SAFETY DATA SHEET
FOD - STICKLERS OPTIC GRADE DUST and PARTICLE REMOVER

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

1. Identification

Product identifier

Product name FOD - STICKLERS OPTIC GRADE DUST and PARTICLE REMOVER

Product number MCC-FOD10A

Recommended use of the chemical and restrictions on use

Application Cleaning agent.

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: +1 860-827-0626
Fax: +1 860-827-8105
techsupport@microcare.com

Emergency telephone number

Emergency telephone CHEMTREC (800) 424-9300

2. Hazard(s) identification

Classification of the substance or mixture

Physical hazards Aerosol 3 Press. Gas, Liquefied - H280

Health hazards Not Classified

Environmental hazards Not Classified

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

Physicochemical Aerosol containers can explode when heated, due to excessive pressure build-up. 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

Pictogram

FOD - STICKLERS OPTIC GRADE DUST and PARTICLE REMOVER

Signal word Warning

Hazard statements H280 Contains gas under pressure; may explode if heated.

Precautionary statements P210 Keep away from heat, sparks, open flames and hot surfaces. No smoking.
P251 Pressurized container: Do not pierce or burn, even after use
P410+P403 Protect from sunlight. Store in a well-ventilated place.
P412 Do not expose to temperatures exceeding 50°C/122°F.

Supplemental label information EUH210 Safety data sheet available on request.
RCH001a For use in industrial installations only.

Other hazards

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

3. Composition/information on ingredients

Mixtures

HFC-134a Tetrafluoroethane **60-100%**

CAS number: 811-97-2

Classification
Press. Gas, Liquefied - H280

The Full Text for all Hazard Statements are 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.

Composition

4. First-aid measures

Description of first aid measures

General information Never give anything by mouth to an unconscious person. Do not induce vomiting. Place unconscious person on their side in the recovery position and ensure breathing can take place. If breathing stops, provide artificial respiration. Keep out of the reach of children.

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.

Ingestion Do not induce vomiting. Rinse mouth thoroughly with water. Give plenty of water to drink. Consult a physician for specific advice.

Skin Contact Remove contaminated clothing and rinse skin thoroughly with water.

Eye contact Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Consult a physician for specific advice.

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 Vapors may cause headache, fatigue, dizziness and nausea. Difficulty in breathing.

Ingestion Due to the physical nature of this material it is unlikely that swallowing will occur.

Skin contact No specific symptoms known.

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Eye contact Prolonged contact may cause redness and/or tearing.

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. Use fire-extinguishing media suitable for the surrounding fire.

Special hazards arising from the substance or mixture

Specific hazards Keep away from heat, sparks and open flame. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapors. Aerosol containers can explode when heated, due to excessive pressure build-up.

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

Advice for firefighters

Protective actions during firefighting Move containers from fire area if it can be done without risk.

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 Aerosol containers can explode when heated, due to excessive pressure build-up. Warn everybody of potential hazards and evacuate if necessary. Provide adequate ventilation. Avoid inhalation of vapors. Use approved respirator if air contamination is above an acceptable level.

Environmental precautions

Environmental precautions Contain spillage with sand, earth or other suitable non-combustible material.

Methods and material for containment and cleaning up

Methods for cleaning up Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation.

Reference to other sections See Section 11 for additional information on health hazards.

7. Handling and storage

Precautions for safe handling

Usage precautions Provide adequate ventilation. Avoid inhalation of vapors/spray and contact with skin and eyes. Keep away from heat, sparks and open flame. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapors. Keep out of the reach of children.

Conditions for safe storage, including any incompatibilities

Storage precautions Aerosol cans: Must not be exposed to direct sunlight or temperatures above 50°C.

Specific end uses(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

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

8. Exposure Controls/personal protection

Control parameters

Occupational exposure limits

HFC-134a Tetrafluoroethane

Long-term exposure limit (8-hour TWA): OES 4240 mg/m³
Short-term exposure limit (15-minute): OES

Additional Occupational Exposure Limits

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	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible.
Other skin and body protection	Wear suitable protective clothing as protection against splashing or contamination.
Hygiene measures	No specific hygiene procedures recommended but good personal hygiene practices should always be observed when working with chemical products. When using do not eat, drink or smoke.
Respiratory protection	Vapors are heavier than air and may travel along the floor and accumulate in the bottom of containers. In confined or poorly-ventilated spaces, a supplied-air respirator must be worn. Wear self-contained breathing apparatus with full facepiece.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance	Liquid. Gas Aerosol.
Color	Colorless.
Odor	Slight. Ether.
Odor threshold	No information available.
pH	Not applicable.
Initial boiling point and range	-26.1°C/-15.0°F @ 101.3 kPa
Flash point	The product is not flammable.
Evaporation rate	>1 (CCL4=1.0)
Evaporation factor	No information available.

