

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name BIOACT® EC-7M

Other means of identification

Product Code EC7M
UN-No UN2319

Recommended use of the chemical and restrictions on use

Recommended Use Technical cleaning solvent.

Details of the supplier of the safety data sheet

Manufacturer Address Vantage Specialties, Inc.
 3938 Porett Drive
 Gurnee, IL 60031 USA
 847-244-3410

Emergency Telephone Number

Emergency Telephone Number CHEMTREC International +1-703-527-3887
 CHEMTREC USA: 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2B
Skin sensitization	Category 1
Aspiration toxicity	Category 1
Flammable Liquid and vapor	Category 3

Label Elements

EMERGENCY OVERVIEW

DANGER

Hazard statements

May be fatal if swallowed and enters airways
 Causes eye irritation
 Causes skin irritation
 May cause an allergic skin reaction
 Very toxic to aquatic life with long lasting effects
 Flammable liquid and vapor



Color Light yellow

Physical State Liquid

Odor Citrus

Precautionary Statements - Prevention

Keep away from heat/sparks/open flames/hot surfaces. — No smoking
 Take precautionary measures against static discharge
 Use personal protective equipment as required
 Use only in a well ventilated area
 Wash hands thoroughly after handling

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 IF ON SKIN: Rinse exposed skin with plenty of water. If skin irritation occurs: get medical advice/attention.
 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Consult a physician if breathing is difficult or other respiratory symptoms develop.
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 IN CASE OF FIRE: Use CO2, dry chemical, ABC fire extinguisher, or foam for extinction

Precautionary Statements - Storage

Store in accordance with local regulations

Precautionary Statements - Disposal

Dispose of contents/container in accordance with applicable regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Weight %
D-Limonene	5989-27-5	60-100

4. FIRST AID MEASURES

FIRST AID MEASURES

Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Skin contact	IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: get medical advice/attention.
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Ingestion	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Seek immediate medical attention.
Protection of First-aiders	Use personal protective equipment.

Most important symptoms and effects, both acute and delayed

Symptoms Headache/dizziness. Skin irritation, allergic reaction.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

<u>Suitable extinguishing media</u>	Dry chemical. Foam. Carbon dioxide. Water spray. Class ABC/BC fire extinguisher.
<u>Unsuitable extinguishing media</u>	Do not use a solid water stream as it may scatter and spread fire.
<u>Specific hazards arising from the chemical</u>	Discarded towels or wipes soaked with solvent may smolder if

not properly contained.

Explosion Data

Sensitivity to Mechanical Impact

Sensitivity to Static Discharge

None.

May be ignited by heat, sparks or flames.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions

Use personal protective equipment. Remove all sources of ignition. Ensure adequate ventilation.

Environmental precautions

Environmental precautions

Prevent release to surface water. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for Containment

Dike to collect large liquid spills.

Methods for Cleaning Up

Take up with sand or other noncombustible absorbent material and place into containers for later disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling

Wear personal protective equipment. Avoid contact with skin, eyes, and clothing. Do not breathe vapors or spray mist. Ensure adequate ventilation. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

Storage

Keep away from open flames, hot surfaces and sources of ignition. Keep containers tightly closed in a cool, well-ventilated place.

Incompatible materials

Strong acids. Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering Measures

Provide showers, eyewash stations, and ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face Protection

Safety glasses with side-shields.

Skin and Body Protection

Long sleeved clothing. Wear personal protective equipment as required.

Respiratory Protection

In case of insufficient ventilation wear suitable respiratory equipment.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid	Odor	Citrus
Appearance	Clear	Odor threshold	Not determined
Color	Light yellow		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH		Not Applicable
Melting point/freezing point		Not determined
Boiling point/boiling range	> 150 °C / >300 °F	
Flash Point	47 °C / 117 °F	Closed cup
Evaporation Rate	<1	(BUAC = 1)
Flammability (solid, gas)		Flammable liquid and vapor
Flammability Limits in Air		Published data for d-Limonene
Upper flammability limits	6.1%	
Lower Flammability Limit	0.7%	
Vapor pressure	1.6	mm Hg
Vapor Density	>1	(air = 1)
Specific Gravity	0.84	@ 25°C
Water Solubility	Immiscible	
Solubility in other solvents		Not determined
Partition coefficient		No data available
Autoignition Temperature		No data available
Decomposition temperature		No data available
Kinematic viscosity	0.8 cps @ 25°C	No data available
Dynamic viscosity		No data available
Explosive Properties	None	
Oxidizing Properties	None	

Other Information

10. STABILITY AND REACTIVITY

Reactivity	Not reactive
Remarks	
Chemical stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	
Hazardous Reactions	None under normal processing.
Hazardous Polymerization	Hazardous polymerization does not occur.
Conditions to Avoid	Extremes of temperature and direct sunlight
Incompatible materials	Strong acids. Strong oxidizing agents.
Hazardous Decomposition Products	
Carbon oxides.	

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	May cause drowsiness and dizziness.
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Eye contact	Irritating to eyes.
Skin contact	May cause sensitization by skin contact.
Ingestion	May be harmful if swallowed. Potential for aspiration if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
D-Limonene 5989-27-5	= 4400 mg/kg (Rat)	> 5 g/kg (Rabbit)	-

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation dry skin, eczema.
Serious eye damage/eye irritation pain, tearing.
Sensitization Repeated or prolonged contact may cause allergic reactions in very susceptible persons.
Mutagenic Effects No known hazard.

Reproductive Toxicity No known hazard.

Aspiration hazard May be fatal if swallowed and enters airways.

Numerical measures of toxicity-Product Information Not determined

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
D-Limonene 5989-27-5		LC50 (96h) 0.62 - 0.8 mg/L Pimephales promelas		LC50 (48h): 0.58 - 0.92 mg/l Daphnia magna

Persistence and degradability

No data available.

Bioaccumulation/Accumulation

d-Limonene BCF: 683

Mobility

No data available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Method This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261).

Contaminated Packaging Dispose of in accordance with applicable regulations.

US EPA Waste Number D001

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
D-Limonene 5989-27-5	Toxic

14. TRANSPORT INFORMATION

DOT

UN-No UN2319
Proper Shipping Name Terpene Hydrocarbons, N.O.S.
Hazard Class 3
Packing Group III
Special Provisions Exempt from regulation by US DOT when shipped solely by land in containers less than 119 gallons.

IATA

UN-No UN2319
Proper Shipping Name Terpene Hydrocarbons, N.O.S.
Hazard Class 3
Packing Group III

IMDG / IMO

UN-No UN2319
Proper Shipping Name Terpene Hydrocarbons, N.O.S.
Hazard Class 3
Packing Group III
Marine Pollutant Yes
Description d-Limonene

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL Complies
EINECS Complies
ELINCS Complies
ENCS Complies
IECSC Complies
KECL Complies
PICCS Complies
AICS Complies

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

1,2-epoxybutane, 2-methyl-2-propanol.

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

16. OTHER INFORMATION

NFPA	Health Hazard 1	Flammability 2	Instability 0	Physical and Chemical Hazards n/a
HMIS	Health Hazard 1	Flammability 2	Physical hazards 0	Personal Precautions B

Prepared by	Product Steward
Issuing Date	18-Sep-2015
Revision Date	11-Aug-2015
Revision Note	
Reason for Revision	Update to supplier identity/logo Translation

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text.

End of MSDS

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