

SAFETY DATA SHEET

OPTIXX - OPTICAL GRADE HIGH PURITY CLEANING FLUID

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

1. Identification		
Product identifier		
Product name	OPTIXX - OPTICAL GRADE HIGH PURITY CLEANING FLUID	
Product number	MCC-OTX03M	
Synonyms; trade names	Also sold in kit form as #MCC-OTXCK	
Recommended use of the che	emical and restrictions on use	
Application	Cleaning agent.	
Uses advised against	No specific uses advised against are identified.	
Details of the supplier of the safety data sheet		
Supplier	MICROCARE CORPORATION	
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: +1 860-893-1930 techsupport@microcare.com	
Emergency telephone number	<u>r</u>	
Emergency telephone	CHEMTREC 1-800-424-9300 (within the U.S.) +1 703-741-5970 (from anywhere in the world)	
2. Hazard(s) identification		
Classification of the substance	e or mixture	
OSHA Regulatory Status	This Product is Hazardous under the OSHA Hazard Communication Standard.	
Physical hazards	Not Classified	
Health hazards	Carc. 2 - H351 Repr. 2 - H361	
Environmental hazards	Not Classified	
Label elements Pictogram		
Signal word	Warning	

STOT SE 3 - H336

Hazard statements	H351 Suspected of causing cancer. H361 Suspected of damaging fertility or the unborn child.	
Precautionary statements	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	NITROMETHANE	
Other hazards		
This product does not contain	any substances classified as PBT or vPvB.	
3. Composition/information on	ingredients	
Mixtures		
Methyl Nonafluorobutyl Ether	-	30-60%
CAS number: 163702-07-6		
Classification Not Classified		
Methyl Nonafluoroisobutyl Et CAS number: 163702-08-7	her	30-60%
Classification Not Classified		
PROPAN-2-OL CAS number: 67-63-0		5-10%
Classification Flam. Liq. 2 - H225 Eye Irrit. 2A - H319 STOT SE 3 - H336		
1-METHOXY-2-PROPANOL 5-109 CAS number: 107-98-2 5-109		5-10%
Classification Flam. Liq. 3 - H226		

NITROMETHANE	<1%
CAS number: 75-52-5	
Classification Flam. Liq. 3 - H226 Acute Tox. 4 - H302 Carc. 2 - H351 Repr. 2 - H361	
The full text for all hazard st	atements 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
Composition	
4. First-aid measures	
Description of first aid meas	ures
General information	If in doubt, get medical attention promptly. Show this Safety Data Sheet to the medical personnel.
Inhalation	No specific recommendations. If throat irritation or coughing persists, proceed as follows. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Loosen tight clothing such as collar, tie or belt. Get medical attention if any discomfort continues.
Ingestion	No specific recommendations. If throat irritation or coughing persists, proceed as follows. Rinse mouth. Get medical attention if any discomfort continues.
Skin Contact	No specific recommendations. Rinse with water. Get medical attention if any discomfort continues.
Eye contact	Remove any contact lenses and open eyelids wide apart. Rinse with water. Get medical attention if any discomfort continues.
Protection of first aiders	Use protective equipment appropriate for surrounding materials.
Most important symptoms a	nd effects, both acute and delayed
General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	No specific symptoms known. Spray/mists may cause respiratory tract irritation.
Ingestion	No specific symptoms known. May cause discomfort if swallowed.
Skin contact	No specific symptoms known. May cause discomfort.
Eye contact	No specific symptoms known. May be slightly irritating to eyes.
Indication of immediate med	lical attention and special treatment needed
Notes for the doctor	Treat symptomatically.
Specific treatments	No special treatment required.
5. Fire-fighting measures	
Extinguishing media	

