

1 - Product and Company Information

ProductNameETHYL FORMATE-D, 98 ATOM % D

2 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

Highly flammable. Harmful by inhalation, in contact with skin and if swallowed.

3 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I
ETHYL FORMATE-D, 98 ATOM % D	35976-76-2	None	None
Formula	C3H5DO2		
Molecular Weight	75.09 AMU		

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

AFTER EYE CONTACT

Assure adequate flushing of the eyes by separating the eyelids with fingers.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

SPECIAL RISKS

Specific Hazard(s): Extremely flammable. Vapor may travel considerable distance to source of ignition and flash back. Explosion Hazards: Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

SPECIFIC METHOD(S) OF FIRE FIGHTING

Use water spray to cool fire-exposed containers.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Cover with an activated carbon adsorbent, take up and place in closed containers. Transport outdoors. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed. Keep away from heat, sparks, and open flame. Store in a cool dry place.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Safety shower and eye bath. Use only in a chemical fume hood.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Hand Protection: Rubber gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

pH	N/A	
BP/BP Range	52.0 - 54.0 °C	
MP/MP Range	- 80.0 °C	
Flash Point	- 19.0 °C	Method: closed cup
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	N/A	
SG/Density	0.93 g/cm3	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

10 - Stability and Reactivity

STABILITY

Conditions of Instability: Ethyl formate is extremely unstable in the presence of base

Conditions to Avoid: Moisture. Heat.

Materials to Avoid: Oxidizing agents, Bases, Acids.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

11 - Toxicological Information

SIGNS AND SYMPTOMS OF EXPOSURE

Narcotic effect. Exposure can cause: Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

ROUTE OF EXPOSURE

Multiple Routes: Harmful if swallowed, inhaled, or absorbed through skin. High concentrations are extremely destructive to tissues of the mucous membranes and upper respiratory tract, eyes, and skin.

TARGET ORGAN INFORMATION

Central nervous system.

12 - Ecological Information

No data available.

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

UN#: 1190

Class: 3

PG: II

Proper Shipping Name: Ethyl formate

IMDG

UN#: 1190

Class: 3

PG: II

Proper Shipping Name: Ethyl formate

Marine Pollutant: No

Severe Marine Pollutant: No

IATA

UN#: 1190

Class: 3

PG: II

Proper Shipping Name: Ethyl formate

Inhalation Packing Group I: No

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: F-Xn

Highly Flammable. Harmful.

R-PHRASES: 11-20/21/22

Highly flammable. Harmful by inhalation, in contact with skin and if swallowed.

S-PHRASES: 16-26-33-36

Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Take precautionary measures against static discharges. Wear suitable protective clothing.

Caution: Substance not yet fully tested (EU).

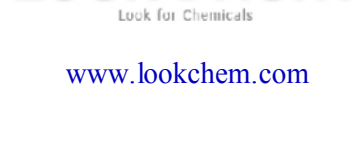
COUNTRY SPECIFIC INFORMATION

Germany

WGK: 3

Self-Classification

16 - Other Information



For R&D use only. Not for drug, household or other uses.

WARRANTY:

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Lookchem shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.