H336	

The full text for all hazard statements is displayed in Section 16.

**Composition comments** The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of CFR 1900.1200 TSCA: The ingredients of this product are on the TSCA Inventory.

**Ingredient notes** This product does not contain any substances classified as PBT or vPvB.

**Composition**

### 4. First-aid measures

**Description of first aid measures**

<b>General information</b>	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. Never give anything by mouth to an unconscious person.
<b>Inhalation</b>	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention if any discomfort continues.
<b>Ingestion</b>	Never give anything by mouth to an unconscious person. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Consult a physician for specific advice.

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**Skin Contact** Due to the small packaging, the risk of skin contact is minimal. Remove contaminated clothing and rinse skin thoroughly with water.

**Eye contact** Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

### Most important symptoms and effects, both acute and delayed

**General information** For further information, please refer to section 11.

**Inhalation** Vapors in high concentrations are anesthetic. Symptoms following overexposure may include the following: Headache. Fatigue. Dizziness. Central nervous system depression.

**Ingestion** Due to the physical nature of this material it is unlikely that swallowing will occur. May cause nausea, headache, dizziness and intoxication. Congestion of the lungs may occur, producing severe shortness of breath.

**Skin contact** Prolonged skin contact may cause redness and irritation. Mild dermatitis, allergic skin rash.

**Eye contact** May cause temporary eye irritation.

### Indication of immediate medical attention and special treatment needed

**Notes for the doctor** No specific recommendations. If in doubt, get medical attention promptly.

## 5. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** The product is not flammable.

### Special hazards arising from the substance or mixture

**Flammability Class** The product is not flammable.

**Specific hazards** Protection against nuisance dust must be used when the airborne concentration exceeds 10 mg/m<sup>3</sup>. Containers can burst violently when heated, due to excess pressure build-up.

**Hazardous combustion products** Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

### Advice for firefighters

**Protective actions during firefighting** Closed containers can burst violently when heated, due to excess pressure build-up. Containers close to fire should be removed or cooled with water. Keep away from heat, sparks and open flame. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapors.

**Special protective equipment for firefighters** Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.

### Environmental precautions

**Environmental precautions** Not considered to be a significant hazard due to the small quantities used. Avoid discharge into drains or watercourses or onto the ground. Contain spillage with sand, earth or other suitable non-combustible material.

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### Methods and material for containment and cleaning up

**Methods for cleaning up** Absorb spillage with non-combustible, absorbent material. Do not discharge into drains or watercourses or onto the ground.

**Reference to other sections** For personal protection, see Section 8. See Section 11 for additional information on health hazards.

### 7. Handling and storage

#### Precautions for safe handling

**Usage precautions** Provide adequate ventilation. Avoid contact with skin and eyes.

#### Conditions for safe storage, including any incompatibilities

**Storage precautions** Do not store near heat sources or expose to high temperatures. Keep containers upright.

**Storage class** The product is not flammable.

#### Specific end uses(s)

**Specific end use(s)** The identified uses for this product are detailed in Section 1. For use in industrial installations only.

**Usage description** Cleaning agent.

**Reference to other sections.** Store away from incompatible materials (see Section 10).

### 8. Exposure Controls/personal protection

#### Control parameters

#### Occupational exposure limits

##### **Methyl Nonafluorobutyl Ether**

Long-term exposure limit (8-hour TWA): 750 ppm

##### **Methyl Nonafluoroisobutyl Ether**

Long-term exposure limit (8-hour TWA): 750 ppm

##### **PROPAN-2-OL**

Long-term exposure limit (8-hour TWA): OSHA 400 ppm 980 mg/m<sup>3</sup>

Long-term exposure limit (8-hour TWA): ACGIH 200 ppm 492 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): ACGIH 400 ppm 984 mg/m<sup>3</sup>

A4

OSHA = Occupational Safety and Health Administration.

ACGIH = American Conference of Governmental Industrial Hygienists.

A4 = Not Classifiable as a Human Carcinogen.

#### **Additional Occupational Exposure Limits**

**Ingredient comments** WEL = Workplace Exposure Limits Threshold Limit Values (2005), ACGIH, by the American Conference on Governmental Industrial Hygienists. ACGIH = US Standard. SUP = Supplier's recommendation. EU = Indicative Values according to Commission Directive 91/322/EEC.

#### Exposure controls

##### **Protective equipment**



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<b>Appropriate engineering controls</b>	No specific ventilation requirements. This product must not be handled in a confined space without adequate ventilation.
<b>Eye/face protection</b>	Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.
<b>Hand protection</b>	Hand protection not required. Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. It is recommended that gloves are made of the following material: Neoprene.
<b>Hygiene measures</b>	When using do not eat, drink or smoke. No specific hygiene procedures recommended but good personal hygiene practices should always be observed when working with chemical products.
<b>Respiratory protection</b>	No specific recommendations. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.

