



Blue Lotus Chem

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SAFETY DATA SHEET

Product Name:

MONOMETHYLAMINE (MMA) 40%

COMMISSION REGULATION (EU) NO 2015/830 OF 1st June 2015

Amending Annex II of Regulation EU No 453/2010

1. IDENTIFICATION OF THE SUBSTANCE

1.1 Product Identifier


- **Product Name:** Monomethylamine 40% Aqueous solution (MMA 40)
- **Synonym:** Methylamine 40% Aqueous solution
- **CAS No:** 74-89-5
- **E.C No:** 200-820-0
- **Index No:** 612-001-01-6
- **REACH Registration:** 01-2119475496-25-0007

1.2 Relevant Identified Uses of the substance or mixture and uses advised against: As an intermediate for chemical synthesis

1.3 Details of the Supplier of the Safety Data Sheet

Manufacturer/Supplier: Blue Lotus Chem LLC

Address: 25219, Kuykendahl Road, Suite 210,

Tomball, TX 77375, USA 

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Emergency Telephone Number: +1 703 527 3887 / 800 424 9300

2. HAZARD(S) IDENTIFICATION

2.1 Classification of the Substance or Mixture

Classification According to Regulation EC No 1272/2008

	GHS02 Flammable Liquid Cat-2 H225 – Highly Flammable liquid and vapor
	GHS05 Corrosion Skin Corrosion Cat- 1B H314 - Causes severe skin burns and eye damage

	GHS07 Exclamation Acute Toxicity Oral Cat-4 H302- Harmful if swallowed Acute Toxicity Inhalation Cat-4 H332- Harmful if inhaled STOT Single Exp Cat-3 H335- May cause respiratory irritation
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2.2 Label elements

Labelling According Regulation EC No: 1272/2008

The substance is classified according to CLP regulation



Signal word- Danger

Hazard Statements:

H225 -Highly flammable liquid and vapor.

H314 -Causes severe skin burns and eye damage.

H302 -Harmful if swallowed.

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 dust/fume/gas/mist/vapors/spray.

P280 -Wear protective gloves/protective clothing/eye protection/face protection.

Response:

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

P304+340: IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing

P310 Immediately Call a POISON CENTER or doctor/physician.

Storage:

P403+P235: Store in a well-ventilated place. Keep cool.

Disposal:

P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional Precautionary

P370 + P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction

Other Hazards:

The substance is harmful to aquatic animals.

Results of PBT and vPvB assessment

PBT: Not Applicable

vPvB: Not Applicable

3. COMPOSITION / INFORMATION ON INGREDIENTS

Description	CAS No	EC No	Content (% w/w)
Monomethylamine	74-89-5	200-820-0	40.0 (min)
Water	7732-18-5	231-791-2	60.0 (max)
Index No- 612-001-01-6 Molecular Formula – CH ₅ N Molecular Wt.- 31.0 g/mole			

4. FIRST- AID MEASURES

4.1 Description of first aid measures

General information:

Remove to fresh air immediately. Get medical attention immediately. Take off contaminated clothing and shoes immediately. If symptoms persist, call a physician.

After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness brings patient into stable side position for transport.

After skin contact:

Take off contaminated clothes immediately. Wash the portion with soap and plenty of water. If skin irritation continues, consult a doctor.

After eye contact:

Rinse opened eye for several minutes under running water. Remove contact lenses. Use eye protection. Call Doctor immediately.

After swallowing:

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

Lachrymator

Causes skin and eye burns

Inhalation of vapors may cause throat pain and cough. Victims may experience shortness of breath and suffocation.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing agents

Carbon dioxide (CO₂), extinguishing powder or water spray/fog. Fight larger fires with water spray/fog or alcohol-resistant foam.

For safety reasons unsuitable extinguishing agents. high volume water jet.

5.2 Special hazards arising from the substance or mixture

Nitrogen oxides (NO_x)

Carbon monoxide (CO) and Carbon dioxide (CO₂)

Can form explosive vapor-air mixtures. Vapors are heavier than air and may spread along the floor.

5.3 Advice for fire-fighters

Protective equipment: Wear fully protective and self-contained breathing apparatus.

Additional information

Cool endangered containers with water spray jets.

Dispose of fire debris and contaminated firefighting water in accordance with official regulations.

If without risk possible, move drums with material away from dangerous area.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation.

Remove all ignition sources.

Use breathing protection against the effects of fumes/dust/aerosol.

Avoid contact with skin and eyes.

6.2 Environmental precautions:

Damp down gases/fumes/haze with water spray jet.

Do not allow to enter drainage system, surface or ground water.

Inform respective authorities in case product reaches water or sewage system.

Prevent material from reaching sewage system, holes and cellars.

6.3 Methods and material for containment and cleaning up:

Use explosion proof equipment's

Wear self-contained breathing apparatus and protective suit. Ensure adequate ventilation.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, saw-dust).

Dispose of the material collected according to regulations.

