

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

Printed 30.11.2010  
Revision 30.11.2010 (GB) Version 7.3

**Ethylamine**  
1110



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**1. Identification of the substance/mixture and of the company/undertaking**

**Product identifier**

**Name of product** Ethylamine  
Art-Nr.: 1110  
**Name of substance** ethylamine  
**Index No** 612-002-00-4  
**EC No** 200-834-7  
**CAS No** 75-04-7

**Manufacturer/distributor**

GHC Gerling, Holz & Co. Handels GmbH  
Ruhrstraße 113, D-22761 Hamburg  
Phone +49 (0) 40 853 123-0, Fax +49 (0) 40 853 123-66  
E-Mail [msds@ghc.de](mailto:msds@ghc.de)  
Internet [www.ghc.de](http://www.ghc.de)

**Advice**

Phone +49 (0) 40 853 123-0  
Fax +49 (0) 40 853 123-66

**Emergency advice**

GHC Gerling, Holz & Co. Handels GmbH  
Phone +49 (0) 40 853 123-0

**Recommended intended purpose(s)**

Basic substance.  
Corrosion inhibitor.

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**2. Hazards identification**

**Classification according to 67/548/EEC or 1999/45/EC**

F+; R12

Xi; R36/37

**R-phrases**

12 Extremely flammable.

36/37 Irritating to eyes and respiratory system.

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

Hazard classes and Hazard categories	Hazard Statements	Classification procedure
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<b>Flam. Gas 1</b>	<b>H220</b>
<b>Liquef. Gas</b>	<b>H280</b>
<b>Acute Tox. 4</b>	<b>H332</b>
<b>Eye Irrit. 2</b>	<b>H319</b>
<b>STOT SE 3</b>	<b>H335</b>

**Hazard statements for physical hazards**

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

**Hazard statements for health hazards**

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

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



GHS02



GHS04



GHS07

**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**

H319 Causes serious eye irritation.  
H332 Harmful if inhaled.  
H335 May cause respiratory irritation.

**Precautionary Statements**

**Prevention**

P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.  
P260 Do not breathe gas/vapours.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Response**

P304 + P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P315 Get immediate medical advice/attention.

**Storage**

P403 Store in a well-ventilated place.

**Hazardous ingredients for labeling**

ethylamine

**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.

**3. Composition/information on ingredients**

**CAS No 75-04-7** ethylamine  
EC No 200-834-7  
Index No 612-002-00-4

**4. First aid measures**

**General information**

Remove contaminated soaked clothing immediately.  
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.

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**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. Apply a sterile dressing. Obtain medical assistance.

Seek medical treatment immediately.

**In case of eye contact**

Eye rinsing with water carefully while protecting unhurt eye.

Call for a doctor immediately.

**In case of ingestion**

Do not induce vomiting.

Call for a doctor immediately.

Rinse out mouth and give plenty of water to drink.

**Physician's information / possible dangers**

Risk of pulmonary oedema

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**5. Firefighting measures**

**Suitable extinguishing media**

water

Foam

Dry powder

Carbon dioxide

**Extinguishing media which must not be used for safety reasons**

Full water jet

**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:

Ammonia

Nitrogen oxides (NO<sub>x</sub>)

Carbon monoxide (CO)

**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.

Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

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**6. Accidental release measures**

**Personal precautions**

See chapter 8.

Eliminate all ignition sources if safe to do so.

Keep away sources of ignition.

**Environmental precautions**

If possible, stop flow of product.

Eliminate ignition sources.

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

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

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Suppress gases/vapours/mists with water spray jet  
Do not discharge into the subsoil/soil.

**Methods for cleaning up**

Ensure adequate air ventilation.  
Take up with absorbent material (e.g. kieselguhr).  
Flush away residues with water.

**Additional Information**

Informations for safe handling see chapter 7.  
Informations for personal protective equipment see chapter 8.  
No water on the leaks.

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**! 7. Handling and storage**

**! Advice on safe handling**

Use only in thoroughly ventilated areas.  
Transfer and handle only in enclosed systems.  
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.  
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.

**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.  
Take precautionary measures against static discharges.  
Formation of explosive gas mixtures in air.  
Use explosion-proof equipment / fittings and non-sparking tools.

**Requirements for storage rooms and vessels**

Keep in closed original container.  
Ventilate store-rooms thoroughly.  
Use transportable pressure equipment.  
Suitable materials: Normalised steel and carbon steel, tempered steel, aluminium alloys.  
Valve: Suitable materials: Carbon steels, aluminium alloys, stainless steel.  
Unsuitable materials: Brass, copper alloys.

**Advice on storage compatibility**

Do not store together with animal feedstuffs.  
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.  
Keep container tightly closed and store at cool and aired place.  
Prevent cylinders from falling over.  
Protect of heat.  
Storage temperature may not exceed 50°C (=122°F).

**Information on storage stability**

At appropriate storage unlimited stability.

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**Recommendation(s) for intended use**  
no

**8. Exposure controls/personal protection**

**Ingredients with occupational exposure limits to be monitored**

CAS No	Name	Code	[mg/m3]	[ppm]	Remark
75-04-7	Ethylamine	WEL, 8 hours	3,8	2	EH40/2007/ UK
		Short-term	11	6	
75-04-7	Ethylamine	PEL, 8 hours	18	10	OSHA Table Z-1/USA

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

CAS No	Name	Code	[mg/m3]	[ppm]	Remark
75-04-7	ethylamine	8 hours	9,4	5	

**Respiratory protection**

Keep self contained breathing apparatus readily available for emergency use.  
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

**Hand protection**

chemical-resistant gloves  
Leather gloves  
Glove material specification [make/type, thickness, permeation time/life]: IIR, >= 0,7 mm, > 480 min

**Eye protection**

safety goggles, in case of increased risk add protective face shield

**Skin protection**

protective clothing

**General protective measures**

Do not inhale gases/vapours/aerosols.

