



SAFETY DATA SHEET

EC7M - SLOW DRYING FLUX REMOVER, CITRUS BASED

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

1. Identification

Product identifier

Product name EC7M - SLOW DRYING FLUX REMOVER, CITRUS BASED

Product number MCC-EC7ML, MCC-EC7MG, MCC-EC7MP, MCC-EC7MD, MCC-EC7MGL, MCC-EC7MGG

Synonyms; trade names "BIOACT EC7M SOLVENT"

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 Flam. Liq. 3 - H226

Health hazards Skin Irrit. 2 - H315 Eye Irrit. 2A - H319 Skin Sens. 1 - H317

Environmental hazards Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

Human health See Section 11 for additional information on health hazards.

Physicochemical The product is highly flammable. Vapors may form explosive mixtures with air. Vapors are heavier than air and may travel along the floor and accumulate in the bottom of containers.

Label elements

Pictogram



Signal word

Warning

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Hazard statements	H226 Flammable liquid and vapor. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H410 Very toxic to aquatic life with long lasting effects.
Precautionary statements	P261 Avoid breathing vapor/ spray. 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. P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P332+P313 If skin irritation occurs: Get medical advice/ attention. P337+P313 If eye irritation persists: Get medical advice/ attention. P391 Collect spillage. P501 Dispose of contents/ container in accordance with national regulations.
Supplemental label information	EUH210 Safety data sheet available on request. RCH001a For use in industrial installations only.
Contains	d-LIMONENE

Other hazards

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

3. Composition/information on ingredients

Mixtures

d-LIMONENE	60-100%
CAS number: 5989-27-5	
M factor (Acute) = 1	M factor (Chronic) = 1
Classification Flam. Liq. 3 - H226 Skin Irrit. 2 - H315 Eye Irrit. 2A - H319 Skin Sens. 1 - H317 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	

The Full Text for all Hazard Statements are Displayed in Section 16.

Composition comments The Data Shown is in accordance with the latest EC Directives.

Composition

4. First-aid measures

Description of first aid measures

General information	Move affected person to fresh air at once. Get medical attention if any discomfort continues.
Inhalation	Move affected person to fresh air at once. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Keep affected person warm and at rest. Get medical attention immediately.

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Ingestion	Do not induce vomiting. Rinse mouth thoroughly with water. Give plenty of water to drink. Never give anything by mouth to an unconscious person. Consult a physician for specific advice.
Skin Contact	Wash skin thoroughly with soap and water. Get medical attention if any discomfort continues.
Eye contact	Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. 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	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	Vapours may cause drowsiness and dizziness. Headache. Irritation of nose, throat and airway.
Ingestion	Ingestion of large amounts may cause unconsciousness. May cause nausea, headache, dizziness and intoxication.
Skin contact	Prolonged or repeated contact with skin may cause irritation, redness and dermatitis. May cause skin irritation/eczema.
Eye contact	May cause temporary eye irritation. Irritating to eyes. Symptoms following overexposure may include the following: Redness. Pain.

Indication of immediate medical attention and special treatment needed

Notes for the doctor	No specific recommendations. If in doubt, get medical attention promptly.
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5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	Extinguish with the following media: Powder. Dry chemicals, sand, dolomite etc. Water spray, fog or mist.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

Special hazards arising from the substance or mixture

Specific hazards	Vapors are heavier than air and may travel along the floor and accumulate in the bottom of containers. Vapors may be ignited by a spark, a hot surface or an ember. Containers can burst violently when heated, due to excess pressure build-up.
Hazardous combustion products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors. Oxides of carbon.
Advice for firefighters	
Protective actions during firefighting	Containers close to fire should be removed or cooled with water. Use water to keep fire exposed containers cool and disperse 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	Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation.
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Environmental precautions

Environmental precautions Avoid release to the environment. Do not 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 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. Contain and absorb spillage with sand, earth or other non-combustible material. Collect and place in suitable waste disposal containers and seal securely.

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 Keep away from heat, sparks and open flame. Avoid spilling. Avoid contact with skin and eyes. Provide adequate ventilation. Avoid inhalation of vapors. Use approved respirator if air contamination is above an acceptable level. Storage tanks and other containers must be grounded. Static electricity and formation of sparks must be prevented. Ground and bond containers when transferring material.

Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from heat, sparks and open flame. Keep out of the reach of children.

Specific end uses(s)

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

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

8. Exposure Controls/personal protection

Control parameters

Occupational exposure limits

Additional Occupational Exposure Limits

Ingredient comments WEL = Workplace Exposure Limits

Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate general and local exhaust ventilation.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. 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.

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Hand protection	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: Nitrile rubber. Polyvinyl alcohol (PVA). Viton rubber (fluoro rubber). It should be noted that liquid may penetrate the gloves. Frequent changes are recommended.
Other skin and body protection	Neutral
Hygiene measures	Do not smoke in work area. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.
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 to pale yellow.
Odor	Characteristic. Orange.
Odor threshold	No information available.
pH	No information available.
Melting point	No information available.
Initial boiling point and range	169 - 187°C/340 - 372°F @ 101.3 kPa
Flash point	47°C / 117°F Method: TCC (Tag closed cup).
Evaporation rate	No information available.
Evaporation factor	No information available.
Upper/lower flammability or explosive limits	Lower flammable/explosive limit: 0.7 %(V) Upper flammable/explosive limit: 6.0 %(V)
Vapor pressure	0.21 kPa @ 25°C
Vapor density	4.6
Relative density	No information available.
Bulk density	No information available.
Solubility(ies)	Insoluble in water.
Partition coefficient	No information available.
Auto-ignition temperature	235°C/458°F
Decomposition Temperature	No information available.
Viscosity	No information available.
Refractive index	No information available.
Particle size	Not applicable.
Molecular weight	No information available.
Volatility	100%

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Saturation concentration No information available.

