

Safety Data Sheet

Product Name –
Dimethylaminopropylamine(DMAPA)



Revision Date- 01/10/2028

1. Identification Of the Substance

1.1 Product Identifier

- **Product Name:** Dimethylaminopropylamine(DMAPA)
- **Synonym/IUPAC name:** N, N-dimethylpropane-1,3-diamine , 3-Dimethylaminopropylamine, 3-aminopropyldimethylamine
- **CAS No:** 109-55-7
- **EC No:** 203-680-9

1.2 Relevant Identified Uses of the substance or mixture and uses advised against: In the preparation of surfactants, personal care products etc.

1.3 Details of the Supplier of the Safety Data Sheet

- **Manufacturer/supplier:**
Mruchem
219, K10 Grand, B/H McDonald's Sarabhai
Campus, Dr. Vikram Sarabhai Marg, near Genda
Circle,Vadodara,Gujarat,India- 390023
Emergency Contact no- +91 8087147166

1.4 Emergency Telephone Numbers: As mentioned above

2. Hazard Identification

2.1 Classification of Substance or Mixture

- **Classification According to EC regulation 1272/2008**



GHS02 Flammability Cat 3 H226- Flammable liquid and vapour



GHS05 Skin Corrosion Cat- 1B H314- Causes severe skin burns and eye damage
Eye damage Cat-1 H318- Causes serious eye damage.



GHS 07 Acute Toxicity Oral Cat-4 H302- Harmful if swallowed.
Acute Toxicity Dermal Cat-4 H312 Harmful in contact with skin.
Skin sensitization Cat-1B H317- May cause an allergic skin reaction.
STOT Single exposure Cat-3H335- May cause respiratory irritation

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- Labelling according to EC Regulation No 1272/2008

The substance is classified and labelled according to CLP Regulation

Hazard Pictograms



Signal word – Danger

Hazard Statements-

H226 Flammable liquid and vapour

H302 Harmful if swallowed

H312 Harmful in contact with skin

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation

Precautionary statements

Prevention:

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

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

Response:

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

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Immediately call a POISON CENTER or doctor/ physician.

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

Storage

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

Disposal

P501- Dispose of the content/container in accordance with the local/regional/national/international regulation

Results of PBT and vPvB assessment

PBT/vPBT assessment not available as Chemical safety assessment not carried out

3.Composition/Information on Ingredients

Description	CAS No	EC No	Content (% w/w)
3-Dimethylaminopropylamine	109-55-7	203-680-9	>99.0
Molecular Formula – C ₅ H ₁₄ N ₂ Molecular Wt- 102.18 g/mole			

4.First- Aid Measures

--4.1 Description of first aid measures

- General information:

Immediately remove any clothing contaminated by the product.

If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position).

-After inhalation:

Get medical aid immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation.

--After skin contact:

Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while

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removing contaminated clothing and shoes. Destroy contaminated shoes.

- After eye contact:

Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive flushing with water is required (at least for 15 minutes)

- After swallowing:

.. Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Wash mouth out with water

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

Material is destructive to the tissue of mucus membrane , upper respiratory tract ,eyes and skin.

- 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 , foam.

· **For safety reasons unsuitable extinguishing agents.** : Do not use water jet.

- 5.2 Special hazards arising from the substance or mixture

Nitrogen oxides (NO_x)

Carbon monoxide (CO) and Carbon dioxide (CO₂)

Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

- 5.3 Advice for fire-fighters

- **Protective equipment:** Wear appropriate protective equipment with self-contained breathing apparatus.

- Additional information

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

Use water spray to cool unopened containers.

6. Accidental release Measures

- 6.1 Personal precautions, protective equipment and emergency procedures

Ensure personals involving are trained. Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation. Evacuate surround area. Keep unprotected persons away from the site.

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

Avoid inhalation, contact with skin and eyes.

-6.2 Environmental precautions:

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 equipments

Wear self-contained breathing apparatus and protective suit.

Ensure adequate ventilation.

For small amounts absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). For large amounts –pump off the material

Dispose of the material collected according to regulations.

- 6.4 Reference to other sections

See Section 8 for information on personal protection equipment.

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7. Handling and Storage

-7.1 Precautions for safe handling

Ensure thorough ventilation/exhaustion at the workplace.
Ensure good interior ventilation, especially at floor level (fumes are heavier than air).
Restrict the quantity stored in the work place.
Do not inhale vapours/aerosols.
Avoid skin and eye contact under any circumstances.
Wash the hands and face before breaks and at the end of the shift.
Do not eat, drink or smoke when handling the substance.

· **Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.
Keep fire extinguishers handy.
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.

- 7.3 Specific end use(s) Refer section 1.

8. Exposure Control/Personal Protection

- 8.1 Control parameters

Components with workplace control parameters

- **Additional information:**

-8.2 Exposure controls

Appropriate Engineering controls:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of work day.

-**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:**

Self contained breathing apparatus with full face shield.

Where risk assessment shows air-purifying respirators are appropriate, use a full-face respirator with Multipurpose combination (US) or type ABEK (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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

- **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.

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The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

- Material of gloves

Butyl rubber

Recommended thickness of the material: 0.5 mm

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.

- Penetration time of glove material

Penetration time: ≥ 4 hours

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

- Eye protection: Tightly sealed safety glasses. Wear face shield if splashing hazard exists.