Suitable extinguishing media	The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.	
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.	
Special hazards arising from the	ne substance or mixture	
Specific hazards	Containers can burst violently or explode when heated, due to excessive pressure build-up.	
Hazardous combustion products	Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.	
Advice for firefighters		
Protective actions during firefighting	Avoid breathing fire gases or vapors. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapors and protect men stopping the leak.	
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.	
6. Accidental release measure	\$	
Personal precautions, protective equipment and emergency procedures		
Personal precautions	No specific recommendations. For personal protection, see Section 8.	
Environmental precautions		
Environmental precautions	Avoid discharge into drains or watercourses or onto the ground.	
Methods and material for conta	ainment and cleaning up	
Methods for cleaning up	Reuse or recycle products wherever possible. Absorb spillage to prevent material damage. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dispose of contents/container in accordance with national regulations.	
Reference to other sections	For personal protection, see Section 8. For waste disposal, see Section 13.	
7. Handling and storage		
Precautions for safe handling		
Usage precautions	Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimize spills. Keep container tightly sealed when not in use. Avoid the formation of mists.	
Advice on general occupational hygiene	Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse.	
Conditions for safe storage, in	cluding any incompatibilities	
Storage precautions	Store away from incompatible materials (see Section 10). No specific recommendations.	
Storage class	Unspecified storage.	
Specific end uses(s)		
Specific end use(s)	The identified uses for this product are detailed in Section 1.	
8. Exposure controls/Persona	I protection	
Control noremators		

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/m³ Long-term exposure limit (8-hour TWA): ACGIH 200 ppm 492 mg/m³ Short-term exposure limit (15-minute): ACGIH 400 ppm 984 mg/m³ A4

1-METHOXY-2-PROPANOL

Long-term exposure limit (8-hour TWA): ACGIH 50 ppm 184 mg/m³ Short-term exposure limit (15-minute): ACGIH 100 ppm 369 mg/m³ A4

NITROMETHANE

Long-term exposure limit (8-hour TWA): ACGIH 20 ppm 50 mg/m³ A3

Long-term exposure limit (8-hour TWA): OSHA 100 ppm 250 mg/m³

OSHA = Occupational Safety and Health Administration. ACGIH = American Conference of Governmental Industrial Hygienists. A3 = Confirmed Animal Carcinogen with Unknown Relevance to Humans. A4 = Not Classifiable as a Human Carcinogen.

Ingredient comments

WEL = Workplace Exposure Limits

Exposure controls

Protective equipment



Appropriate engineering controls	No specific ventilation requirements.
Eye/face protection	No specific eye protection required during normal use. Large Spillages: Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible.
Hand protection	No specific hand protection recommended. Large Spillages: Wear protective gloves.
Hygiene measures	Wash after use and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.
Respiratory protection	No specific recommendations. Provide adequate ventilation. Large Spillages: If ventilation is inadequate, suitable respiratory protection must be worn.
Environmental exposure controls	Not regarded as dangerous for the environment.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Clear liquid.
Color	Colorless.

Odor	Slight alcoholic.
Odor threshold	No information available.
рН	No information available.
Initial boiling point and range	55°C/132°F @ 101.3 kPa
Flash point	The product is not flammable.
Evaporation rate	1.8 (Ethyl Acetate = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	Not determined.
Vapor pressure	Not determined.
Vapor density	Not determined. > 1
Relative density	1.35
Bulk density	Not applicable.
Solubility(ies)	Slightly soluble in water.
Partition coefficient	No information available.
Auto-ignition temperature	No information available.
Decomposition Temperature	No information available.
Viscosity	No information available.
Global Warming Potential (GWP)	
Refractive index	No information available.
Particle size	Not applicable.
Molecular weight	Not applicable.
Volatility	100%
Saturation concentration	No information available.
Critical temperature	No information available.
10. Stability and reactivity	
Reactivity	See the other subsections of this section for further details.
Stability	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
Possibility of hazardous reactions	No potentially hazardous reactions known.
Conditions to avoid	There are no known conditions that are likely to result in a hazardous situation.
Materials to avoid	No specific material or group of materials is likely to react with the product to produce a hazardous situation.