6.4 Reference to other sections

See Section 8 for information on personal protection equipment.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Ensure good interior ventilation, especially at floor level (fumes are heavier than air).

Restrict the quantity stored in the workplace.

Do not inhale vapors/aerosols.

Avoid skin and eye contact under any circumstances.

Information about protection against explosions and fires:

Fumes can combine with air to form an explosive mixture.

Flammable fume/air mixtures may be formed in empty containers.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

7.2 Conditions for safe storage, including any incompatibilities

Storage**Requirements to be met by storerooms and containers:**

Store under shade at ambient temperature (<45°C) & dry conditions in well-sealed containers.

Observe regulations for storage of flammable liquids.

Observe all local and national regulations for storage of water polluting products

Information about storage in one common storage facility:

Observe regulations for storage of flammable liquids.

Further information about storage conditions:

Protect from heat and direct sunlight. Store container in a well-ventilated place.

Protect from overexposure to light.

Protect from humidity and keep away from water.

Store in a locked cabinet or with access restricted to specifically instructed persons.

Corrosive to copper, zinc alloys, aluminium and galvanised surfaces

7.3 Specific end use(s): Refer section-1.**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

Additional information about design of technical systems: No further data; see item 7.

8.1 Control parameters

Chemical Name: Monomethylamine

OSHA PEL	10 ppm/12 mg/M3 TWA
NIOSH REL	10 ppm/12 mg/M3 TWA
ACGIH TLV	5 ppm/6.4 mg/M3

8.2 Exposure controls**Personal protective equipment****General protective and hygienic measures**

- Keep away from foodstuffs, beverages and food.
- Do not eat, drink or smoke while working.
- Instantly remove any contaminated garments.
- Do not inhale gases / fumes / aerosols.
- Avoid contact with the eyes and skin.
- Wash hands during breaks and at the end of the work.

Breathing equipment:

- In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

Protection of hands:

- Protective gloves
- To avoid skin problems, reduce the wearing of gloves to the required minimum. Check the permeability prior to each renewed use of the glove.
- The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material must be on consideration of the penetration times, rates of diffusion and the degradation.

Material of gloves

- The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Recommended Material of gloves: Nitrile rubber, styrene-butadiene rubber, Neoprene, PVC

Penetration time of glove material

- The exact breakthrough time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Tightly sealed safety glasses

Body protection:

- Antistatic protective clothing
- Use a protective suit.
- Body protection must be chosen depending on activity and possible exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic physical and Chemical Properties

General information	
Appearance/Physical state /color	Colorless liquid
Explosive limit Upper	20.7 vol %
Lower	4.9 vol %
Odor	ammonia like
Vapor pressure	117 kPa @ 50 °C
Odor Threshold	3.2 ppm
Vapor density	1.08 (air=1.0) @ 20 °C
PH (10% in water)	11.2
Relative Density	0.9010@ 20°C
Melting point/freezing point	No data available
Solubility in water	Soluble
Initial Boiling Point/Boiling Range	48 °C
Flash Point	-10°C
Evaporation Rate	No data available
Flammability (solid, gas)	Not Applicable
Partition Coefficient: n-Octanol Water	Log Pow= -0.57
Auto ignition Temperature	430 °C
Decomposition temperature	No data available
Viscosity- dynamic	1.50 m Pa s @ 25 °C
Kinematic	No data available
Danger of Explosion	The product is not explosive. However, formation of explosive air/vapor mixtures is possible.

9.2 Other information- Not applicable

10. STABILITY AND REACTIVITY

10.1 Reactivity

10.2 Chemical stability

Thermal decomposition / conditions to be avoided:

- No decomposition if used according to specifications.
- To avoid thermal decomposition, do not overheat.

10.3 Possibility of hazardous reactions

- Flammable vapor-air mixtures may develop.
- Used empty containers may contain product gases which form explosive mixtures with air.
Exothermic reaction with acids
- Possibility of formation of nitrosamines with nitrites or other nitrosating agents

10.4 Conditions to avoid:

- Avoid static electricity discharge. Handle under nitrogen, protect from moisture.

10.5 Incompatible materials:

- Strong oxidizing agents' Strong acids
- Halogenated Hydrocarbons
- Mercury, Zn and Cu

10.6 Hazardous decomposition products:

- Nitrogen oxides (NO_x)
- Carbon monoxide (CO), Carbon dioxide (CO₂) and ammonia.
- Nitrosamine, ammonia

11. TOXICOLOGICAL INFORMATION**11.1 Information on Toxicological Effects:****Acute Toxicity:**

LD50/LC50 values that are relevant for classification	
LD 50 Oral (rat)	698 mg/kg
LD 50 Dermal (rat)	Corrosive material: hence not applicable
LC 50 Inhalation, 4 hrs Rat	3550 ppm 2.1-2.9 mg/L air
Skin corrosion/irritation Rabbit	Corrosive
Serious eye damage/eye irritation	Corrosive
Respiratory/skin sensitization	No effect known
Germ cell mutagenicity	No mutagenic effects observed in laboratory test animals.
Carcinogenicity	IARC- No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive Toxicity	No teratogenic effects observed in laboratory test animals
Specific Target organ Toxicity	May cause respiratory irritation
Single exposure	Irritation
Additional Toxicological Information-	No information available.