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Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	Upper flammable/explosive limit: n/a Lower flammable/explosive limit: n/a
Other flammability	The product is not flammable.
Vapor pressure	6654 hPa @ 25°C/77°F
Vapor density	3.6 @ 25 C / 77 F
Relative density	1.208 @ 25°C/77°F
Bulk density	1.21 g/cm3 @ 25 C (77 F)
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.
Comments	Aerosol.
Refractive index	Not determined.
Particle size	Not applicable.
Molecular weight	No information available.
Volatility	100%
Saturation concentration	No information available.
Critical temperature	No information available.
Volatile organic compound	Not applicable.

10. Stability and reactivity

Reactivity	There are no known reactivity hazards associated with this product.
Stability	Stable at normal ambient temperatures and when used as recommended.
Possibility of hazardous reactions	Will not polymerize.
Conditions to avoid	Avoid exposing aerosol containers to high temperatures or direct sunlight. 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.
Hazardous decomposition products	Heating may generate the following products: Toxic and corrosive gases or vapors. Halogenated hydrocarbons. Hydrogen fluoride (HF). Carbon monoxide (CO). Carbon dioxide (CO_2).

11. Toxicological information

Information on toxicological effects

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

Inhalation Vapors irritate the respiratory system. May cause coughing and difficulties in breathing.

Ingestion May cause stomach pain or vomiting. May cause nausea, headache, dizziness and intoxication.

Skin Contact Product has a defatting effect on skin. May cause allergic contact eczema. Contact with liquid form may cause frostbite.

Eye contact May cause temporary eye irritation.

Toxicological information on ingredients.

HFC-134a Tetrafluoroethane

Other health effects	There is no evidence that the product can cause cancer.
Acute toxicity - inhalation	
Acute toxicity inhalation (LC_{50} gases ppmV)	567,000.0
Species	Rat
ATE inhalation (gases ppm)	567,000.0

12. Ecological Information

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

Toxicity

Ecological information on ingredients.

HFC-134a Tetrafluoroethane

Acute toxicity - fish	LC_{50}, 96 hours: 450 mg/l, Fish
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 980 mg/l, Daphnia magna

Persistence and degradability

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.

HFC-134a Tetrafluoroethane

Partition coefficient	Pow: 1.06

Mobility in soil

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

Results of PBT and vPvB assessment

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Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

Other adverse effects

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

13. Disposal considerations

Waste treatment methods

General information Waste should be treated as controlled waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

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 Requirements for marking and labeling of package varys depending on mode of transport. If uncertain of proper markings and labeling, call MicroCare for assistance.

UN Number

UN No. (TDG) UN1950

UN No. (IMDG) UN1950

UN No. (ICAO) UN1950

UN No. (DOT) UN1950

UN proper shipping name

Proper shipping name (TDG) UN1950 AEROSOLS, NON-FLAMMABLE, 2.2, LIMITED QUANTITY

Proper shipping name (IMDG) Refrigerant Gas (Tetrafluoroethane)

Proper shipping name (ICAO) Refrigerant Gas (Tetrafluoroethane)

Proper shipping name (DOT) UN1950 AEROSOLS,NON-FLAMMABLE, 2.2, LIMITED QUANTITY

Transport hazard class(es)

TDG class 2.2

ICAO class/division 2.2

Transport labels

Packing group

ICAO packing group Not Applicable

Environmental hazards

Environmentally Hazardous Substance
No.

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

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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
Acute
Pressure

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)
Not listed.

California Air Toxics "Hot Spots" (A-II)
Not listed.

California Directors List of Hazardous Substances
Not listed.

Massachusetts "Right To Know" List
Not listed.

Rhode Island "Right To Know" List
Not listed.

Minnesota "Right To Know" List

HFC-134a Tetrafluoroethane
Present.

New Jersey "Right To Know" List
Not listed.

Pennsylvania "Right To Know" List
Not listed.

Inventories

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Canada - DSL/NDSL
Yes

US - TSCA
All the ingredients are listed.

16. Other information

Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	2/22/2016
Revision	11
Supersedes date	2/22/2016
SDS No.	AEROSOL - FOD
SDS status	Approved.
Hazard statements in full	H280 Contains gas under pressure; may explode if heated.
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)
ACA HMIS Physical hazard rating.	Unstable if heated. (1)
ACA HMIS Personal protection rating.	B