Hazardous decomposition products	Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.
11. Toxicological information	

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Information on toxicological effects		
Toxicological effects	Not regarded as a health hazard under current legislation.	
Acute toxicity - oral Notes (oral LD₅o)	Based on available data the classification criteria are not met.	
Acute toxicity - dermal Notes (dermal LD ₅₀)	Based on available data the classification criteria are not met.	
Acute toxicity - inhalation Notes (inhalation LC ₅₀)	Based on available data the classification criteria are not met.	
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	Contains a substance which may be potentially carcinogenic. IARC Group 2B Possibly carcinogenic to humans.	
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	Not classified as a specific target organ toxicant after a single exposure.	
Specific target organ toxicity -	repeated exposure	
STOT - repeated exposure	Not classified as a specific target organ toxicant after repeated exposure.	
Aspiration hazard Aspiration hazard	Based on available data the classification criteria are not met.	
General information	No specific health hazards known. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.	
Inhalation	No specific symptoms known. Spray/mists may cause respiratory tract irritation.	
Ingestion	No specific symptoms known. May cause discomfort if swallowed.	

No specific symptoms known. May cause discomfort.
No specific symptoms known. May be slightly irritating to eyes.
Ingestion Inhalation Skin and/or eye contact
No specific target organs known.

Toxicological information on ingredients.

Methyl Nonafluorobutyl Ether

Other health effects	There is no evidence that the product can cause cancer.
<u>Acute toxicity - oral</u> Acute toxicity oral (LD₅₀ mg/kg)	5,000.0
Species	Rat
ATE oral (mg/kg)	5,000.0
Acute toxicity - inhalation	
Acute toxicity inhalation (LC₅ 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 (LD₅₀ mg/kg)	5,000.0
Species	Rat
Acute toxicity - inhalation	
Acute toxicity inhalation (LC₅₀ vapours mg/l)	1,000.0
Species	Rat
ATE inhalation (vapours mg/l)	1,000.0
	PROPAN-2-OL
Acute toxicity - inhalation	
Acute toxicity inhalation (LC₅₀ vapours mg/l)	16,000.0
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.
	OSHA Carcinogenicity	Not listed.
		NITROMETHANE
	Acute toxicity - oral	
	ATE oral (mg/kg)	500.0
	Carcinogenicity	
	IARC carcinogenicity	IARC Group 2B Possibly carcinogenic to humans.
	NTP carcinogenicity	Reasonably anticipated to be a human carcinogen.
12. Ecologie	cal information	
Ecotoxicity		arded as dangerous for the environment. However, large or frequent spills may have ous effects on the environment.
Ecological i	nformation on ingredients.	
		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	Based	on available data the classification criteria are not met.
Ecological i	nformation on ingredients.	
		Methyl Nonafluorobutyl Ether
	Toxicity	Not considered toxic to fish.
		Methyl Nonafluoroisobutyl Ether
	Toxicity	Not considered toxic to fish.
		PROPAN-2-OL
	Acute aquatic toxicity	
	Acute toxicity - fish	LC₅₀, 96 hours: 9,640 mg/l, Fish
	Acute toxicity - aquatic invertebrates	EC₅₀, 48 hours: 5102 mg/l, Daphnia magna
	Acute toxicity - aquatic plants	IC₅₀, 72 hours: >2,000 mg/l, Algae
Persistence	and degradability	
Persistence	and degradability The deg	gradability of the product is not known.
Ecological information on ingredients.		
		Methyl Nonafluorobutyl Ether

	Persistence and degradability	No data available.		
Methyl Nonafluoroisobutyl Ether				
	Persistence and degradability	The product is not expected to be biodegradable.		
Bioaccumula	ative potential			
Bio-Accumulative Potential		No data available on bioaccumulation.		
Partition coe	fficient	No information available.		
Ecological information on ingredients.				
		Methyl Nonafluorobutyl Ether		
	Bio-Accumulative	Potential No data available on bioaccumulation.		
		Methyl Nonafluoroisobutyl Ether		
	Bio-Accumulative	Potential No data available on bioaccumulation.		
		PROPAN-2-OL		
	Partition coefficie	nt : 0.05		
Mobility in se	bil			
Mobility		No data available.		
Ecological information on ingredients.				
		Methyl Nonafluorobutyl Ether		
	Mobility	Not applicable.		
		Methyl Nonafluoroisobutyl Ether		
	Mobility	Not applicable.		
Other advers	-			
Other advers	se effects	None known.		
13. Disposal	considerations			
Waste treatr	nent methods			
General info	rmation	The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way.		
Disposal me		Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste packaging should be collected for reuse or recycling. Incineration or landfill should only be considered when recycling is not feasible. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of the local water authority.		
14. Transpo	rt information			

