



METHYLAMINE (15N, 98%+)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 21/12/2010

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Version: 4.1

NLM-1621

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

1.1. Product identifier

Product form	: Substance
Substance name	: METHYLAMINE (15N, 98%+)
EC Index-No.	: 612-001-01-6 (Unlabeled)
EC-No.	: 200-820-0 (Unlabeled)
CAS-No.	: 1449-70-3
Product code	: NLM-1621
Formula	: CH ₃ NH ₂
Synonyms	: Monomethylamine

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

1.2.1. Relevant identified uses

Main use category	: Professional use
Industrial/Professional use spec	: For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.
50 Frontage Road
Andover, MA 01810
USA

USA: 1-800-322-1174 Int: 1-978-749-8000

cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)

International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flam. Gas 1	H220
Press. Gas (Comp.)	H280
Acute Tox. 4 (Inhalation:gas)	H332
Skin Irrit. 2	H315
Eye Dam. 1	H318
STOT SE 3	H335

Full text of hazard classes and H-statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

R5
F+; R12
Xi; R37/38
Xn; R20
Xi; R41
Xi; R39

Full text of R-phrases: see section 16

GHS-US classification

Flam. Gas 1	H220
Press. Gas (Comp.)	H280
Acute Tox. 4 (Inhalation)	H332
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STOT SE 3 H335

Full text of H statements : see section 16

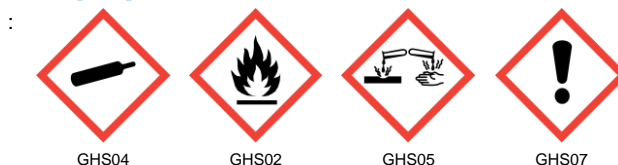
Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazard statements (CLP)

: 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
H335 - May cause respiratory irritation

Precautionary statements (CLP)

: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 - Avoid breathing dust, fume, gas, mist, spray, vapors.
P264 - Wash Both hands thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective clothing, protective gloves.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P304+P340 - IF INHALED: Remove person to fresh air and keep 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.

GHS-US labeling

Hazard pictograms (GHS-US)



Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H220 - Extremely flammable gas
H280 - Contains gas under pressure; may explode if heated
H315 - Causes skin irritation
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H332 - Harmful if inhaled
H335 - May cause respiratory irritation

Precautionary statements (GHS-US)

: P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking.
P261 - Avoid breathing dust, fume, gas, mist, spray, vapors.
P264 - Wash Both hands thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective clothing, protective gloves.
P302+P352 - If on skin: Wash with plenty of water
P304+P340 - If inhaled: Remove person to fresh air and keep 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
P310 - Immediately call a poison center or doctor
P312 - Call a poison center or doctor if you feel unwell
P321 - Specific treatment (see Hazard pictograms (CLP) on this label)
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P362 - Take off contaminated clothing and wash before reuse.
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 - Eliminate all ignition sources if safe to do so.
P403 - Store in a well-ventilated place.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P410+P403 - Protect from sunlight. Store in a well-ventilated place.

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P501 - Dispose of contents/container to Comply with applicable regulations

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Directive 67/548/EEC
METHYLAMINE (15N, 98%+)	(CAS-No.) 1449-70-3 (EC-No.) 200-820-0 (Unlabeled) (EC Index-No.) 612-001-01-6 (Unlabeled)	100	R5 F+; R12 Xi; R37/38 Xn; R20 Xi; R41 Xi; R39

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
METHYLAMINE (15N, 98%+)	(CAS-No.) 1449-70-3 (EC-No.) 200-820-0 (Unlabeled) (EC Index-No.) 612-001-01-6 (Unlabeled)	100	Flam. Gas 1, H220 Press. Gas (Comp.), H280 Acute Tox. 4 (Inhalation:gas), H332 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335

Full text of R- and H- phrases: see section 16

Name	Product identifier	%	GHS-US classification
METHYLAMINE (15N, 98%+) (Main constituent)	(CAS-No.) 1449-70-3	100	Flam. Gas 1, H220 Press. Gas (Comp.), H280 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335

Full text of H-phrases: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
First-aid measures after inhalation	: If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.
First-aid measures after skin contact	: Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.
First-aid measures after eye contact	: Continue rinsing eyes during transport to hospital. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
First-aid measures after ingestion	: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

Symptoms/effects	: May cause respiratory irritation.
Symptoms/effects after inhalation	: Harmful if inhaled.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: May be harmful if swallowed and enters airways.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂).