Critical temperature No information available.

10. Stability and reactivity

Reactivity There are no known reactivity hazards associated with this product.

Stability Stable at normal ambient temperatures.

Possibility of hazardous reactions Will not polymerize.

Conditions to avoid Avoid heat, flames and other sources of ignition. Avoid contact with the following materials: Strong oxidizing agents. Strong alkalis. Strong mineral acids.

Materials to avoid Strong oxidizing agents.

Hazardous decomposition products Fire creates: Vapors/gases/fumes of: Carbon monoxide (CO). Carbon dioxide (CO₂).

11. Toxicological information

Information on toxicological effects

Toxicological effects This product has low toxicity. Only large quantities are likely to have adverse effects on human health.

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

Inhalation May cause respiratory system irritation. Vapors may cause headache, fatigue, dizziness and nausea. Prolonged inhalation of high concentrations may damage respiratory system.

Ingestion May cause discomfort if swallowed. This product has low toxicity. Only large quantities are likely to have adverse effects on human health.

Skin Contact Product has a defatting effect on skin. May cause skin irritation/eczema.

Eye contact Irritating to eyes. Liquid, aerosols and vapors of this product are irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation and/or a feeling like that of fine dust in the eyes.

Route of entry Skin and/or eye contact Ingestion. Inhalation

Target Organs Skin Eyes Respiratory system, lungs

Medical Symptoms Skin irritation. Gas or vapor in high concentrations may irritate the respiratory system. Symptoms following overexposure may include the following: Headache. Fatigue. Nausea, vomiting.

Toxicological information on ingredients.

d-LIMONENE

Acute toxicity - oral

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

Species Rat

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ATE oral (mg/kg) 5,000.0

Acute toxicity - dermal

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

Species Rabbit

ATE dermal (mg/kg) 5,000.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 1,000.0

Species Mouse

ATE inhalation (vapours mg/l) 1,000.0

12. Ecological Information

Ecotoxicity Not considered to be a significant hazard due to the small quantities used.

Toxicity

Toxicity Very toxic to aquatic organisms.

Ecological information on ingredients.

d-LIMONENE

Acute aquatic toxicity

LE(C)₅₀ 0.1 < L(E)C₅₀ ≤ 1

M factor (Acute) 1

Acute toxicity - fish EC₅₀, 96 hours: 0.69 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 0.42 mg/l, Daphnia magna

Chronic aquatic toxicity

NOEC 0.001 < NOEC ≤ 0.01

Degradability Rapidly degradable

M factor (Chronic) 1

Persistence and degradability

Persistence and degradability The product is readily biodegradable.

Ecological information on ingredients.

d-LIMONENE

Persistence and degradability The product is more than 80% biodegradable.

Biodegradation - Degradation 92.7: 21 days

Bioaccumulative potential

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Bio-Accumulative Potential No data available on bioaccumulation.

Partition coefficient No information available.

Ecological information on ingredients.

d-LIMONENE

Partition coefficient No information available.

Mobility in soil

Mobility The product is partly miscible with water and may spread in the aquatic environment.

Results of PBT and vPvB assessment

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 volatile organic compounds (VOCs) which have a photochemical ozone creation potential.

13. Disposal considerations

Waste treatment methods

General information Materials such as cleaning rags and paper wipes that are contaminated with flammable liquids may self-ignite after use and should be stored in designated fireproof containers with tight-fitting, self-closing lids.

Disposal methods 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.

14. Transport information

Road transport notes Exception Applies: LIQUID CLEANING COMPOUND N.O.S. NOT D.O.T REGULATED PER 49 CFR 173.150 (f)

UN Number

UN No. (TDG) UN2319

UN No. (IMDG) UN2319

UN No. (ICAO) UN2319

UN No. (DOT) UN2319

UN proper shipping name

Proper shipping name (TDG) Terpene Hydrocarbons N.O.S. (d-Limonene)

Proper shipping name (IMDG) Terpene Hydrocarbons N.O.S. (d-Limonene)

Proper shipping name (ICAO) Terpene Hydrocarbons N.O.S. (d-Limonene)

Proper shipping name (DOT) Terpene Hydrocarbons N.O.S. (d-Limonene)

Transport hazard class(es)

TDG class 3 (F1)

IMDG Class 3

ICAO class/division 3

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Transport labels



Packing group

TDG Packing Group	III
IMDG packing group	III
ICAO packing group	III
DOT packing group	III

Environmental hazards

Environmentally Hazardous Substance



Special precautions for user

EmS F-E, S-E

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

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

Fire

OSHA Highly Hazardous Chemicals

Not listed.

US State Regulations

State Regulations Comments NOT FOR SALE IN CALIFORNIA

California Proposition 65 Carcinogens and Reproductive Toxins

Not listed.

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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

Not listed.

New Jersey "Right To Know" List

Not listed.

Pennsylvania "Right To Know" List

Not listed.

Inventories

Canada - DSL/NDSL

DSL

US - TSCA

Yes

16. Other information

Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	2/23/2016
Revision	19
Supersedes date	2/15/2016
SDS No.	BULK - EC7M
SDS status	Approved.
Hazard statements in full	H226 Flammable liquid and vapor. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.
NFPA - health hazard	Irritation, minor residual injury. (1)
NFPA - flammability hazard	Burns only if heated moderately. (2)
NFPA - instability hazard	Normally stable. (0)
NFPA - special hazard	N/A
ACA HMIS Health rating.	Slight Hazard. (1)

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ACA HMIS Flammability rating. Burns only if heated moderately. (2)

ACA HMIS Physical hazard rating. Normally stable. (0)

ACA HMIS Personal protection rating. 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.