- Body protection:

Use 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 /colour	Colourless to light yellow liquid
Explosive limit Upper	12.35 vol %
Lower	1.9 vol %
Odour	Ammonia like
Vapour pressure	14.1 mbar @ 30 °C
Odour Threshold	No data available
Relative Vapour density	3.52 (air=1)
PH (10% in water)	12.7 @ 20 °C
Density	0.8200 g/ml @ 20 °C
Melting point/freezing point	< -70.0 °C
Solubility in water	Soluble
Initial Boiling Point/Boiling Range	135 °C
Flash Point	35 °C (c.c)
Evaporation Rate	No data available
Flammability (solid, gas)	Not Applicable
Partition Coefficient : n-Octanol Water	Log Pow= -0.45
Auto ignition Temperature	215 °C
Decomposition temperature	No data available
Viscosity- dynamic	1.6 mPa @ 20 °C
Kinematic	No data available
Danger of Explosion	Product is not explosive. However, formation of explosive air/vapour mixtures is possible.

-9.2 Other Information- Not available

10. Stability and Reactivity

-10.1 Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

- 10.2 Chemical stability

Substance is stable under recommended conditions.

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- **Thermal decomposition / conditions to be avoided:**
Avoid source of ignition , heat, spark or open flame.
- **10.3 Possibility of hazardous reactions**
Exothermic reaction with -
acids ,
acid anhydrides,
acid chlorides
strong oxidizing agents
- **10.4 Conditions to avoid :**No further relevant information available.
- **10.5 Incompatible materials:**
Strong oxidising agents. , acids, acid anhydrides, acid chlorides
- **10.6 Hazardous decomposition products:**
Carbon monoxide, carbon dioxide, Nitrogen oxide (NOx)

11. Toxicological Information

-11.1 Information on Toxicological effects

Acute Toxicity –

LD50/LC50 value that are relevant for classification

LD50 Oral (rat)	410 mg/kg
LD50 Dermal (Rat)	>400 mg/kg - <2000 mg/kg. Categorised as 4 considering higher LD50 value.
LC50 inhalation , Rat, 4hrs	>4.31mg/L, air, No mortality occurred. During exposure, animals showed immediate escape attempt, eyelid closure, accelerated respiration and restlessness. Thus there are sufficient indications that the test substance causes local irritation to exposed tissue including respiratory tract. Since the substance is classified as corrosive in nature , virtually does not have inhalation toxicity.
Skin corrosion/irritation	Causes skin burns
Serious eye damage/eye irritation	Causes eye damage
Respiratory/skin sensitization	The test study indicates that the substance can cause allergic skin reaction.
Specific Target Organ Toxicity- Single exposure	Industrial study conducted indicates that the exposure of the substance may induce respiratory irritation
Germ cell mutagenicity	No data available
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 data available

Additional Toxicological Information-

Substance extremely destructive to the tissue of mucus membrane and upper respiratory tract, eyes and skin.

12. Ecological Information

-12.1 Toxicity

-Aquatic toxicity:

Toxicity to Fish , golden orfe , 96 hrs, LC50	122 mg/L (OECD Test Guideline 203)
Toxicity to Daphnia and other invertebrates (Daphnia Magna) EC50 , 48 hrs	59.46 mg/L
Toxicity to algae (Desmodesmus subspicatus) EC50 , 72 hrs	56.2 mg/L

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-12.2 Persistence and degradability

Readily biodegradable (60-70% in 20d)

-12.3 Bio accumulative potential

Substance is not expected to accumulate in organisms..

-12.4 Mobility in soil No further relevant information available.

-Additional ecological information:

Water hazard class-I, (low hazard to water.)

- 12.5 Results of PBT and vPvB assessment

. PBT/vPvB assessment not available as chemical safety assessment not conducted

- 12.6 Other adverse effects : Not known based on available information.

13. Disposal Consideration

-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.

- Uncleaned packaging:

-Recommendation: Disposal must be made according to official regulations. Drum decontamination shall be done by rinsing with 5% aqueous acetic acid solution 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	2734	2734	2734
UN Proper Shipping Name	14.2	Amines, liquid, corrosive, flammable, N.O.S (3-dimethylaminopropylamine)	Amines, liquid, corrosive, flammable, N.O.S (3-dimethylaminopropylamine)	Amines, liquid, corrosive, flammable, N.O.S (3-dimethylaminopropylamine)
Transport Hazard Class(es)	14.3	8	8	8
Subsidiary Risk		3	3	3
Packing Group	14.4	II	II	II
Environmental Hazard/Marine Pollutant	14.5	No	No	No
Special Precautions for User	14.6	No data available	No data Available	Corrosive liquid
ADR Tunnel restriction code		2/(D/E)	Not Applicable	Not Applicable
Classification code		CF1	Not Applicable	Not Applicable
HIN		83	Not Applicable	Not Applicable
Ems		Not Applicable	Not Applicable	F-E, S-C
Transportation	14.7	Not Applicable	Not Applicable	Not Applicable

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n in Bulk according to Annex II of Marpol and IBC code				
Product Name		-	-	-
Ship Type		-	-	-
Pollution Category		-	-	-

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 1: Slightly hazardous for water
- **Other regulations, limitations and prohibitive regulations**
Observe restrictions on the 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

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship

Dept 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)

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)

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

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) GESTIS Substance data base