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5.2. Special hazards arising from the substance or mixture

Fire hazard : Extremely flammable gas. Contains gas under pressure; may explode if heated.

5.3. Advice for firefighters

Firefighting instructions : Use water spray to cool unopened containers. Wear self contained breathing apparatus for fire fighting if necessary.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Wear recommended personal protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Flammable in the presence of an oxidizing gas (eg air), a source of ignition, and when the concentration of the gas is between the lower and upper explosive limits. Keep away from heat, sparks, open flames, hot surfaces, oxidizing gases. No smoking.

6.1.1. For non-emergency personnel

Emergency procedures : Use personal protective equipment, and ensure adequate ventilation. Avoid breathing vapors, mist, gas. Remove ignition sources, and move personnel to safe area. Vapors accumulate especially in low areas to form explosive concentrations.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent entry to sewers and public waters. Do not allow to enter drains or water courses. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Clean up any spills as soon as possible, using an absorbent material to collect it. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. For large spills, confine the spill in a dike and charge it with wet sand or earth for subsequent safe disposal.

Methods for cleaning up : This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent build up of electrostatic charge.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Store in a well-ventilated place. Keep container tightly closed.

Storage conditions : Store at room temperature away from light and moisture.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

METHYLAMINE (15N, 98%+) (1449-70-3)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	5.00000000 ppm Upper Respiratory Tract irritation.
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	15 ppm Eye, Skin, & Upper Respiratory Tract irritation.
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	12 mg/m ³ The value in mg/m ³ is approximate.
USA NIOSH	NIOSH REL (TWA) (ppm)	10 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	12 mg/m ³ The value in mg/m ³ is approximate.
USA OSHA	OSHA PEL (TWA) (ppm)	10 ppm

8.2. Exposure controls

Appropriate engineering controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



Materials for protective clothing : Wear suitable protective clothing and gloves.
Hand protection : Wear suitable protective clothing and gloves.
Eye protection : Wear safety glasses with side shields (or goggles) and a face shield.
Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Respiratory protection : When appropriate, use NIOSH/CEN approved respirator.
Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Gas
Appearance : Compressed gas
Molecular mass : 32.05 g/mol (Labeled)
Color : Colorless
Odor : No data available
Odor threshold : No data available
pH : 14 at 100 g/l at 20 °C (68 °F)
Relative evaporation rate (butyl acetate=1) : No data available
Melting point : -93 °C (-135 °F) - lit
Freezing point : No data available
Boiling point : -6.3 °C (20.7 °F) - lit
Flash point : < -29.99 °C (< -21.98 °F) - closed cup
Auto-ignition temperature : 430 °C (806 °F)
Decomposition temperature : No data available
Flammability (solid, gas) : No data available
Vapor pressure : 1861 hPa (1,395.9 mmHg) at 20 °C (68 °F)
Relative vapor density at 20 °C : No data available
Relative density : No data available
Solubility : No data available
Log Pow : -0.712 at 25 °C (77 °F)
Log Kow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidizing properties : No data available
Explosion limits : 4.9 - 20.8 % (V)

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable if stored under recommended conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Avoid Heat, Flames and Sparks.

10.5. Incompatible materials

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

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10.6. Hazardous decomposition products

Formed under fire conditions - Carbon oxides, nitrogen oxides (NOx).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Inhalation:gas: Harmful if inhaled.

METHYLAMINE (15N, 98%+) (1449-70-3)	
LD50 oral rat	100 mg/kg
LC50 inhalation rat (ppm)	3555 ppm/4h
ATE CLP (gases)	4500.000 ppmV/4h

Skin corrosion/irritation : Causes skin irritation.
Skin - Rabbit - Severe skin irritation
pH: 14 at 100 g/l at 20 °C (68 °F)

Serious eye damage/irritation : Causes serious eye damage.
pH: 14 at 100 g/l at 20 °C (68 °F)

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : May cause respiratory irritation.

Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : May cause irritation to eyes and respiratory passages to workers briefly exposed to high concentrations, conjunctivitis, sore throat. This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Symptoms/effects after inhalation : Harmful if inhaled.

