

SAFETY DATA SHEET**AFL FCC2- FIBER CONNECTOR CLEANER**

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

1. Identification**Product identifier****Product name** AFL FCC2- FIBER CONNECTOR CLEANER**Product number** FCC2-00-0900**Synonyms; trade names** NSN: 6850015356196**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: ONL21Tel: +1 603-528-7780
www.AFLglobal.com**Manufacturer** MICROCARE CORPORATION
595 John Downey Drive
New Britain, CT 06051
United States of America
CAGE: OATV9
Tel: + 1 800 638 0125, +1 860-827-0626
Fax: +1 860-827-8105
techsupport@microcare.com**Emergency telephone number****Emergency telephone** CHEMTREC (800) 424-9300 (within the U.S.)**2. Hazard(s) identification****Classification of the substance or mixture****Physical hazards** Not Classified**Health hazards** Repr. 1B - H360 STOT SE 1 - H370**Environmental hazards** Aquatic Chronic 3 - H412**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**

AFL FCC2- FIBER CONNECTOR CLEANER

Pictogram



Signal word	Danger
Hazard statements	H360 May damage fertility or the unborn child. H370 Causes damage to organs . H412 Harmful to aquatic life with long lasting effects.
Precautionary statements	P260 Do not breathe vapor/ spray. P264 Wash contaminated skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P302+P352 If on skin: Wash with plenty of water. P314 Get medical advice/ attention if you feel unwell. P501 Dispose of contents/ container in accordance with national regulations.
Supplemental label information	Safety data sheet available on request. For use in industrial installations only.
Contains	METHANOL

Other hazards

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

3. Composition/information on ingredients

Mixtures

1,1,1,3,3-PENTAFLUOROBUTANE	30-60%
CAS number: 406-58-6	
Classification Flam. Liq. 2 - H225	
1,1,1,2,2,3,4,5,5,5-decafluoropentane	30-60%
CAS number: 138495-42-8	
Classification Aquatic Chronic 3 - H412	

AFL FCC2- FIBER CONNECTOR CLEANER

METHANOL	1-5%
CAS number: 67-56-1	
Classification	
Flam. Liq. 2 - H225	
Acute Tox. 3 - H301	
Acute Tox. 3 - H311	
Acute Tox. 3 - H331	
Eye Irrit. 2A - H319	
Repr. 1B - H360	
STOT SE 1 - H370	

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

Composition comments TSCA: The ingredients of this product are on the TSCA Inventory. 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.

Composition

4. First-aid measures

Description of first aid measures

General information 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.

Inhalation 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.

Ingestion 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.

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

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.

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

AFL FCC2- FIBER CONNECTOR CLEANER

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/m³. 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.

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.

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.

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

8. Exposure Controls/personal protection

Control parameters

Occupational exposure limits

AFL FCC2- FIBER CONNECTOR CLEANER

1,1,1,3,3-PENTAFLUOROBUTANE

Long-term exposure limit (8-hour TWA): SUP 1000 ppm

1,1,1,2,2,3,4,5,5,5-decafluoropentane

No information available that would effect occupational exposure limit values.

METHANOL

Long-term exposure limit (8-hour TWA): ACGIH 200 ppm 262 mg/m³

Short-term exposure limit (15-minute): ACGIH 250 ppm 328 mg/m³

Sk

Long-term exposure limit (8-hour TWA): OSHA 200 ppm 260 mg/m³

ACGIH = American Conference of Governmental Industrial Hygienists.

Sk = Danger of cutaneous absorption.

OSHA = Occupational Safety and Health Administration.

Additional Occupational Exposure Limits

Ingredient comments WEL = Workplace Exposure Limits ACGIH = US Standard.

METHANOL (CAS: 67-56-1)

Biological limit values 15 mg/l

Exposure controls

Protective equipment



Appropriate engineering controls

No specific ventilation requirements. This product must not be handled in a confined space without adequate ventilation.

Eye/face protection

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.

Hand protection

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.

Hygiene measures

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.

Respiratory protection

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

Appearance	Clear liquid.
Color	Colorless.
Odor	Slight. Ether.
Odor threshold	No information available.