Additional Toxicological Information-

No information available.

12. ECOLOGICAL INFORMATION**12.1 Toxicity:****Aquatic toxicity:**

Toxicity to Fish , LC50 – <i>Leuciscus idus</i>	16 mg/l for 48 hrs. (non-neutralized solution) 970 mg/l for 48 hrs. (neutralized solution)
Toxicity to Daphnia and other invertebrates (Daphnia Magna) EC50	163 mg/l for 48 hrs.
Toxicity to algae (green algae)	21 % growth inhibition @ 31mg/l

12.2 Persistence and degradability:

The substance is readily biodegradable.

12.3 Bio-accumulative potential

BCF – 3.16.

12.4 Mobility in soil No further relevant information available.**Additional ecological information:****General notes:**

Water hazard class 2 – Hazardous to water (classification according to Administrative Regulation)

12.5 Results of PBT and vPvB assessment

- PBT: Not applicable.
- vPvB: Not applicable.

12.6 Other adverse effects: Not known based on available information.**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods.****Recommendation**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Waste disposal key number: According to local/national regulations.

European waste catalogue:

Waste disposal key numbers from EWC have to be assigned depending on origin and processing.

Un-cleaned packaging:

Recommendation: Disposal must be made according to official regulations. Drum decontamination shall be done by initially rinsing with 5% aqueous acetic acid followed by aqueous washes till neutral PH. It is strongly recommended to disfigure the container/drum before disposal.

14. TRANSPORT INFORMATION

	Section	ADR	IATA	IMDG
UN Number	14.1	1235	1235	1235
UN Proper Shipping Name	14.2	Methylamine, Aqueous solution	Methylamine, Aqueous solution	Methylamine, Aqueous solution
Transport Hazard Class (es)	14.3	3	3	3
Subsidiary Risk		8	8	8
Packing Group	14.4	II	II	II
Environmental	14.5	No	No	No

Hazard/Marine Pollutant				
Special Precautions for User	14.6	No data available	No data Available	Flammable Substance
ADR Tunnel restriction code		2(D/E)	Not Applicable	Not Applicable
Classification code		FC	Not Applicable	Not Applicable
HIN		338	Not Applicable	Not Applicable
EMs		Not Applicable	Not Applicable	F-E, S-C
Transportation in Bulk according to Annex II of Marpol and IBC code	14.7	Not Applicable	Not Applicable	As detailed below
Product Name		Not Applicable	Not Applicable	Methylamine Solutions (42% or less)
Ship Type		Not Applicable	Not Applicable	2
Pollution Category		Not Applicable	Not Applicable	Y

15. REGULATORY INFORMATION

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

National regulations

Information about limitation of use: Employment restrictions concerning young persons must be observed.

Decree to be applied in case of technical fault:

Quantity limits according to "EC Seveso directive" should be observed.

Water hazard class: Water hazard class 2 (Self-assessment): hazardous for water

Other regulations, limitations and prohibitive regulations

Observe restrictions on marketing and use according to Annex XVII of Regulation (EC) No 1907/2006.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16. OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department Issuing MSDS: R&D

Only Representative : Global Product Compliance (Europe)AB, Lund , Sweden e-mail: sk@reach-onlyrep.eu; info@gpcregulatory.com

Abbreviations and Acronyms:

- **RID:** Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
- **IMDG:** International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
- **IATA-DGR:** Dangerous Goods Regulations by the "International Air Transport Association" (**IATA**) **ICAO:** International Civil Aviation Organization.
- **ICAO-TI:** Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
- **ADR:** Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- **IMDG:** International Maritime Code for Dangerous Goods
- **IATA:** International Air Transport Association
- **GHS:** Globally Harmonized System of Classification and Labelling of Chemicals
- **EINECS:** European Inventory of Existing Commercial Chemical Substances
- **CAS:** Chemical Abstracts Service (division of the American Chemical Society)
- **LC50:** Lethal concentration, 50 percent
- **LD50:** Lethal dose, 50 percent
- **TWA :** Time weighted Average
- **STEL :** Short term exposure limit
- **AXGIH:** American Conference of Government Industrial Hygienist

Ref-

- 1) *Regulation (EC)No 1272/2008 of the European Parliament and of the Council*
- 2) *Guidance on the compilation Safety Data Sheet publish by ECHA Ver. 2.1 Feb 2014*
- 3) *European Chemicals Agency, "<http://echa.europa.eu/>"*
- 4) *Toxnet HSDB*
- 5) *NIOSH Pocket Guide*
- 6) *US National library of Medicine*
- 7) *GESTIS Substance Data Base*
- 8) *<http://www.cdc.gov>, International Chemical safety cards (for Methylamine)*
- 9) *Sittig's Handbook of Toxic and Hazardous chemicals and Carcinogens*

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