Symptoms/effects after skin contact : Causes skin irritation.

Symptoms/effects after eye contact : Causes serious eye damage.

Symptoms/effects after ingestion : May be harmful if swallowed and enters airways.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

METHYLAMINE (15N, 98%+) (1449-70-3)	
LC50 fish 1	16 mg/l <i>Leuciscus idus</i> (Golden orfe) - 48 h
EC50 <i>Daphnia</i> 1	163 mg/l <i>Daphnia magna</i> (Water flea) - 48 h

12.2. Persistence and degradability

METHYLAMINE (15N, 98%+) (1449-70-3)	
Biodegradation	84 % Readily biodegradable

12.3. Bioaccumulative potential

METHYLAMINE (15N, 98%+) (1449-70-3)	
Log Pow	-0.712 at 25 °C (77 °F)

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other adverse effects : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.
- Product/Packaging disposal recommendations : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
- Ecology - waste materials : Dispose of as unused product.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

- UN-No.(DOT) : 1061
- DOT NA no. UN1061

14.2. UN proper shipping name

- Proper Shipping Name (DOT) : Methylamine, anhydrous
- Class (DOT) : 2.1 - Class 2.1 - Flammable gas 49 CFR 173.115
- Hazard labels (DOT) : 2.1 - Flammable gas



- DOT Special Provisions (49 CFR 172.102) : N87 - The use of copper valves on UN pressure receptacles is prohibited.
T50 - When portable tank instruction T50 is referenced in Column (7) of the 172.101 Table, the applicable liquefied compressed gases are authorized to be transported in portable tanks in accordance with the requirements of 173.313 of this subchapter.
- DOT Packaging Exceptions (49 CFR 173.xxx) : 306
- DOT Packaging Non Bulk (49 CFR 173.xxx) : 304
- DOT Packaging Bulk (49 CFR 173.xxx) : 314;315
- DOT RQ : 100 lbs
- Marine pollutant : No

14.3. Additional information

- Other information : No supplementary information available.
- Special transport precautions : IATA/DOT: Not permitted on passenger aircraft.

Overland transport

- Class (ADR) : 2 - Gases
- Hazard identification number (Kemler No.) : 23
- Classification code (ADR) : 2F
- Hazard labels (ADR) : 2.1 - Flammable gases



Orange plates



- Tunnel restriction code (ADR) : B/D
- Limited quantities (ADR) : 0
- EAC : 2PE
- APP : A(fg)
- Excepted quantities (ADR) : E0

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Transport by sea

DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

MFAG-No : 118

Air transport

DOT Quantity Limitations Passenger aircraft/rail : Forbidden
(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 150 kg
CFR 175.75)

Civil Aeronautics Law : Gases under pressure/Gases flammable under pressure

14.4. Environmental hazards

Other information : No supplementary information available.

14.5. Special precautions for user

Special transport precautions : IATA/DOT: Not permitted on passenger aircraft.

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

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

METHYLAMINE (15N, 98%+) (1449-70-3)	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Fire hazard Sudden release of pressure hazard Immediate (acute) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313

15.2. International regulations

CANADA

METHYLAMINE (15N, 98%+) (1449-70-3)
Listed on the Canadian DSL (Domestic Substances List)

15.2.1. National regulations

No additional information available

15.3. US State regulations

METHYLAMINE (15N, 98%+)(1449-70-3)	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

Other information : This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

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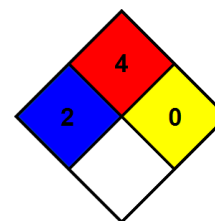
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Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 4
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Flam. Gas 1	Flammable gases Category 1
Press. Gas (Comp.)	Gases under pressure Compressed gas
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
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
H335	May cause respiratory irritation
R12	Extremely flammable
R20	Harmful by inhalation
R37/38	Irritating to respiratory system and skin
R39	Danger of very serious irreversible effects
R41	Risk of serious damage to eyes
R5	Heating may cause an explosion
F+	Extremely flammable
Xi	Irritant
Xn	Harmful

- NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
- NFPA fire hazard : 4 - Materials that rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and burn readily.
- NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

- Health : 2 Moderate Hazard - Temporary or minor injury may occur
- Flammability : 4 Severe Hazard
- Physical : 3 Serious Hazard

CIL Substance SDS

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product