AFL FCC2- FIBER CONNECTOR CLEANER

pH	No information available.
Melting point	No information available.
Initial boiling point and range	45°C @
Flash point	None°C Tag closed cup.
Evaporation rate	No information available.
Evaporation factor	No information available.
Upper/lower flammability or explosive limits	Upper flammable/explosive limit: 9.0 Lower flammable/explosive limit: 7.5
Other flammability	No information available.
Vapor pressure	310 mm Hg @ °C
Vapor density	4
Bulk density	No information available.
Solubility(ies)	Slightly soluble in water.
Partition coefficient	No information available.
Auto-ignition temperature	Not applicable.
Decomposition Temperature	No information available.
Refractive index	No information available.
Particle size	Not applicable.
Molecular weight	No information available.
Volatility	100
Saturation concentration	No information available.
Critical temperature	No information available.

10. Stability and reactivity

Reactivity	Strong alkalis. Chemically-active metals.
Stability	Stable at normal ambient temperatures and when used as recommended.
Possibility of hazardous reactions	Will not polymerize.
Conditions to avoid	Keep away from heat, sparks and open flame. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapors.
Materials to avoid	Alkali metals. Alkaline earth metals. Powdered metal. Strong acids.
Hazardous decomposition products	Heating may generate the following products: Toxic and corrosive gases or vapors. Hydrogen fluoride (HF). Hydrogen chloride (HCl). Halogenated hydrocarbons. Carbon dioxide (CO2).

11. Toxicological information

Information on toxicological effects

Other health effects	There is no evidence that the product can cause cancer.
-----------------------------	---

AFL FCC2- FIBER CONNECTOR CLEANER

Acute toxicity - oral

ATE oral (mg/kg) 10,000.0

Acute toxicity - dermal

ATE dermal (mg/kg) 30,000.0

Acute toxicity - inhalation

ATE inhalation (vapours mg/l) 300.0

ATE inhalation (dusts/mists mg/l) 50.0

Inhalation	Vapors may irritate throat/respiratory system. A single exposure may cause the following adverse effects: Coughing. Difficulty in breathing.
Ingestion	May cause stomach pain or vomiting. May cause nausea, headache, dizziness and intoxication.
Skin Contact	Repeated exposure may cause skin dryness or cracking. Product has a defatting effect on skin. May cause allergic contact eczema.
Eye contact	May cause temporary eye irritation.

Toxicological information on ingredients.

1,1,1,3,3-PENTAFLUOROBUTANE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 2,000.0

Species Rat

ATE oral (mg/kg) 2,000.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 100,000.0

Species Rat

ATE inhalation (vapours mg/l) 100,000.0

Specific target organ toxicity - single exposure

STOT - single exposure LOAEL 75100 ppm, Inhalation,

Specific target organ toxicity - repeated exposure

STOT - repeated exposure NOAEC 6 mg/l, Inhalation, Rat

Target organs Liver Kidneys

1,1,1,2,2,3,4,5,5,5-decafluoropentane

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 5,000.0

Species Rat

AFL FCC2- FIBER CONNECTOR CLEANER

ATE oral (mg/kg)	5,000.0
<u>Acute toxicity - dermal</u>	
Acute toxicity dermal (LD₅₀ mg/kg)	5,000.0
Species	Rat
ATE dermal (mg/kg)	5,000.0
<u>Acute toxicity - inhalation</u>	
Acute toxicity inhalation (LC₅₀ vapours mg/l)	114.0
Species	Rat
ATE inhalation (vapours mg/l)	114.0
<u>Skin corrosion/irritation</u>	
Animal data	Not irritating. Rabbit
Human skin model test	Data lacking.
Extreme pH	Not applicable. Not corrosive to skin.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Not irritating. Rabbit
<u>Respiratory sensitization</u>	
Respiratory sensitization	Data lacking.
<u>Skin sensitization</u>	
Skin sensitization	Not sensitizing. - Guinea pig: Not sensitizing.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	This substance has no evidence of mutagenic properties.
Genotoxicity - in vivo	This substance has no evidence of mutagenic properties.
<u>Carcinogenicity</u>	
Carcinogenicity	Does not contain any substances known to be carcinogenic.
IARC carcinogenicity	Not listed.
NTP carcinogenicity	Not listed.
OSHA Carcinogenicity	Not listed.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	No evidence of reproductive toxicity in animal studies.
Skin Contact	Skin irritation should not occur when used as recommended. May cause defatting of the skin but is not an irritant.
Eye contact	May cause eye irritation.