General	The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT).		
UN Number			
UN No. (International)	Not applicable.		
UN No. (DOT)	Not applicable.		
UN proper shipping name			
Proper shipping name (International)	Not applicable.		
Proper shipping name (DOT)	Not applicable.		
Transport hazard class(es)			
Transport Labels (International)	No transport warning sign required.		
DOT transport labels No transport warning sign required.			
Packing group			
Packing group (International)	Not applicable.		
DOT packing group	Not applicable.		
Environmental hazards			
Environmentally Hazardous Substance No.			
Special precautions for user			
Not applicable.			
DOT reportable quantity	Not applicable.		
DOT TIH Zone	Not applicable.		
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.		
15. Regulatory information			

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities None of the ingredients are listed or exempt.

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

None of the ingredients are listed or exempt.

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

None of the ingredients are listed or exempt.

SARA 313 Emission Reporting

The following ingredients are listed or exempt:

NITROMETHANE 0.1 %

CAA Accidental Release Prevention

None of the ingredients are listed or exempt.

FDA - Essential Chemical None of the ingredients are listed or exempt.

FDA - Precursor Chemical None of the ingredients are listed or exempt.

SARA (311/312) Hazard Categories None of the ingredients are listed or exempt.

OSHA Highly Hazardous Chemicals The following ingredients are listed or exempt:

NITROMETHANE Threshold Quantity: 2500 lbs

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins



Cancer - www.p65warnings.ca.gov

NITROMETHANE Carcinogen.

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

The following ingredients are listed or exempt:

PROPAN-2-OL

1-METHOXY-2-PROPANOL

California Air Toxics "Hot Spots" (A-II) None of the ingredients are listed or exempt.

California Directors List of Hazardous Substances

The following ingredients are listed or exempt:

PROPAN-2-OL

1-METHOXY-2-PROPANOL

NITROMETHANE

Massachusetts "Right To Know" List

The following ingredients are listed or exempt:

PROPAN-2-OL 1-METHOXY-2-PROPANOL NITROMETHANE

Rhode Island "Right To Know" List

The following ingredients are listed or exempt: *PROPAN-2-OL 1-METHOXY-2-PROPANOL NITROMETHANE*

Minnesota "Right To Know" List

The following ingredients are listed or exempt:

PROPAN-2-OL

1-METHOXY-2-PROPANOL

NITROMETHANE

New Jersey "Right To Know" List

The following ingredients are listed or exempt:

PROPAN-2-OL

1-METHOXY-2-PROPANOL

NITROMETHANE

Pennsylvania "Right To Know" List

The following ingredients are listed or exempt:

PROPAN-2-OL

1-METHOXY-2-PROPANOL NITROMETHANE

Inventories

EU - EINECS/ELINCS

PROPAN-2-OL EINECS

Canada - DSL/NDSL DSL

US - TSCA Present.

US - TSCA 12(b) Export Notification

Methyl Nonafluorobutyl Ether Methyl Nonafluoroisobutyl Ether

Philippines - PICCS

PROPAN-2-OL Yes

New Zealand - NZIOC Not listed.

Taiwan - NECI Not listed.

16. Other information Training advice Only trained personnel should use this material. Revision date 10/15/2018

Revision 17

Supersedes date 10/15/2018

SDS No.	BULK - OTX03M
Hazard statements in full	 H225 Highly flammable liquid and vapor. H226 Flammable liquid and vapor. H302 Harmful if swallowed. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness. H351 Suspected of causing cancer. H361 Suspected of damaging fertility or the unborn child.

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.