**Hygiene measures**

At work do not eat, drink and smoke.

**Limitation and surveillance of the environment**

See chapter 7.

**9. Physical and chemical properties**

<b>Form</b>	<b>Colour</b>	<b>Odour</b>
Gaseous / liquefied under pressure.	colourless	similar to amine

**Important health, safety and environmental information**

	Value	Temperature	at	Method	Remark
<b>pH value in delivery state</b>	> 14	20 °C	100 g/l		watery solution
<b>boiling point</b>	16,6 °C		1013 hPa		
<b>melting point</b>	-80,6 °C				

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	Value	Temperature	at	Method	Remark
<b>Flash point</b>	< -52 °C			DIN 53213	
<b>Ignition temperature</b>	260 °C			DIN 51794	
<b>Lower explosion limit</b>	3,5 Vol-%				
<b>Upper explosion limit</b>	14 Vol-%				
<b>Vapour pressure</b>	1160 hPa	20 °C			
<b>Density</b>	0,687 g/cm <sup>3</sup>	20 °C			liquid phase
<b>Rel. vapour density</b>	1,672				air = 1
<b>Solubility in water</b>					multimiscible
<b>Solubility/other</b>					soluble in organic solvent
<b>Partition coefficient (log p<sub>OW</sub>)</b>	-0,27				
<b>Viscosity dynamic</b>	0,3 mPa*s	0 °C			liquid phase

**Additional information**

Vapours are heavier than air.

**10. Stability and reactivity**

**Conditions to avoid**

Formation of explosive gas/air mixtures.  
Heat sources / heat - risk of bursting.  
Sources of ignition.

**Materials to avoid**

Reactions with acids.

**Hazardous decomposition products**

Carbon monoxide  
Nitrous oxides (NO<sub>x</sub>)

**Thermal decomposition**

Remark No decomposition if used as directed.

**11. Toxicological information**

**Acute toxicity/Irritability/Sensitization**

	Value/Validation	Species	Method	Remark
<b>LD50 acute oral</b>	400 mg/kg	rat		
<b>LD50 acute dermal</b>	265 mg/kg	rabbit		

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	Value/Validation	Species	Method	Remark
<b>LC50 acute inhalation</b>	12,6 mg/l (4 h)	rat		watery solution
<b>Irritability skin</b>	corrosive	rabbit	Draize-method	watery solution
<b>Irritability eye</b>	irritant	rabbit eye		watery solution
<b>Skin sensitization</b>		not determined		
<b>Sensitization respiratory system</b>		not determined		

**Subacute Toxicity - Carcinogenicity**

	Value	Species	Method	Validation
<b>Mutagenicity</b>				No experimental information on genotoxicity in vitro available.
<b>Reproduction-Toxicity</b>				not determined
<b>Carcinogenicity</b>				not determined

**Experiences made from practice**

May cause frostbite.

**12. Ecological information****Data on elimination (persistence and degradability)**

	Elimination rate	Method of analysis	Method	Validation
<b>Biological degradability</b>	> 60 %	BOD in % of theoretical OD	OECD 301 F	Biodegradable
<b>Biological eliminability</b>	not determined			

**Ecotoxicological effects**

	Value	Species	Method	Validation
<b>Fish</b>	LC50 240 mg/l (96 h)	Leuciscus idus		
<b>Daphnia</b>	EC50 94 - 110 mg/l (24 h)	Daphnia magna		

**Behaviour in sewage plant**

When low concentrations are discharged correctly into adapted biological sewage treatment plants, interference with the degradation activity of activated sludge is not likely.

The product is an alkaline solution. Neutralization is normally necessary before waste water is discharged into sewage treatment plants.

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**Additional ecological information**

	Value	Method	Remark
<b>BOD 5 d</b>	1300 mg/g		

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**13. Disposal considerations**

<b>Waste code No.</b>	<b>Name of waste</b>
16 05 04*	gases in pressure containers (including halons) containing dangerous substances

Wastes marked with an asterisk are considered to be hazardous waste pursuant to Directive 91/689/EEC on hazardous waste.

**Recommendations for the product**

Dispose in accordance with local official regulations.  
Dispose of as hazardous waste.

**Recommendations for packaging**

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

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**14. Transport information**

**Land and inland navigation transport ADR/RID**

UN 1036 ETHYLAMINE, 2.1, (B/D), Classification code: 2F

**Marine transport IMDG**

UN 1036 ETHYLAMINE, 2.1, marine pollutant: no

Ems: F-D, S-U

**Air transport ICAO/IATA-DGR**

UN 1036 Ethylamine, 2.1

Cargo aircraft only: Package max. 150 kg.

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**15. Regulatory information**

**VOC standard**

**VOC content** >=99 % 20 °C 1160 hPa

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**16. Other information**

**Recommend 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.

**Wording of the R/H-phrases specified in chapter 3 (not the classification of the mixture!)**

R 12 Extremely flammable.

R 36/37 Irritating to eyes and respiratory system.

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

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