AFL FCC2- FIBER CONNECTOR CLEANER

Acute and chronic health hazards There is no evidence that the product can cause cancer.

METHANOL

Acute toxicity - oral

Notes (oral LD₅₀) Acute Tox. 3 - H301 Toxic if swallowed.

ATE oral (mg/kg) 100.0

Acute toxicity - dermal

Notes (dermal LD₅₀) Acute Tox. 3 - H311 Toxic in contact with skin.

ATE dermal (mg/kg) 300.0

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Acute Tox. 3 - H331 Toxic if inhaled.

ATE inhalation (vapours mg/l) 3.0

ATE inhalation (dusts/mists mg/l) 0.5

Skin corrosion/irritation

Animal data Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation Based on available data the classification criteria are not met.

Respiratory sensitization

Respiratory sensitization Based on available data the classification criteria are not met.

Skin sensitization

Skin sensitization Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

IARC carcinogenicity None of the ingredients are listed or exempt.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Reproductive toxicity - development Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure STOT SE 1 - H370 Causes damage to organs .

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

AFL FCC2- FIBER CONNECTOR CLEANER

Aspiration hazard

Aspiration hazard Based on available data the classification criteria are not met.

General information

The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation

A single exposure may cause the following adverse effects: Drowsiness, dizziness, disorientation, vertigo. Unconsciousness. High concentrations may be fatal.

Ingestion

May cause stomach pain or vomiting. May cause severe internal injury.

Skin Contact

A single exposure may cause the following adverse effects: Pain.

Eye contact

No specific symptoms known.

Route of exposure

Ingestion Inhalation Skin and/or eye contact

Target Organs

No specific target organs known.

12. Ecological Information

Ecotoxicity

The product contains a substance which has a photochemical ozone creation potential. The product contains a substance or substances that will contribute to global warming (greenhouse effect). The product contains a substance which is harmful to aquatic organisms.

Ecological information on ingredients.

1,1,1,2,2,3,4,5,5,5-decafluoropentane

Ecotoxicity

It is unlikely that the substance will dissolve in water in amounts big enough to have a toxic effect on fish and daphnies.

METHANOL

Ecotoxicity

Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

Toxicity

Not known.

Ecological information on ingredients.

1,1,1,2,2,3,4,5,5,5-decafluoropentane

Acute aquatic toxicity

Acute toxicity - fish

LC₅₀, 96 hours: 13.9 mg/l, Oncorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic invertebrates

LC₅₀, 48 hours: 11.7 mg/l, Daphnia magna

Acute toxicity - aquatic plants

EC₅₀, 72 hours: >120 mg/l, Algae

METHANOL

Toxicity

Based on available data the classification criteria are not met.

Acute aquatic toxicity

Acute toxicity - fish

LC₅₀, 96 hours: >100 mg/l, Pimephales promelas (Fat-head Minnow)

AFL FCC2- FIBER CONNECTOR CLEANER

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: >10000 mg/l, Daphnia magna

Persistence and degradability

Persistence and degradability The product contains mainly inorganic substances which are not biodegradable. The other substances in the product are expected to be readily biodegradable.

Ecological information on ingredients.

METHANOL

Persistence and degradability The degradability of the product is not known.

Bioaccumulative potential

Bio-Accumulative Potential No data available on bioaccumulation.

Partition coefficient No information available.

Ecological information on ingredients.

1,1,1,2,2,3,4,5,5-decafluoropentane

Bio-Accumulative Potential Bioaccumulation is unlikely to be significant because of the low water-solubility of this product.

Partition coefficient Pow: 2.7

METHANOL

Bio-Accumulative Potential No data available on bioaccumulation.

