

Safety Data Sheet

HEALTH	2
FLAMMABILITY	3
REACTIVITY	0

Section 1: IDENTIFICATION

Product Name: **Ethyl Formate, Natural**
 Product Number: **0243400**
 Recommended Use: **Flavorings**

Manufacturer: **Aurochemicals**
7 Nicoll Street
Washingtonville, NY 10992 – USA
845-496-6065
845-496-6248 Fax

Emergency Telephone No.: **1-800-535-5053**
(International 1-352-323-3500 collect)

Section 2: HAZARD(s) IDENTIFICATION

OSHA Hazards **Flammable liquid, Target Organ Effect, Harmful by ingestion, Irritant**

GHS Classification **Flammable Liquids (Category 2)**
Acute Toxicity, Oral (Category 4)
Acute Toxicity, Inhalation (Category 4)
Skin Irritation (Category 3)
Eye Irritation (Category 2A)
Specific target organ toxicity-single exposure (Category 3)

Signal Word: **Danger**

Hazard Statement: **Flammable Liquid, Irritant**

Pictogram or written description



Hazard Statement(s)

H225	Highly flammable liquid and vapor
H302+H332	Harmful if swallowed or if inhaled
H316	Causes mild skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

Precautionary Statement(s)

P210	Keep away from heat/sparks/open flames/hot surface-no smoking
P261	Avoid breathing dust/fume/gas/mist/vapors/spray
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

Potential Health Effects

Inhalation **May be harmful if inhaled. Causes respiratory tract irritation.**

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Skin	Harmful if absorbed through skin. Causes skin irritation
Eyes	Causes eye irritation
Ingestion	May be harmful if swallowed

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Substances:

Chemical Name	Ethyl Formate
Common Name:	Ethyl Formate
Synonyms:	Formic acid ethyl ester
CAS #	109-94-4
EC#	203-721-0
Index-No.	607-015-00-7
Molecular Formula	C ₃ H ₆ O ₂
Molecular Weight	74.08 g/mol

Section 4: FIRST AID MEASURES

General Advice:	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
Contact with eyes:	Rinse thoroughly with plenty of water, seek medical advice.
Contact with skin:	Rinse with cool water, wash with mild soap and warm water.
Inhalation:	Provide fresh air, seek medical advice.
Ingestion:	DO NOT INDUCE VOMITING. Give water and seek medical advice.
Clothing:	Remove contaminated clothing and wash before re-use.

Section 5: FIREFIGHTING MEASURES

Conditions of flammability	Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface – no smoking.
Suitable Extinguishing Media	Use water spray, alcohol resistant foam, dry chemical or carbon dioxide.
Special Firefighting Procedures:	Wear self contained breathing apparatus for firefighting if necessary. Use water spray to cool unopened container.
Hazardous combustion products	Toxic fumes forms under fire conditions-Carbon oxides

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
Environmental precautions	Do not let product enter drains or allow discharge into the environment.

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Methods for containment and clean up

With absorbent, sweep up and discard in suitable container for disposal according to local regulations. After sweep up, wash down area and ventilate well.

Section 7: HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition-No smoking. Take measures to prevent the buildup of electrostatic charge.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Moisture sensitive.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No	Value	Control Parameters	Basis
Ethyl Formate	109-94-4	TWA	100 ppm 303 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
		TWA	100 ppm 303 mg/m ³	USA. OSHA-Table Z-1 Limits for Air Contaminants 1910.1000
		TWA	100 ppm 303 mg/m ³	USA. Occupational Exposure Limits (OSHA) Table Z-1 Limits for Air Contaminants

Personal Protective Equipment:

These recommendations are advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. They should not be construed as offering an approval for any specific use scenario.

Flame retardant antistatic protective clothing 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:

Required when vapors are generated and risk assessment shows air-purifying respirators are appropriate. Use approved full face respiration.

Eye Protection:

Face shield and safety glasses required for protection.

Hand Protection:

Wear chemically resistant gloves.

