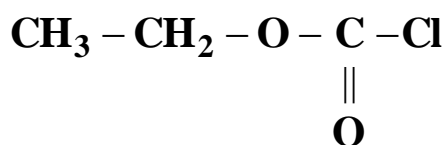


DATA SHEET Nr 2040 L

# ETHYL CHLOROFORMATE

## ECF



Molecular formula:	C <sub>3</sub> H <sub>5</sub> ClO <sub>2</sub>
Molecular weight:	108.5
CAS number:	541-41-3
EC number:	208-778-5

### SYNONYM

Carbonochloridic acid, ethyl ester.

### APPEARANCE

Clear liquid with pungent odor.

### PHYSICAL PROPERTIES

Density (20°C): 1.14 g/cm<sup>3</sup>

Boiling point: 95 °C/101 kPa

Solubility:

Soluble in usual organic solvents (acetone, toluene, chloroform, THF).

### CHEMICAL PROPERTIES

- Reacts by hydrolysis yielding hydrochloric acid, carbon dioxide and ethanol.
- Reacts with alcohols yielding carbonates.
- Reacts with amines yielding carbamates.

### USES

- Organic synthesis intermediate.

## ETHYL CHLOROFORMATE

### ECF

#### SPECIFICATION

Parameter	Guaranteed value	Method	Operating procedure
Appearance	Clear liquid	Visual	
Color	≤ 30 APHA	Colorimetry	C – 210
Purity	≥ 99.0 %	Gas chromatography	GC – 240
Phosgene	≤ 0.1 %	Iodometry	I – 230
Hydrogen chloride	≤ 0.1 %	Acidimetry	A – 220
Ethanol	≤ 0.1 %	Gas chromatography	GC – 240
Diethyl carbonate	≤ 0.5 %	Gas chromatography	GC – 240
Methyl chloroformate	≤ 0.05 %	Gas chromatography	GC – 240

#### PACKAGING

Polyethylene lined metal drum containing 200 kg.

In bulk.

#### HANDLING PRECAUTIONS

- Physicochemical hazard:  
Flash point (closed cup): 16 °C
- Health hazards:  
LD 50 (oral, rat): 205 mg/kg  
Irritating on skin, mucous membrane and eyes.  
Corrosive.
- Recommended:  
Avoid contact with metallic compounds which catalyze its decomposition.  
Wear gloves, goggles, mask and protective clothes.  
If eyes are contaminated wash immediately with clean water for at least 15 minutes. If

concentrated vapors are inhaled carry person into fresh air. In both cases consult a physician.

- Neutralization:  
Neutralize by reaction with an alkaline solution.

#### STORAGE

Stored in its closed original drum, protected from direct sunshine, in a covered, dry, cool and well-ventilated warehouse the product is stable.

However, in case of prolonged storage it is recommended to check again the product before use by measuring typical parameters of its quality such as color, hydrogen chloride and ethanol levels.

#### TRANSPORTATION

Refer to MSDS.

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August 2018



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