

HEALTH	2
FLAMMABILITY	1
REACTIVITY	0

Section 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product Name	Ethyl trans-2-butenoate (Ethyl Crotonate), Natural
Product Number	0348600
CAS-No.	623-70-1; 10544-63-5

1.2 Product Recommended Use **Flavorings**

1.3 Preparation Information

Company	Aurochemicals 7 Nicoll Street Washingtonville, NY 10992- USA
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Telephone	845-496-6065
Fax	845-496-6248

1.4 Emergency Telephone Number 1-800-535-5053
International - 1-352-323-3500 collect

Section 2: HAZARD(s) IDENTIFICATION

2.1 Classification of substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)	Flammable liquids (Category 2) Skin irritation (Category 2) Eye irritation (Category 2A)
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For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label Elements, Including precautionary statements

Pictogram



Signal Statement

Danger

Hazard Statement(s)

H225	Highly flammable liquid and vapour
H315	Causes skin irritation.
H319	Causes serious eye irritation

Precautionary Statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces – No smoking
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment
P241	Use explosion proof electrical/ventilating/lighting equipment

P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge
P264	Wash skin thoroughly after handling
P280	Avoid release to the environment
P280	Wear protective gloves/ eye protection/ face protection.
P303+P353+P361	IF ON SKIN (or Hair): Remove/Take-off immediately all contaminated clothing. Wash with plenty of soap and 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.
P362	Take off contaminated clothing and wash before reuse.
P370+P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container to an approved waste disposal plant
	None

2.3 HNOC (Hazards not otherwise classified or not covered by GHS)

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Synonym	Ethyl crotonate
Formula	C ₆ H ₁₀ O ₂
Molecular Weight	114.14 g/mol
CAS-No	623-70-1; 10544-63-5
EC-No.	210-808-7

Hazardous Components

Component	Classification	Concentration
Ethyl crotonate	Flam. Liq. 2; Skin Irrit. 2; Eye Irrit. 2A; H225, H315, H319	<= 100%

Section 4: FIRST AID MEASURES

4.1 Description of first aid measures

General Advice	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
Inhalation	Provide fresh air; keep at rest and at a comfortable position to breathe. Consult a physician.
Contact with skin:	Remove contaminated clothing. Rinse skin with cool water then wash with mild soap and warm water. Consult a physician.
Contact with eyes:	Rinse thoroughly with plenty of water for at least 15 minutes as a precaution.
Ingestion	DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Clothing contamination:	Remove contaminated clothing and wash before reuse.

4.2 Most important symptoms and effects both acute and delayed

See section 2.2 and or section 11

4.3 Indication of any immediate medical attention and special treatment needed. - No data available

Section 5: FIREFIGHTING MEASURES

5.1 Extinguishing Media

Suitable Extinguishing Media	Use water spray, alcohol resistant foam, dry chemical or carbon dioxide
5.2 Special hazards arising from the substance or mixture	Carbon oxides
5.3 Advice for fire fighters	Wear self contained breathing apparatus for firefighting if necessary.
5.4 Further information	Use water spray to cool unopened containers.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures	Use personal protective equipment. Avoid breathing vapors. Mist or gas. Ensure adequate ventilation.
6.2 Environment precautions	Prevent further leakage or spillage if safe to do so. Do not allow to enter drains or sewage system. Discharge into the environment must be avoided.
6.3 Methods and materials for containment and clean up	Contain spillage. Soak up with absorbent material, wet sweep up with broom and place in a suitable, closed container for disposal.
6.4 Specific end use(s)	Apart from the uses mentioned in section 1.2, no other specific uses are stipulated.

Section 7: HANDLING AND STORAGE

7.1 Precautions for safe handling	Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition-No smoking.
7.2 Conditions for Safe storage	Keep container tightly closed in a dry, cool and well-ventilated place. Containers which have been opened must be carefully resealed and kept upright to prevent leakage.
7.3 Specific End use(s)	Air Sensitive Flavorings

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters	Contains no substance with occupational exposure limit values.
8.2 Exposure Controls	Handle in accordance with good industrial hygiene and safety practices. Wash hands before breaks and at the end of the workday.
Appropriate Engineering Controls	
Personal protective equipment	These recommendations are advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situations of anticipated use by our customers. They should not be construed as offering an approval or any specific use scenario.
Eye/face protection	Safety glasses with side shields conforming to EN 166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).
Skin protection	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body protection	Complete suit protecting against chemicals should be selected specifically for the work place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier
Respiratory protection	Where risk assessment shows air-purifying respirators are appropriate, use a full face respirator with multi-purpose combination (U) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full faced supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (U) or CEN (EU).
Control of environmental exposure	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a Appearance	Form: liquid Color:
b Odor	No data available
c Odor Threshold	No data available
d pH	No data available
e Melting Point /Freezing Point	Melting Point: <-60°C
f Initial boiling point and boiling range	142 - 143 °C 288 - 289 °F - lit.
g Flash Point	2 °C (36 °F)
h Evaporation Rate	No data available
i Flammability (Solid, Gas)	No data available
j Upper/lower Flammability Limit	No data available
k Vapor pressure	<0.011 hPa at 20°C
l Vapor density	No data available
m Relative density	0.918 g/cm ³ at 25 °C (77 °F)
n Solubility	No data available
o Partition coefficient: n-octanol/water	No data available
p Auto-ignition Temp.	No data available
q Decomposition Temp.	No data available
r Viscosity	No data available
s Explosive properties	No data available
t Oxidizing properties	No data available

