

**Safety Data Sheet according to Regulation (EC)
No. 1907/2006 (REACH)**

Printed 17.12.2020
Revision 17.12.2020 (GB) Version 14.0

Ethyl chloride
1200, 1205, 70120



! SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Name of product	Ethyl chloride Art-Nr(n): 1200, 1205, 70120
Name of substance	chloroethane
Index No	602-009-00-0
EC No	200-830-5
REACH registration number	01-2119487479-17
CAS No	75-00-3

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses

! Remark

Restricted to professional users.

! Recommended intended purpose(s)

Basic substance.
Intermediate.

1.3. Details of the supplier of the safety data sheet

Manufacturer/distributor	GHC Gerling, Holz & Co. Handels GmbH Ruhrstraße 113, D-22761 Hamburg Phone +49 40 853 123-0, Fax +49 40 853 123-66 E-Mail hamburg@ghc.de Internet www.ghc.com
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Advice	GHC Gerling, Holz & Co. Handels GmbH Phone +49 40 853 123-0 Fax +49 40 853 123-66 E-mail (competent person): msds@ghc.de
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1.4. Emergency telephone number

Emergency advice	Medizinische Notfallauskunft bei Vergiftungen: Gif tinformationszentrum Mainz - 24 h Phone +49 6131 19240
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! SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

! Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]

Hazard classes and Hazard categories	Hazard Statements	Classification procedure
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Flam. Gas 1A	H220
Press. Gas (Liq.)	H280
Carc. 2	H351
Repr. 1B	H360FD
Aquatic Chronic 3	H412

Hazard statements for physical hazards

H220	Extremely flammable gas.
H280	Contains gas under pressure; may explode if heated.

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! Hazard statements for health hazards

H351 Suspected of causing cancer.
H360FD May damage fertility. May damage the unborn child.

Hazard statements for environmental hazards

H412 Harmful to aquatic life with long lasting effects.

Additional hints

Listed substance (Regulation (EC) No 1272/2008, Annex VI, part 3).

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]



GHS02



GHS04



GHS08

! Signal word

Danger

Hazard statements for physical hazards

H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.

! Hazard statements for health hazards

H351 Suspected of causing cancer.
H360FD May damage fertility. May damage the unborn child.

Hazard statements for environmental hazards

H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements

! Prevention

P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

P308 + P313 IF exposed or concerned: Get medical advice/attention.
P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

! Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Hazardous ingredients for labelling

chloroethane

! Special rules for supplemental label elements for certain mixtures

Restricted to professional users.

2.3. Other hazards

! Information pertaining to special dangers for human and environment

In use, may form flammable/explosive vapour-air mixture.
In high concentrations may cause asphyxiation.
Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.
Contact with liquid may cause cold burns/frostbite.
Receptacle under pressure.

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Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

SECTION 3: Composition/ information on ingredients

3.1. Substances

Description

Content: > 99 %

CAS No 75-00-3

chloroethane

EC No 200-830-5

Index No 602-009-00-0

REACH registration number 01-2119487479-17

3.2. Mixtures

not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated soaked clothing immediately.

Alcohol increases toxic effects.

Adhere to personal protective measures when giving first aid.

Seek medical advice immediately.

In case of inhalation

Remove the casualty into fresh air and keep him immobile.

Seek medical treatment immediately.

In case of respiratory standstill give artificial respiration by respiratory bag (Ambu bag) or respirator. Send for a doctor.

In case of skin contact

In case of contact with skin wash off with warm water.

In case of frostbite rinse with plenty of water. Don't remove clothing.

In case of frostbite spray with lukewarm (not hot) water for at least 15 minutes. Do not remove clothing frozen to the skin. Thaw it with lukewarm water. Apply a sterile dressing. Obtain medical assistance.

Seek medical treatment immediately.

In case of eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Call for a doctor immediately.

In case of ingestion

Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms and effects, both acute and delayed

Physician's information / possible symptoms

The following symptoms may occur in case of strong exposition:

Unconsciousness

Coughing

Cardiac arrhythmia (disordered cardiac rhythm).

Shortness of breath

Delirious state

vomiting

Depression of central nervous system

Cardiopulmonary arrest.

Headache

Nausea

Confusion

Dizziness

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Drowsiness
Contact with liquid may cause cold burns/frostbite.

Physician's information / possible dangers

Risk of cardiac rhythm disturbances
Risk of deterioration due to consumption of alcohol.
Long-term inhaling of separation products may cause pulmonary oedema.
Risk of reduced reactions (sedative)

4.3. Indication of any immediate medical attention and special treatment needed

Treatment (Advice to doctor)

Treat symptoms.
Do not give any preparations of the adrenalin-ephedrine group.
Monitor circulation.

