

Material Safety Data Sheet

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Version 1.8
Regulation (EC) No 1907/2006

1 - Product and Company Information

Product Name METHYLAMINE SOLUTION, 41% IN WATER
Product Number 65580
Company Sigma-Aldrich Company Ltd.
The Old Brickyard
New Road, Gillingham SP8 4XT
United Kingdom
Technical Phone # 44-(0)-1747-833000
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2 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT
Highly flammable. Harmful by inhalation and if swallowed. Causes
burns.

3 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
METHYLAMINE, ~40% SOLUTION IN WATER	None	200-820-0	612-001-01-6

Ingredient Name	Percent	CAS #	EC no	Annex I Index Number
METHYLAMINE	>= 40 <= 41	74-89-5	200-820-0	612-001-00-9

Symbols: F+-Xn

R-Phrases: 12-20-37/38-41

Extremely flammable. Harmful by inhalation. Irritating to
respiratory system and skin. Risk of serious damage to eyes.

WATER	>= 59 <= 60	7732-18-5	231-791-2	None
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Molecular Weight 31.06 AMU

Synonyms Aminomethane * Carbinamine * Mercurialin *
Methanamine (9CI) * Methylamine (ACGIH:OSHA) *
Methylaminen (Dutch) * Metilamine (Italian) *
Metyloamina (Polish) * Monomethylamine

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give
artificial respiration. If breathing is difficult, give oxygen.

AFTER SKIN CONTACT

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately. Do not induce vomiting.

GENERAL INFORMATION

Symptoms may be delayed. Keep under medical observation.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

SPECIAL RISKS

Specific Hazard(s): Flammable liquid. Emits toxic fumes under fire conditions.

Explosion Hazards: May form explosive mixtures with air Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Shut off all sources of ignition. Evacuate area. Use nonsparking tools.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Safety shower and eye bath. Use only in a chemical fume hood.

WORK PRACTICES

Store and use with adequate ventilation.

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

Special Protective Measures: Faceshield (8-inch minimum).

9 - Physical and Chemical Properties

Appearance	Physical State: Clear liquid Color: Colorless Odor: Unpleasant odor.	
Property	Value	At Temperature or Pressure
pH	14	Concentration: 100 g/l
BP/BP Range	48 °C	760 mmHg
MP/MP Range	- 40.0 °C	
Flash Point	- 10.0 °C	Method: closed cup
Flammability	N/A	
Autoignition Temp	425 °C	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	Lower: 5.2 % Upper: 26.4 %	
Vapor Pressure	278 mmHg	20 °C
SG/Density	0.89 g/cm ³	
Partition Coefficient	Log Kow: - 0.713	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	Solubility in Water: Soluble.	

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Acids, Acid chlorides, Acid anhydrides, Oxidizing agents, Chloroformates, Phosphorus halides.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: PF6300000

ACUTE TOXICITY

LD50

Oral

Rat

698 mg/kg

LC50

Inhalation

Rat

>2,1 - <2,9 MG/L/4 H

LD50

Oral

Rat

100 mg/kg

LC50

Inhalation

Rat

448 ppm

2.5H

Remarks: Skin and Appendages:Skin: After systemic exposure: Dermatitis, irritative. Lungs, Thorax, or Respiration:Dyspnea. Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Lacrimation.

LC50

Inhalation

Mouse

2,400 mg/m3

2H

LC50

Inhalation

Mammal

2,400 mg/m3

IRRITATION DATA

Skin Skin

Rabbit

Remarks: Severe irritation effect

Skin

Guinea pig

100 mg

Remarks: Open irritation test

SIGNS AND SYMPTOMS OF EXPOSURE

Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Symptoms of exposure may include burning sensation, coughing, wheezing,

laryngitis, shortness of breath, headache, nausea, and vomiting.

ROUTE OF EXPOSURE

Skin Contact: Causes burns.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes burns. Lachrymator.

Inhalation: Harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion: Harmful if swallowed.

CHRONIC EXPOSURE - MUTAGEN

Rat

10 UG/M3

Inhalation

Dominant lethal test

Mouse

3 MMOL/L

Cell Type: lymphocyte

Mutation in mammalian somatic cells.

12 - Ecological Information

ELIMINATION

Elimination: 55 %

ECOTOXICOLOGICAL EFFECTS

Test Type: LC50 Fish

Species: other fish

Time: 96 h

Value: 1,000 mg/l

Test Type: EC50 Daphnia

Species: Daphnia magna

Time: 48 h

Value: 163 mg/l

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

UN#: 1235

Class: 3

PG: II

Subrisk: 8

Proper Shipping Name: Methylamine, aqueous solution

IMDG

UN#: 1235

Class: 3

PG: II

Subrisk: 8
Proper Shipping Name: METHYLAMINE, AQUEOUS SOLUTION
Marine Pollutant: No
Severe Marine Pollutant: No

IATA

UN#: 1235
Class: 3
PG: II
Subrisk: 8
Proper Shipping Name: Methylamine, aqueous solution
Inhalation Packing Group I: No

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

ANNEX I INDEX NUMBER: 612-001-01-6

NOTA: B

INDICATION OF DANGER: F-C

Highly Flammable. Corrosive.

R-PHRASES: 11-20/22-34

Highly flammable. Harmful by inhalation and if swallowed.

Causes burns.

S-PHRASES: 3-16-26-29-36/37/39-45

Keep in a cool place. Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Do not empty into drains. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 2

Self-Classification

16 - Other Information

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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