9.2 Other Safety Information No data available

Section 10: STABILITY AND REACTIVITY

10.1 Reactivity	No data available
10.2 Chemical Stability	Stable under recommended storage conditions
10.3 Possibility of Hazardous reactions	Vapors may form explosive mixture with air
10.4 Conditions to avoid	Heat, flame and sparks. Extremes of temperature and direct sunlight
10.5 Incompatible materials	Strong oxidizing agents
10.6 Hazardous decomposition products	Carbon oxides
10.7 Further Information	No data available

Section 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity

LD50-Oral- Rat	3,000 mg/kg	Remarks: (RETCS)
Inhalation	No data available	
LD50-Dermal-Guinea pig	>5,000 mg/kg	
Skin corrosion/irritation	Irritations	
Serious eye damage/eye irritation	Eyes - Rabbit Result: Eye irritation Remarks: (RTECS)	
Respiratory or skin sensitization	No data available	
Germ Cell mutagenicity	No data available	

Carcinogenicity

IARC	No component of this product, present levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.	
ACGIH	No component of this product, present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.	
NTP	No component of this product, present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.	
OSHA	No component of this product, present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.	

Reproductive toxicity

No data available

Teratogenicity

No data available

Specific target organ toxicity-single exposure (GHS)

No data available

Specific target organ toxicity-repeated exposures (GHS)

No data available

Aspiration Hazards

No data available

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated

Synergistic effects

No data available

RTECS:

GQ3500000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information

If inhaled, in high concentrations: Inhalation may lead to the formation of oedemas in the respiratory tract. The substance has delayed effects. Further data: Other dangerous properties cannot be excluded. Handle in accordance with good industrial hygiene and safety practice.

Section 12: ECOLOGICAL INFORMATION

12.1 Toxicity	No data available
12.2 Persistence and degradability	No data available
12.3 Bioaccumulative potential	No data available

12.4	Mobility in soil	No data available
12.5	Results of PBT and vPvB assessment	PBT/vPvB assessment not available as chemical safety assessment not required / not conducted
12.6	Other adverse effects	No data available

Section 13: DISPOSAL CONSIDERATIONS

13.1	Disposal methods	
	Product:	According to local regulations
	Packaging	According to local regulations

Section 14: TRANSPORT INFORMATION

DOT (US)	UN Number: 1862 Class: 3 Packing Group II
Proper Shipping Name:	Flammable liquid n.o.s. (Ethyl trans-2-butenoate)
Marine Pollutant	No
IMDG	UN Number: 1862 Class: 3 Packing Group II
Proper Shipping Name	FLAMMABLE LIQUID, N.O.S. (Ethyl trans-2-butenoate)
Marine Pollutant	No
IATA	UN Number: 1862 Class: 3 Packing Group II
Proper Shipping Name	FLAMMABLE LIQUID, N.O.S. (Ethyl trans-2-butenoate)
Marine Pollutant	No

Section 15: REGULATORY INFORMATION

SARA 302 Components	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302	
SARA 313 Components	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.	
SARA 311/312 Hazards	Acute Health Hazard; Fire Hazard	
Massachusetts Right to Know components	Ethyl trans-2-butenoate	CAS# 10544-63-5 Rev. Date: 1993-04-24
Pennsylvania Right to Know components	Ethyl trans-2-butenoate	CAS# 10544-63-5 Rev. Date: 1993-04-24
New Jersey Right to Know components	Ethyl trans-2-butenoate	CAS# 10544-63-5 Rev. Date: 1993-04-24
California Prop. 65 components	This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.	

Section 16: OTHER INFORMATION

HMIS Rating
Health hazard 2
Chronic Health Hazard

Safety Data Sheet

Flammability 1
Reactive Hazard 0

Further Information

Aurochemicals provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. Aurochemicals makes no representations or warranties, either expressed or implied, including without limitation any warranties of merchantability, fitness for a particular purpose with respect to the information set forth herein or the product to which the information refers. Accordingly, Aurochemicals will not be responsible, nor held liable, for damages resulting from use of or reliance upon this information.

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