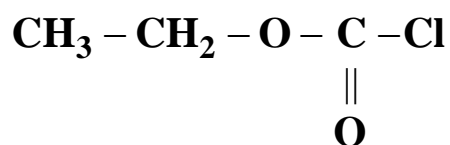


DATA SHEET Nr 2040 K

ETHYL CHLOROFORMATE



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

Synonym

Carbonochloridic acid, ethyl ester.

Aspect

Colorless liquid, lachrymator with a pungent odor.

Physical properties

Density d₄²⁰: 1.14

Boiling point: 94 °C at 10⁵ Pa

Solubility:

- Soluble in usual organic solvents (acetone, chloroform, toluene, THF).
- Slightly soluble in water.

Chemical properties

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

Uses

- Organic synthesis intermediate.
- Synthesis intermediate for polymerization initiators.
- Synthesis intermediate for pharmaceuticals.
- Intermediate for dyestuffs.

ETHYL CHLOROFORMATE

SPECIFICATION

Parameter	Guaranteed Value	Method	Operating Procedure
Aspect	Clear liquid		
Color	≤ 30 APHA	Colorimetry	C-210
Ethyl chloroformate	≥ 99 %	Gas chromatography	GC-240
Phosgene	≤ 0.1 %	Iodometry	I-230
Hydrogen chloride	≤ 0.1 %	Acidimetric	A-220
Ethyl alcohol	≤ 0.1 %	Gas chromatography	GC-240
Diethyl carbonate	≤ 0,5 %	Gas chromatography	GC-240
Methyl chloroformate	≤ 0,05 %	Gas chromatography	GC-240

packaging

Metal drum with polyethylene liner containing 200 kg.

In bulk.

handling precautions

- Physical-chemical hazard
Flash point (tag closed cup): 16 °C flammable.
- Health hazards
LD 50 (ingestion rat): 270 mg/kg = toxic.
Irritating on skin, mucous membrane and eyes.
Corrosive.
- Recommended
Avoid contact with metallic compounds which catalyze the 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 a basic solution.

storage

Stored in its closed original drum, 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 qualitative evolution such as the color, the hydrochloric acid and ethanol levels.

transport

refer to MSDS

Nr 2040 K — June, 2016



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