! SECTION 5: Firefighting measures

5.1. Extinguishing media

! Suitable extinguishing media

Dry powder

Unsuitable extinguishing media

carbon dioxide
water spray jet
Full water jet

5.2. Special hazards arising from the substance or mixture

In case of fire formation of dangerous gases possible.
Formation of explosive gas mixtures in air.
In the event of fire the following can be released:
Carbon monoxide (CO)
Carbon dioxide (CO₂)
Hydrogen chloride (HCl)
Chlorine (Cl₂)
Phosgene

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Use breathing apparatus with independent air supply (isolated).
Wear full protective clothing.

Additional information

Cool endangered containers with water spray jet.
Exposure to fire may cause containers to rupture / explode.
Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur.
Extinguish any other fire.
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

! SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Evacuate area.
Keep people away and stay on the upwind side.
Keep away sources of ignition.

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! For emergency responders

Remove persons to safety.

Personal protection by wearing close-fitting protective clothing and breathing apparatus.

Eliminate all ignition sources if safe to do so.

6.2. Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

If necessary, secure leaky pressure receptacles in a salvage packaging.

Do not discharge into the subsoil/soil.

6.3. Methods and material for containment and cleaning up

Ensure adequate air ventilation.

Allow to vaporise.

6.4. Reference to other sections

Safe handling: see section 7

Disposal: see section 13

Personal protection equipment: see section 8

! SECTION 7: Handling and storage

7.1. Precautions for safe handling

! Advice on safe handling

Use only in thoroughly ventilated areas.

Transfer and handle only in enclosed systems.

Containers' temperature may not be increased above 50 °C.

The working pressure in the receptacle must not exceed the saturation vapour pressure of the pure product resulting at a temperature of 50 °C.

Take measures against electrostatically charging.

Barrels and installations thoroughly earthing (grounding).

Use antistatic tools.

Treatment only in suitable rooms and systems.

Provide good room ventilation even at ground level (vapours are heavier than air).

Prevent cylinders from falling over.

Ensure valve protection device is correctly fitted.

Ensure valve outlet cap nut or plug (where provided) is correctly fitted.

Open valve slowly to avoid pressure shock.

Use only properly specified equipment which is suitable for this product, its supply pressure and temperature.

Do not allow backfeed into the container.

Suck back of water into the container must be prevented.

No water to valves, flanges and other fittings.

Purging of pipes and valves with inert gases - to avoid: water, solvents.

General protective measures

Do not inhale gases/vapours/aerosols.

! Hygiene measures

At work do not eat, drink and smoke.

Wash hands before breaks and after work.

! Advice on protection against fire and explosion

The product is combustible.

Because of risk of explosion avoid vapours getting into cellar, sewage system and holes.

Formation of explosive gas mixtures in air.

Pay attention to general rules of internal fire prevention.

Use explosion-proof equipment / fittings and non-sparking tools.

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7.2. Conditions for safe storage, including any incompatibilities

! Requirements for storage rooms and vessels

Keep in closed original container.
Ventilate store-rooms thoroughly.
Do not use zinc containers.
Suitable materials: Normalised carbon steel, tempered alloy steel, austenitic stainless steels.
Valve: Suitable materials: Brass, copper alloys, carbon steels, austenitic stainless steels.
Other material details see ISO 11114.
All regulations and local requirements for the storage of containers have to be respected.
Unsuitable materials: Aluminium alloys.

Advice on storage compatibility

Do not store together with spontaneously flammable materials.
Do not store together with combustible liquids or combustible solids.
Do not store together with animal feedstuffs.
Do not store together with explosives.
Do not store together with infectious substances.
Do not store together with radioactive material.
Do not store together with toxic liquids or toxic solids.
Do not store together with food.
Do not store together with oxidizing agents.

! Further information on storage conditions

Ensure valve protection device is correctly fitted.
Store only in original container at temperature of 50°C maximum (=122°F).
Keep container tightly closed and store at cool and aired place.
Prevent cylinders from falling over.

7.3. Specific end use(s)

! Recommendation(s) for intended use

Use as an intermediate under strictly controlled conditions.