### 9. Physical and Chemical Properties

#### Information on basic physical and chemical properties

<b>Appearance</b>	Clear liquid.
<b>Color</b>	Colorless.
<b>Odor</b>	Slight alcoholic.
<b>Odor threshold</b>	No information available.
<b>pH</b>	No information available.
<b>Melting point</b>	No information available.
<b>Initial boiling point and range</b>	54°C/129°F @ 101.3 kPa
<b>Flash point</b>	The product is not flammable.
<b>Evaporation rate</b>	58 (BUOAC = 1)
<b>Evaporation factor</b>	No information available.
<b>Flammability (solid, gas)</b>	No information available.
<b>Upper/lower flammability or explosive limits</b>	Upper flammable/explosive limit: 16.7 %(V) Lower flammable/explosive limit: 4 %(V)
<b>Other flammability</b>	No information available.
<b>Vapor pressure</b>	27.6 kPa @ 25°C
<b>Vapor density</b>	7.0
<b>Relative density</b>	1.48 (H <sub>2</sub> O = 1) @ 25°C
<b>Bulk density</b>	No information available.
<b>Solubility(ies)</b>	Slightly soluble in water.
<b>Partition coefficient</b>	No information available.
<b>Auto-ignition temperature</b>	No information available.
<b>Decomposition Temperature</b>	No information available.
<b>Viscosity</b>	<=0.01 Pa s @ 23°C
<b>Explosive properties</b>	No information available.

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<b>Refractive index</b>	No information available.
<b>Particle size</b>	Not applicable.
<b>Molecular weight</b>	No information available.
<b>Volatility</b>	100%
<b>Saturation concentration</b>	No information available.
<b>Critical temperature</b>	No information available.
<b>Volatile organic compound</b>	No information available.
<b>Flammability</b>	The product is not flammable.

### 10. Stability and reactivity

<b>Reactivity</b>	Strong alkalis. Chemically-active metals.
<b>Stability</b>	Stable at normal ambient temperatures and when used as recommended.
<b>Possibility of hazardous reactions</b>	Will not polymerize.
<b>Conditions to avoid</b>	Keep away from heat, sparks and open flame. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapors.
<b>Materials to avoid</b>	Alkali metals. Alkaline earth metals. Powdered metal. Strong acids.
<b>Hazardous decomposition products</b>	Heating may generate the following products: Toxic and corrosive gases or vapors. Hydrogen fluoride (HF). Hydrogen chloride (HCl). Halogenated hydrocarbons. Carbon dioxide (CO <sub>2</sub> ).

### 11. Toxicological information

#### Information on toxicological effects

<b>Other health effects</b>	There is no evidence that the product can cause cancer.
<b>Inhalation</b>	Vapors may irritate throat/respiratory system. A single exposure may cause the following adverse effects: Coughing. Difficulty in breathing.
<b>Ingestion</b>	May cause stomach pain or vomiting. May cause nausea, headache, dizziness and intoxication.
<b>Skin Contact</b>	Repeated exposure may cause skin dryness or cracking. Product has a defatting effect on skin. May cause allergic contact eczema.
<b>Eye contact</b>	May cause temporary eye irritation.

#### Methyl Nonafluorobutyl Ether

<b>Other health effects</b>	There is no evidence that the product can cause cancer.
<b><u>Acute toxicity - oral</u></b>	
<b>Acute toxicity oral (LD<sub>50</sub> mg/kg)</b>	5,000.0
<b>Species</b>	Rat

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ATE oral (mg/kg) 5,000.0

**Acute toxicity - inhalation**

Acute toxicity inhalation (LC<sub>50</sub> vapours mg/l) 1,000.0

Species Rat

ATE inhalation (vapours mg/l) 1,000.0

**Methyl Nonafluoroisobutyl Ether****Acute toxicity - oral**

Acute toxicity oral (LD<sub>50</sub> mg/kg) 5,000.0

Species Rat

**Acute toxicity - inhalation**

Acute toxicity inhalation (LC<sub>50</sub> vapours mg/l) 1,000.0

Species Rat

ATE inhalation (vapours mg/l) 1,000.0

**PROPAN-2-OL****Acute toxicity - oral**

Acute toxicity oral (LD<sub>50</sub> mg/kg) 5,800.0

Species Rat

ATE oral (mg/kg) 5,800.0

**Acute toxicity - dermal**

Acute toxicity dermal (LD<sub>50</sub> mg/kg) 13,000.0

Species Rabbit

ATE dermal (mg/kg) 13,000.0

**Acute toxicity - inhalation**

Acute toxicity inhalation (LC<sub>50</sub> vapours mg/l) 16,000.0

Species Rat

ATE inhalation (vapours mg/l) 16,000.0

**Carcinogenicity**

IARC carcinogenicity IARC Group 3 Not classifiable as to its carcinogenicity to humans.

NTP carcinogenicity Not listed.

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OSHA Carcinogenicity Not listed.