Partition coefficient : -0.77

Mobility in soil

Mobility The product contains volatile substances which may spread in the atmosphere.

Ecological information on ingredients.

METHANOL

Mobility No data available.

Other adverse effects

Other adverse effects The product contains a substance or substances that will contribute to global warming (greenhouse effect).

Ecological information on ingredients.

METHANOL

Other adverse effects None known.

13. Disposal considerations

Waste treatment methods

General information Waste is classified as hazardous waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Reuse or recycle products wherever possible.

AFL FCC2- FIBER CONNECTOR CLEANER

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.

UN proper shipping name

Not regulated. No information required.

Transport hazard class(es)

Not applicable.

Transport labels

No transport warning sign required.

Packing group

Not applicable.

Environmental hazards

Environmentally Hazardous Substance

No.

Special precautions for user

Not applicable. No information required.

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

15. Regulatory information

National regulations The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).
No listing known.

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities
Not listed.

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

METHANOL

Final CERCLA RQ: 5000(2270) pounds (Kilograms)

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

Not listed.

SARA 313 Emission Reporting

METHANOL

1.0 %

AFL FCC2- FIBER CONNECTOR CLEANER

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

METHANOL

Known to the State of California to cause developmental and reproductive toxicity.

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

METHANOL

Present.

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

Not listed.

California Directors List of Hazardous Substances

METHANOL

Present.

Massachusetts "Right To Know" List

METHANOL

Present.

Rhode Island "Right To Know" List

METHANOL

Present.

Minnesota "Right To Know" List

METHANOL

Present.

New Jersey "Right To Know" List

METHANOL

Present.

Pennsylvania "Right To Know" List

METHANOL

Present.

Inventories

US - TSCA

METHANOL

Present.

AFL FCC2- FIBER CONNECTOR CLEANER

1,1,1,3,3-PENTAFLUOROBUTANE

Present.

1,1,1,2,2,3,4,5,5,5-decafluoropentane

Present.

1,1,1,2,2,3,4,5,5,5-DECAFLUOROPENTANE (CAS# 138495-42-8) is controlled by TSCA Section 5, Significant New Use Rule

(SNUR; 40 CFR 721.5645) The approved uses are: precision and general cleaning, carrier fluid, displacement drying, printed circuit board cleaning, particulate removal and film cleaning, process medium, heat transfer fluid (dielectric and non-dielectric), and test fluid. Processors and users of this substance must also comply with the applicable general SNUR requirements set forth in 40 CFR 721 subpart A, including export notification requirements if applicable (40 CFR 721.20), and the applicable record keeping requirements set forth at 40 CFR 721.125.

1,1,1,2,2,3,4,5,5,5-Decafluoropentane 138495-42-8

The United States Environmental Protection Agency (USEPA) has established a Significant New Use Rule (SNUR) for one of the components in this product. This material contains one or more substances which requires export notification under TSCA Section 12(b) and 40 CFR Part 707 Subpart D:

US - TSCA 12(b) Export Notification

1,1,1,2,2,3,4,5,5,5-decafluoropentane

Present.

16. Other information

Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	8/14/2018
Revision	14
Supersedes date	29/02/2012
SDS No.	BULK - FCC2
SDS status	Approved.
Hazard statements in full	H225 Highly flammable liquid and vapor. H301 Toxic if swallowed. H311 Toxic in contact with skin. H319 Causes serious eye irritation. H331 Toxic if inhaled. H360 May damage fertility or the unborn child. H370 Causes damage to organs . H412 Harmful to aquatic life with long lasting effects.
NFPA - health hazard	Irritation, minor residual injury. (1)
NFPA - flammability hazard	Will not burn. (0)
NFPA - instability hazard	Unstable if heated. (1)
NFPA - special hazard	N/A
ACA HMIS Health rating.	Slight Hazard. (1)
ACA HMIS Flammability rating.	Will not burn. (0)

AFL FCC2- FIBER CONNECTOR CLEANER

ACA HMIS Physical hazard rating. Unstable if heated. (1)

ACA HMIS Personal protection rating. N/A.

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.