



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 chemical 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 LLC

Manufacturer MICROCARE LLC
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

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 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

Hazard symbols



Signal word Warning

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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 Ether	30-60%
CAS number: 163702-08-7	
Classification Not Classified	
PROPAN-2-OL	5-10%
CAS number: 67-63-0	
Classification Flam. Liq. 2 - H225 Eye Irrit. 2A - H319 STOT SE 3 - H336	
1-METHOXY-2-PROPANOL	5-10%
CAS number: 107-98-2	
Classification Flam. Liq. 3 - H226 STOT SE 3 - H336	

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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 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

Composition

4. First-aid measures

Description of first aid measures

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 and 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 medical attention and special treatment needed

Notes for the doctor	Treat symptomatically.
Specific treatments	No special treatment required.

5. Fire-fighting measures

Extinguishing media

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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.
<u>Special hazards arising from the substance or mixture</u>	
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.
<u>Advice for firefighters</u>	
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 measures

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 containment 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, including 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/Personal protection

Control parameters

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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.

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Odor	Slight alcoholic.
Odor threshold	No information available.
pH	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.

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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

Information on toxicological effects

Toxicological effects	Not regarded as a health hazard under current legislation.
<u>Acute toxicity - oral</u>	
Notes (oral LD₅₀)	Based on available data the classification criteria are not met.
<u>Acute toxicity - dermal</u>	
Notes (dermal LD₅₀)	Based on available data the classification criteria are not met.
<u>Acute toxicity - inhalation</u>	
Notes (inhalation LC₅₀)	Based on available data the classification criteria are not met.
<u>Skin corrosion/irritation</u>	
Animal data	Based on available data the classification criteria are not met.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Based on available data the classification criteria are not met.
<u>Respiratory sensitization</u>	
Respiratory sensitization	Based on available data the classification criteria are not met.
<u>Skin sensitization</u>	
Skin sensitization	Based on available data the classification criteria are not met.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Based on available data the classification criteria are not met.
<u>Carcinogenicity</u>	
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.
<u>Reproductive toxicity</u>	
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.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	Not classified as a specific target organ toxicant after a single exposure.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	Not classified as a specific target organ toxicant after repeated exposure.
<u>Aspiration hazard</u>	
Aspiration hazard	Based on available data the classification criteria are not met.
<u>General information</u>	
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.

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Skin Contact	No specific symptoms known. May cause discomfort.
Eye contact	No specific symptoms known. May be slightly irritating to eyes.
Route of exposure	Ingestion Inhalation Skin and/or eye contact
Target Organs	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.

Acute toxicity - oral

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

Species Rat

ATE oral (mg/kg) 5,000.0

Acute toxicity - inhalation

**Acute toxicity inhalation
(LC₅₀ 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.

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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. Ecological information

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

Ecological information 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 information 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 degradability of the product is not known.

Ecological information on ingredients.

Methyl Nonafluorobutyl Ether

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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.

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 coefficient : 0.05

Mobility in soil

Mobility No data available.

Ecological information on ingredients.

Methyl Nonafluorobutyl Ether

Mobility Not applicable.

Methyl Nonafluoroisobutyl Ether

Mobility Not applicable.

Other adverse effects

Other adverse effects None known.

13. Disposal considerations

Waste treatment methods

General information 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 methods 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. Transport information

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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 %

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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

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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

Taiwan - TCSI

Not listed.

New Zealand - NZIOC

Not listed.

16. Other information

OPTIXX - OPTICAL GRADE HIGH PURITY CLEANING FLUID

Abbreviations and acronyms used in the safety data sheet	<p>TDG: The transport of dangerous goods act</p> <p>IATA: International air transport association.</p> <p>ICAO: Technical instructions for the safe transport of dangerous goods by air.</p> <p>IMDG: International maritime dangerous goods.</p> <p>CAS: Chemical abstracts service.</p> <p>ATE: Acute toxicity estimate.</p> <p>LC₅₀: Lethal concentration to 50 % of a test population.</p> <p>LD₅₀: Lethal dose to 50% of a test population (median lethal dose).</p> <p>EC₅₀: 50% of maximal effective concentration.</p> <p>PBT: Persistent, bioaccumulative and toxic substance.</p> <p>vPvB: Very persistent and very bioaccumulative.</p>
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	<p>H225 Highly flammable liquid and vapor.</p> <p>H226 Flammable liquid and vapor.</p> <p>H302 Harmful if swallowed.</p> <p>H319 Causes serious eye irritation.</p> <p>H336 May cause drowsiness or dizziness.</p> <p>H351 Suspected of causing cancer.</p> <p>H361 Suspected of damaging fertility or the unborn child.</p>

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.