! SECTION 8: Exposure controls/personal protection

8.1. Control parameters

! Ingredients with occupational exposure limits to be monitored

CAS No	Name	Code	[mg/m3]	[ppm]	Remark
75-00-3	Chloroethane	WEL-TWA, 8 hours	134	50	EH40, UK

Indicative occupational exposure limit values (91/322/EEC, 2000/39/EC, 2004/37/EC, 2006/15/EC or 2009/161/EU)

CAS No	Name	Code	[mg/m3]	[ppm]	Remark
75-00-3	chloroethane	8 hours	268	100	

DNEL-/PNEC-values

DNEL worker

CAS No	Substance name	Value	Code	Remark
75-00-3	chloroethane	37,7 mg/m ³	DNEL long-term inhalative (systemic)	Assessment factor 75
		5,01 mg/kg bw/day	DNEL long-term dermal (systemic)	Assessment factor 525

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DNEL Consumer

CAS No	Substance name	Value	Code	Remark
75-00-3	chloroethane	6,7 mg/m ³	DNEL long-term inhalative (systemic)	Assessment factor 150
		1,79 mg/kg bw/day	DNEL long-term dermal (systemic)	Assessment factor 1050
		1,79 mg/kg bw/day	DNEL long-term oral (repeated)	Assessment factor 1050

PNEC

CAS No	Substance name	Value	Code	Remark
75-00-3	chloroethane	0,058 mg/l	PNEC aquatic, freshwater	Assessment factor 1000
		0,58 mg/l	PNEC aquatic, intermittent release	Assessment factor 100
		0,006 mg/l	PNEC aquatic, marine water	Assessment factor 10000
		0,031 mg/kg dw	PNEC sediment, marine water	
		0,031 mg/kg dw	PNEC soil	
		0,307 mg/kg dw	PNEC sediment, freshwater	
		140 mg/l	PNEC sewage treatment plant (STP)	Assessment factor 1

8.2. Exposure controls

Respiratory protection

Breathing apparatus in the event of high concentrations.

Keep self contained breathing apparatus readily available for emergency use.

Respiratory protection complying with EN 137.

In case of rescue and maintenance activities in storage containers use environment-independent breathing apparatus because of risk of suffocation by edging out of air oxygen

Short-term: filter apparatus, filter AX, otherwise environment-independent breathing apparatus.

! Hand protection

Leather gloves

Safety gloves according to EN 374.

Safety gloves according to EN 388

Glove material specification [make/type, thickness, permeation time/life]: IIR, >= 0,5 mm, > 8 min

Eye protection

Protective goggles according to EN 166, in case of increased risk add protective face shield.

Other protection measures

Safety shoes with steel toe.

Body covering work clothing, or chemical resistant suit at increased risk.

Appropriate engineering controls

Transfer and handle only in enclosed systems.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance Gaseous / liquefied under pressure.	Colour colourless	Odour pungent, ethereal
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Odour threshold
10 - 12 mg/m³

Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
pH value	not applicable				
Acid number	not applicable				
boiling point	12,3 °C		1013 hPa		
melting point	-138,3 °C				
Flash point	-43 °C				
Vapourisation rate	not determined				
Flammable (solid)	not applicable				
Flammability (gas)	inflammable				
Ignition temperature	510 °C			DIN 51794	
Self ignition temperature	519 °C				
Lower explosion limit	3,6 Vol-%				
Upper explosion limit	15 Vol-%				
Vapour pressure	1342 hPa	20 °C			
Relative density	2,68 kg/m ³	20 °C			
Bulk density	not applicable				
Vapour density	2,31				air = 1
Solubility in water	5,74 g/l	20 °C			Reacts with water
Solubility/other					soluble in organic solvent

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	Value	Temperature	at	Method	Remark
Partition coefficient n-octanol/water (log P O/W)	1,43				
Decomposition temperature	not determined				
Viscosity	not applicable				

Oxidising properties
no

Explosive properties
no

9.2. Other information
Vapours are heavier than air.

! SECTION 10: Stability and reactivity

10.1. Reactivity

See section "Possibility of hazardous reactions".

10.2. Chemical stability

Stable under recommended conditions of use and storage (see section 7).

10.3. Possibility of hazardous reactions

Alkali metals
Aluminium
Alkaline earth metal
Oxidising agent
Zinc

10.4. Conditions to avoid

Formation of explosive gas/air mixtures.
Heat sources / heat - risk of bursting.
Avoid contact with open flames, glowing metal surfaces, etc..

10.5. Incompatible materials

! Substances to avoid

Alkali metals
Alkaline earth metal
Oxidising agent
Zinc
Water / moisture.
Aluminium / Aluminium alloys.