Industrial Hygiene:

Handle in accordance with good industrial hygiene and safety practice. Changes contaminated clothing and wash them thoroughly before re-use. . Application of skin protective barrier cream recommended.
Wash hands after working with product

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Form:

Liquid

Color:

Colorless to to pale yellow

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Odor:	Fruity Odor
Boiling Point:	53-54°C
Flashpoint:	-19°C
Melting Point:	-80°C -lit
Explosive Properties:	No information available
Lower Explosion Limit	2.8 % Vol
Upper Explosion Limit	16 % Vol
Ignition temperature	455°C
Auto Ignition Temperature	No information available
Oxidizing properties:	No information available
Vapor Pressure:	1,045.0 hPa (783.8 mmHg) at 55°C, 261.2 hPa (195.9 mmHg) at 20°C
Specific Gravity @ 25°C:	0.916 -0.921
Solubility	Soluble in most fixed oils, propylene glycol, water (decomposition); slightly soluble in mineral oils; 1:5 in 50% alcohol

Section 10: STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended storage conditions
Possibility of hazardous reactions	Vapors may form explosive mixture with air
Conditions to be avoided	Heat, Flames, Sparks. Extremes of temperature and direct sunlight
Substances to be avoided	Bases, Oxidizing agents
Hazardous decomposition products:	Hazardous decomposition products formed under fire conditions-Carbon oxides.
Relative vapor density	2.56 – (Air-1.0)
Further Information:	No data available

Section 11: TOXICOLOGICAL INFORMATION

Acute Toxicity

LD50 Oral, Rabbit	1,850 mg/kg
LD50 Dermal, Rabbit	>18,420 mg/kg
LC50 Inhalation	No information available
Skin corrosion/irritation	Rabbit- Mild skin irritation
Serious eye damage / eye irritation	No data available
Respiratory or skin sensitization	No data available

Carcinogenicity

IARC	No component of this product present at 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 0.15 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 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	Inhalation- May cause respiratory irritation

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(GHS)
Specific target organ toxicity-repeated exposure (GHS) No data available

Aspiration hazard No data available

Potential Health effects
Inhalation: May be harmful if inhaled. Causes respiratory tract irritation
Ingestion: May be harmful if swallowed
Skin: May be harmful if absorbed through skin. Causes skin irritation
Eyes: Causes eye irritation

Signs and Symptoms of Exposure Cough, Shortness of breath, headache, Nausea, Vomiting, Narcosis

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

RTECS # LQ8400000
Additional Information See complete RTECS report for more information

Section 12: ECOLOGICAL INFORMATION

Additional ecological information Do not allow to enter water, drain or soil. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life.

Section 13: DISPOSAL CONSIDERATIONS

Product: According to local regulations
Packaging: According to local regulations

Section 14: TRANSPORT INFORMATION

DOT (US) UN 1190 / Ethyl Formate., Class 3 -Packing Group II
Reportable Quantity (RQ) No
Marine pollutant: No
Poison Inhalation Hazard No
IMDG- Classification UN 1190 / Ethyl Formate., Class 3 Packing Group II EMS-F-E, S-D
IATA- Classification UN 1190 / Ethyl Formate., Class 3 Packing Group II

Section 15: REGULATORY INFORMATION

OSHA Hazards Flammable liquid, Target Organ Effect, Harmful by Ingestion, Irritant
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 Fire Hazard, Acute Health Hazard, Chronic Health Hazard

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Massachusetts Right to Know Components

Ethyl Formate CAS#109-94-4 Rev. Date: 7/1/91

New Jersey Right to Know Components

Ethyl Formate CAS#109-94-4 Rev. Date: 7/1/91

Pennsylvania Right to Know Components

Ethyl Formate CAS#109-94-4 Rev. Date: 7/1/91

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 Classification

Health Hazard 2
 Chronic Health *
 Hazard 3
 Flammability 0
 Physical Hazard

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.

Issued by:	Contact Person:
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