

Safety Data Sheet according to Regulation (EC)

No. 1907/2006 (REACH)

Printed 01.09.2011

Revision 01.09.2011 (GB) Version 8.0

Trimethylamine

1140



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

Product identifier

Name of product Trimethylamine
Art-Nr.: 1140
Name of substance tri-methylamine
Index No 612-001-00-9
EC No 200-875-0
CAS No 75-50-3

Manufacturer/distributor

GHC Gerling, Holz & Co. Handels GmbH
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Advice

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Emergency advice

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

Recommended intended purpose(s)

Basic substance.

2. Hazards identification

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

F+; R12
Xn; R20
Xi; R37/38
Xi; R41

R-phrases

12 Extremely flammable.
20 Harmful by inhalation.
37/38 Irritating to respiratory system and skin.
41 Risk of serious damage to eyes.

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 1	H220
Liquef. Gas	H280
Acute Tox. 4	H332
Skin Irrit. 2	H315
Eye Dam. 1	H318
STOT SE 3	H335

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

H315 Causes skin irritation.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.

Additional hints

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

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



GHS02



GHS04



GHS05



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

H315 Causes skin irritation.
H318 Causes serious eye damage.
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.

Information pertaining to special dangers for human and environment

In high concentrations may cause asphyxiation.
Dangerous substances are released in case of decomposition.
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 75-50-3

tri-methylamine

EC No 200-875-0

Index No 612-001-00-9

Additional advice

No registration number is given yet for this preregistered substance since the transition period for its registration according to Article 23 of REACH has not yet expired.

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4. First aid measures

General information

Remove contaminated soaked clothing immediately.
Adhere to personal protective measures when giving first aid.
Seek medical treatment immediately.

In case of inhalation

Remove the casualty into fresh air and keep him immobile.
In the event of pulmonary irritation treat initially with corticoid spray, e.g. Ventolair- or Pulmicort- metered-dose aerosol (Ventolair and Pulmicort are registered trademarks).
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. Apply a sterile dressing. Obtain medical assistance.

In case of eye contact

Eye rinsing with water carefully while protecting unhurt eye.
Call for a doctor immediately.
Remove contact lenses, if present and easy to do. Continue rinsing.

In case of ingestion

Ingestion is not considered a potential route of exposure.

Physician's information / possible dangers

Risk of pulmonary irritation
Risk of pulmonary oedema

5. Firefighting measures

Suitable extinguishing media

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:
Nitrogen gases (NO_x)
Carbon monoxide (CO)
Hydrogen cyanide (HCN)

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.

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6. Accidental release measures

Personal precautions

See chapter 8.

Remove persons to safety.

Keep people away and stay on the upwind side.

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.

Do not discharge into the subsoil/soil.

Methods for cleaning up

Ensure adequate air ventilation.

Flush away residues with water.

Additional Information

Informations for safe handling see chapter 7.

Informations for personal protective equipment see chapter 8.

! 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 with spontaneously flammable materials.

Do not store together with combustible liquids or combustible solids.

Do not store together with feedstuff.

Do not store together with explosives.

Do not store together with infectious substances.

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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.
Keep container tightly closed and store at cool and aired place.
Prevent cylinders from falling over.
Keep container in a well-ventilated place
Protect of heat.
Storage temperature may not exceed 50°C (=122°F).

Information on storage stability

At appropriate storage unlimited stability.

Recommendation(s) for intended use

no

8. Exposure controls/personal protection

Respiratory protection

Breathing apparatus in the event of high concentrations.
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

Protective gloves
Glove material specification [make/type, thickness, permeation time/life]: NBR; 0,4 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

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

Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
pH value in delivery state	13	20 °C	450 g/l		aqueous solution
boiling point	3 °C		1013 hPa		

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	Value	Temperature	at	Method	Remark
melting point	-117 °C				
Flash point	-65 °C			DIN 51755	
Ignition temperature	190 °C			DIN 51794	
Lower explosion limit	2 Vol-%				
Upper explosion limit	11,6 Vol-%				
Vapour pressure	1880 hPa	20 °C			
Density	0,63 g/cm ³	20 °C			liquid phase
Rel. vapour density	1,995				air = 1
Solubility in water					miscible
Solubility/other					soluble in organic solvent
Partition coefficient (log p_{OW})	0,245	25 °C			
Viscosity dynamic	0,177 mPa*s	20 °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.

Materials to avoid

Reactions with acids.

Reactions with numerous chemical compounds.

Hazardous decomposition products

Nitrous gases

Carbon monoxide

Hydrogen

Methane

Hydrogen cyanide (HCN).

Thermal decomposition

Remark No decomposition below 350°C.

Additional information

Stable under normal conditions.

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11. Toxicological information**Acute toxicity/Irritability/Sensitization**

	Value/Validation	Species	Method	Remark
LD50 acute oral	500 mg/kg	rat		
LD50 acute dermal	> 5000 mg/kg	rat	BASF-Test	Aqueous solution.
LC50 acute inhalation	> 5900 mg/m ³ (4 h)	rat	BASF-Test	Aqueous solution.
Irritability skin	corrosive	rabbit	BASF-Test	Aqueous solution.
Irritability eye	irritant - risk of strong eye injuries	rabbit eye	Draize-method	Aqueous solution.
Skin sensitization		not determined		
Sensitization respiratory system		not determined		

Subacute Toxicity - Carcinogenicity

	Value	Species	Method	Validation
Mutagenicity				No experimental information on genotoxicity in vitro available.
Reproduction-Toxicity				not determined
Toxicity test (Additional information)	Substance has no mutagen activity (Ames test).			
Experiences made from practice	May cause frostbite.			

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

	Elimination rate	Method of analysis	Method	Validation
Biological degradability	> 90 %	BOD in % of COD	OECD 301 C	Biodegradable
Biological eliminability	not determined			

Ecotoxicological effects

	Value	Species	Method	Validation
Fish	LC50 25 mg/l (96 h)	Leuciscus idus		Aqueous solution.

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	Value	Species	Method	Validation
Daphnia	EC50 139 mg/l (48 h)	Daphnia magna		Aqueous solution.
Algae	EC50 98,8 mg/l (72 h)	Scenedesmus subspicatus		
Bacteria	EC50 210 mg/l (17 h)	Pseudomonas putida		

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.

13. Disposal considerations

Waste code No.

16 05 04*

Name of waste

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 of in accordance with the local official regulations.

Dispose of as hazardous waste.

Recommendations for packaging

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

14. Transport information

Land and inland navigation transport ADR/RID

UN 1083 TRIMETHYLAMINE, ANHYDROUS, 2.1, (B/D), Classification code: 2F

Marine transport IMDG

UN 1083 TRIMETHYLAMINE, ANHYDROUS, 2.1

Ems: F-D, S-U

Air transport ICAO/IATA-DGR

UN 1083 Trimethylamine, anhydrous, 2.1

Cargo aircraft only.

Cargo aircraft only: Package max. 150 kg.

! 15. Regulatory information

VOC standard

VOC content >=99 % 20 °C 1880 hPa

Chemical Safety Assessment

For this substance a chemical safety assessment has not been carried out.

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16. Other information

Recommendend 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 20 Harmful by inhalation.

R 37/38 Irritating to respiratory system and skin.

R 41 Risk of serious damage to eyes.

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H332 Harmful if inhaled.

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