

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

Product identifier

Product Name BIOACT® EC-7R

Other means of identification

Product Code EC7R
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

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If eye irritation persists: Get medical advice/attention
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 If skin irritation or rash occurs: Get medical advice/attention
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

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
Butylated hydroxytoluene	128-37-0	< 0.1
Butylated hydroxyanisole	25013-16-5	< 0.1

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 (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. In the case of skin irritation or allergic reactions see a physician.

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Ingestion IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. DO NOT induce vomiting.

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

Suitable extinguishing media Dry chemical. Foam. Carbon dioxide. Water spray. Class ABC/BC fire extinguisher.

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge 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 product from entering drains. Avoid release to the environment.

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. 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

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Butylated hydroxytoluene 128-37-0	TWA: 2 mg/m ³	n/a	TWA: 10 mg/m ³

Appropriate engineering controls

Engineering Measures Showers, Eyewash stations, Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face Protection Goggles.

Skin and Body Protection Long sleeved clothing. Wear personal protective equipment as required.

Respiratory Protection In case of inadequate ventilation wear respiratory protection.

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		
Property	Values	Remarks • Method	
pH		Not Applicable	
Melting point/freezing point		Not determined	
Boiling point/boiling range	> 171 - 189 °C / >340 - 372 °F		
Flash Point	47 °C / 117 °F	Closed cup (BUAC = 1)	
Evaporation Rate	<1	Flammable liquid and vapor	
Flammability (solid, gas)		Published data for d-Limonene	
Flammability Limits in Air			
Upper flammability limits	6.1%		
Lower Flammability Limit	0.7%		
Vapor pressure	< 2	mm Hg	
Vapor Density	>1	(air = 1)	
Specific Gravity	0.84	@ 25°C	
Water Solubility	Immiscible		
Solubility in other solvents		Not determined	
Partition coefficient	4.4	Published data for d-Limonene	
Autoignition Temperature		No data available	
Decomposition temperature		No data available	
Kinematic viscosity	0.8 cps @ 25°C		
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.
Eye contact	Irritating to eyes.
Skin contact	May cause sensitization by skin contact.

Ingestion

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)	-
Butylated hydroxytoluene 128-37-0	= 890 mg/kg (Rat)	-	-
Butylated hydroxyanisole 25013-16-5	= 2 g/kg (Rat)	-	-

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.
Sensitization Repeated or prolonged contact may cause allergic reactions in very susceptible persons.
Mutagenic Effects No known hazard.

Chemical Name	ACGIH	IARC	NTP	OSHA
Butylated hydroxyanisole 25013-16-5		Group 2B	Reasonably Anticipated	X

Reproductive Toxicity No known hazard.

STOT - repeated exposure 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**

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
Butylated hydroxytoluene 128-37-0	EC50 > 0.42 mg/L 72 h EC50 = 6 mg/L 72 h		EC50 = 7.82 mg/L 5 min EC50 = 8.57 mg/L 15 min EC50 = 8.98 mg/L 30 min	

Persistence and degradability

No data available.

Bioaccumulation/Accumulation

d-Limonene BCF: 683

Mobility

No data available.

Chemical Name	Partition coefficient
Butylated hydroxytoluene 128-37-0	= 4.17

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.

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/NDL - 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 does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

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

Chemical Name	California Prop. 65
Butylated hydroxyanisole - 25013-16-5	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Butylated hydroxytoluene 128-37-0	X	X	X
Butylated hydroxyanisole 25013-16-5	X	X	

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

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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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