10.6. Hazardous decomposition products

Hydrogen chloride (HCl)
Chlorine
Phosgene

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity/Irritation/Sensitization

	Value/Validation	Species	Method	Remark
LD50 acute oral	Study technically not feasible.			
LD50 acute dermal	Study technically not feasible.			
LC50 acute inhalation	> 19000 ppm (4 h)	rat (male / female)	OECD 403	
Skin irritation	Study technically not feasible.			
Eye irritation	Study technically not feasible.			
Skin sensitization	Study technically not feasible.			
Sensitization respiratory system	not determined			

Subacute Toxicity - Carcinogenicity

	Value	Species	Method	Validation
Subchronic Toxicity	NOAEC 19000 ppm (90 d) Inhalation 6 h/d, 5 d/w	Rat (male / female)	OECD 413	No effects of toxicological significance.
Mutagenicity	> 19000 ppm (3 d) Inhalation. 6 h/d	Mouse	OECD 474	No experimental information on genotoxicity in vivo available.
Reproduction-Toxicity	NOAEC 7000 ppm Inhalation.	Rat (male / female)	OECD 443	May damage fertility. May damage the unborn child.
Carcinogenicity	15000 ppm (2 a) Inhalation. 6 h/d, 5 d/w	Ratte (männl./weibl.)	OECD 451	Suspected of causing cancer.

Specific target organ toxicity (single exposure)

Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure)

Based on available data, the classification criteria are not met.

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Aspiration hazard

Based on available data, the classification criteria are not met.

Experiences made from practice

May cause frostbite.
Irritates eyes and skin.
Gases have a suffocating effect.
Inhalation causes narcotic effect/intoxication.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicological effects

	Value	Species	Method	Validation
Fish	LC50 322,74 mg/l (96 h)	freshwater fish	QSAR	
Daphnia	EC50 58 mg/l (48 h)	Daphnia magna	EU Method C.2	
Algae	EC50 118 mg/l (72 h)	Scenedesmus subspicatus	EU Method C.3	
Bacteria	EC10 > 140 mg/l (17 h)	Pseudomonas putida	DIN 38412 T.8, cell reproduction	

12.2. Persistence and degradability

	Elimination rate	Method of analysis	Method	Validation
Biological degradability	0 % (28 d)		OECD 301 D / EU C.4-E	not degradable

12.3. Bioaccumulative potential

Because of the n-octanol/water distribution coefficient (log K o/w) accumulation in organisms is not expected.

12.4. Mobility in soil

Due to its high volatility, the product is unlikely to cause soil or water pollution.

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

12.6. Other adverse effects

General regulation

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste code No.

16 05 04*

Name of waste

gases in pressure containers (including halons) containing hazardous substances

Wastes marked with an asterisk are considered to be hazardous waste pursuant to Directive 2008/98/EC on hazardous waste.

Recommendations for the product

Dispose of as hazardous waste.

Recommendations for packaging

Transportable pressure equipment (empty, residual pressure): Return to supplier / manufacturer.

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SECTION 14: Transport information

	ADR/RID	IMDG	IATA-DGR
14.1. UN number	1037	1037	1037
14.2. UN proper shipping name	ETHYL CHLORIDE	ETHYL CHLORIDE	Ethyl chloride
14.3. Transport hazard class(es)	2.1	2.1	2.1
14.4. Packing group	-	-	-
14.5. Environmental hazards	No	No	No

14.6. Special precautions for user

The protective measures listed in Sections 6, 7 and 8 of the Safety Data Sheet have to be considered.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not applicable

No transport as bulk according IBC - Code.

Land and inland navigation transport ADR/RID

Hazard label(s) 2.1

Tunnel restriction code B/D

Classification code 2F

Marine transport IMDG

Ems: F-D, S-U

Air transport ICAO/IATA-DGR

Cargo aircraft only.

! SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Other regulations (EU)

Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex XVII No 28 - 30.

Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex XVII No 40.

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances.

VOC standard

VOC content >=99,8 % 20 °C 1342 hPa

15.2. Chemical Safety Assessment

For this substance a chemical safety assessment has been carried out.

An exposure scenario is not required.

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SECTION 16: Other information

Recommended uses and restrictions

National and local regulations concerning chemicals shall be observed.

Further information

All declarations of safety-data-sheet refer to pure substance.

The information contained herein is based on the state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.

Indication of changes: "!" = Data changed compared with the previous version. Previous version: 13.2

Sources of key data used

For the preparation of this safety data sheet, information from our suppliers as well as data from the "database of registered substances" of the European Chemicals Agency (ECHA) were used.