**12. Ecological Information**

**Ecotoxicity** There are no data on the ecotoxicity of this product.

**Methyl Nonafluorobutyl Ether**

**Ecotoxicity** There are no data on the ecotoxicity of this product.

**Methyl Nonafluoroisobutyl Ether**

**Ecotoxicity** The product is not expected to be toxic to aquatic organisms.

**Toxicity** Not considered toxic to fish.

**Methyl Nonafluorobutyl Ether**

**Toxicity** Not considered toxic to fish.

**Methyl Nonafluoroisobutyl Ether**

**Toxicity** Not considered toxic to fish.

**PROPAN-2-OL**

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: 9,640 mg/l, Fish

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 48 hours: 5102 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** IC<sub>50</sub>, 72 hours: >2,000 mg/l, Algae

**Persistence and degradability**

**Persistence and degradability** No data available.

**Methyl Nonafluorobutyl Ether**

**Persistence and degradability** No data available.

**Methyl Nonafluoroisobutyl Ether**

**Persistence and degradability** The product is not expected to be biodegradable.

**Bioaccumulative potential**

**Bio-Accumulative Potential** No data available on bioaccumulation.

**Partition coefficient** No information available.

**Methyl Nonafluorobutyl Ether**

**Bio-Accumulative Potential** No data available on bioaccumulation.

**AFL- FCC2 - ENHANCED FORMULA****Methyl Nonafluoroisobutyl Ether****Bio-Accumulative Potential** No data available on bioaccumulation.**PROPAN-2-OL****Partition coefficient** : 0.05**Mobility in soil****Mobility** The product contains volatile substances which may spread in the atmosphere. Not considered to be a significant hazard due to the small quantities used.**Methyl Nonafluorobutyl Ether****Mobility** Not applicable.**Methyl Nonafluoroisobutyl Ether****Mobility** Not applicable.**Other adverse effects****Other adverse effects** The product contains volatile organic compounds (VOCs) which have a photochemical ozone creation potential.**13. Disposal considerations****Waste treatment methods****General information** When handling waste, the safety precautions applying to handling of the product should be considered.**Disposal methods** Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.**14. Transport information****General** Not regulated. The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT).**UN Number**

Not applicable. Non-hazardous substance.

**UN proper shipping name**

Not applicable. Non-hazardous substance.

**Transport hazard class(es)**

Not applicable. Non-hazardous substance.

**Transport labels**

No transport warning sign required. Not regulated.

**Packing group**

Not applicable. Non-hazardous substance.

**Environmental hazards****Environmentally Hazardous Substance**

No.

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### Special precautions for user

No information required.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** No information required. Not relevant.

### 15. Regulatory information

#### US Federal Regulations

##### **SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities**

Not listed.

##### **CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)**

Not listed.

##### **SARA Extremely Hazardous Substances EPCRA Reportable Quantities**

Not listed.

##### **SARA 313 Emission Reporting**

Not listed.

##### **CAA Accidental Release Prevention**

Not listed.

##### **SARA (311/312) Hazard Categories**

None

##### **OSHA Highly Hazardous Chemicals**

Not listed.

#### US State Regulations

##### **California Proposition 65 Carcinogens and Reproductive Toxins**

Not listed.

##### **California Air Toxics "Hot Spots" (A-I)**

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Present.

##### **California Air Toxics "Hot Spots" (A-II)**

Not listed.

##### **California Directors List of Hazardous Substances**

*PROPAN-2-OL*

Present.

##### **Massachusetts "Right To Know" List**

*PROPAN-2-OL*

Present.

##### **Rhode Island "Right To Know" List**

*PROPAN-2-OL*

Present.

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### Minnesota "Right To Know" List

*PROPAN-2-OL*

Present.

### New Jersey "Right To Know" List

*PROPAN-2-OL*

Present.

### Pennsylvania "Right To Know" List

*PROPAN-2-OL*

Present.

### Inventories

#### Canada - DSL/NDSL

DSL

#### US - TSCA

Yes

### 16. Other information

<b>Revision comments</b>	NOTE: Lines within the margin indicate significant changes from the previous revision.
<b>Revision date</b>	12/21/2016
<b>Revision</b>	24
<b>Supersedes date</b>	7/5/2016
<b>SDS No.</b>	BULK - FCC2-00-0902
<b>SDS status</b>	Approved.
<b>Hazard statements in full</b>	H225 Highly flammable liquid and vapor. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness.
<b>NFPA - health hazard</b>	Extremely hazardous, serious injury. (3)
<b>NFPA - flammability hazard</b>	Burns only if pre-heated. (1)
<b>NFPA - instability hazard</b>	Normally stable. (0)
<b>NFPA - special hazard</b>	N/A
<b>ACA HMIS Health rating.</b>	Slight Hazard. (1)
<b>ACA HMIS Flammability rating.</b>	Burns only if pre-heated. (1)
<b>ACA HMIS Physical hazard rating.</b>	Normally stable. (0)
<b>ACA HMIS Personal protection rating.</b>	B

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.