

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

1.1. Product identifier

Product form	: Substance
Substance name	: di-methylamine
Chemical name	: di-methylamine
IUPAC name	: Dimethylamine
EC Index-No.	: 612-001-00-9
EC-No.	: 204-697-4
CAS-No.	: 124-40-3
Product code	: 36586516
Formula	: C2H7N
Product group	: Raw material

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

1.2.1. Relevant identified uses

Industrial/Professional use spec	: For professional use only Industrial Laboratory chemicals
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1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Scafell Organics
Molekula Ltd
Lingfield Way
Darlington - England
T +44 (0) 1949 823777 / +44 (0) 7590 545705
info@molekula.com / kbowen@molekula.com - www.molekula.com

1.4. Emergency telephone number

Emergency number : +44 (0) 7590 545705

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flammable gases, Category 1	H220
Gases under pressure	
Acute toxicity (inhal.), Category 4	H332
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 1	H318
Full text of H statements : see section 16	
Specific concentration limits:	
(0.5 =<C < 5)	Eye Irrit. 2, H319
(C >= 5)	Skin Irrit. 2, H315
(C >= 5)	Eye Dam. 1, H318
(C >= 5)	STOT SE 3, H335

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP)



GHS02

GHS04

GHS05

GHS07

Signal word (CLP)

: Danger

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Hazard statements (CLP)	: H220 - Extremely flammable gas. H332 - Harmful if inhaled. H335 - May cause respiratory irritation. H315 - Causes skin irritation. H318 - Causes serious eye damage.
Precautionary statements (CLP)	: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P261 - Avoid breathing fume, gas, vapours. P280 - Wear protective clothing, eye protection, face protection. P304 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor, a POISON CENTER. P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

2.3. Other hazards

Other hazards not contributing to the classification : Contains gas under pressure; may explode if heated.

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%
di-methylamine	(CAS-No.) 124-40-3 (EC-No.) 204-697-4 (EC Index-No.) 612-001-00-9	100

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If possible show this sheet, if not available show packaging or label. Do not leave affected person unattended.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. Immediately call a POISON CENTER/doctor.
First-aid measures after skin contact	: Get medical advice/attention. After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Do not remove clothing if it sticks to the skin. Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/effects after inhalation	: May cause irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing.
Symptoms/effects after skin contact	: May produce skin irritation, blistering, ulcers, and deep scarring. Irritation (itching, redness, blistering). Burns.
Symptoms/effects after eye contact	: May cause severe chemical burns to skin and cornea. redness, itching, tears. Risk of serious damage to eyes. Blurred vision.
Symptoms/effects after ingestion	: Burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Depression of the central nervous system, headaches, dizziness, drowsiness, loss of coordination.

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

Get immediate medical advice/attention. SYMPTOMS MAY BE DELAYED.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Extremely flammable gas.
Explosion hazard	: May form flammable/explosive vapour-air mixture. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
Hazardous decomposition products in case of fire	: Carbon oxides (CO, CO ₂). Nitrogen oxides.

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5.3. Advice for firefighters

Precautionary measures fire	: Keep away from combustible materials. This product is not to be used under conditions of poor ventilation.
Firefighting instructions	: In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	: Warn all persons of toxic hazard.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Use special care to avoid static electric charges. Eliminate every possible source of ignition. No open flames. No smoking. Isolate from fire, if possible, without unnecessary risk.
6.1.1. For non-emergency personnel	
Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Evacuate unnecessary personnel. Do not breathe gas. Do not breathe vapours. Only qualified personnel equipped with suitable protective equipment may intervene.
Measures in case of dust release	: Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentrations higher than the occupational exposure limits. Ventilate area. Shelter from vapours by keeping upwind.
6.1.2. For emergency responders	
Protective equipment	: Use self-contained breathing apparatus. Total impervious protective suits, gloves, and boots must be worn to prevent any contact with the product.
Emergency procedures	: Ventilate area. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Stop leak if safe to do so. All equipment used when handling the product must be grounded.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Clean contaminated surfaces with an excess of water. Only qualified personnel equipped with suitable protective equipment may intervene.
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6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	: Handle empty containers with care because residual vapours are flammable. Flammable gas. Hazardous waste due to potential risk of explosion.
Precautions for safe handling	: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Provide good ventilation in process area to prevent formation of vapour. Do not handle until all safety precautions have been read and understood. Avoid contact with skin, eyes and clothing. Avoid any leak and work in fully closed specially engineered systems.
Hygiene measures	: Wash hands, forearms and face thoroughly after handling. Take off immediately all contaminated clothing and wash it before reuse. Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical/ventilating/lighting equipment.
Storage conditions	: Keep only in the original container in a cool, well ventilated place away from : Direct sunlight, Heat sources. Keep in fireproof place. Keep container tightly closed.
Incompatible products	: Acid anhydrides. Strong acids. Acid chlorides. Oxidising agents.
Incompatible materials	: Sources of ignition. Direct sunlight. Heat sources.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

di-methylamine (124-40-3)		
United Kingdom	Local name	Dimethylamine
United Kingdom	WEL TWA (mg/m ³)	3.8 mg/m ³

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di-methylamine (124-40-3)		
United Kingdom	WEL TWA (ppm)	2 ppm
United Kingdom	WEL STEL (mg/m ³)	11 mg/m ³
United Kingdom	WEL STEL (ppm)	6 ppm
United Kingdom	Regulatory reference	EH40. HSE

di-methylamine (124-40-3)

DNEL/DMEL (Workers)

Acute - systemic effects, dermal	580 µg/kg bodyweight/day
Acute - systemic effects, inhalation	27.7 mg/m ³
Acute - local effects, inhalation	20.21 mg/m ³
Long-term - systemic effects, dermal	417 µg/kg bodyweight/day
Long-term - systemic effects, inhalation	900 µg/m ³

PNEC (Water)

PNEC aqua (freshwater)	16 µg/L
PNEC aqua (marine water)	1.6 µg/L
PNEC aqua (intermittent, freshwater)	16 µg/L

PNEC (Sediment)

PNEC sediment (freshwater)	16 µg/kg dw
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PNEC (Soil)

PNEC soil	6.9 µg/kg dw
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PNEC (STP)

PNEC sewage treatment plant	126.3 µg/L
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8.2. Exposure controls

Appropriate engineering controls:

Both local exhaust and good general room ventilation must be provided not only to control exposure but also to prevent formation of flammable mixtures. Prevent build-up of electrostatic charges (e.g. by grounding). Use spark-/explosionproof appliances and lighting system. Handle in accordance with good industrial hygiene and safety procedures.

Personal protective equipment:

Avoid all unnecessary exposure. Avoid inhalation of vapours. Wear recommended personal protective equipment.

Materials for protective clothing:

Total impervious protective suits, gloves, and boots must be worn to prevent any contact with the product. Wear fire/flammable resistant/retardant clothing.

Hand protection:

Always wash hands after handling the product. The protective gloves to be used must comply with the specifications of the regulation 2016/425 and the resultant standard EN 374. Solvent-resistant gloves

Eye protection:

Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Use eye protection according to EN 166, designed to protect against liquid splashes. Chemical goggles or face shield

Skin and body protection:

Emergency safety showers should be available in the immediate vicinity of any potential exposure. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash all protective clothing after use

Respiratory protection:

Keep self contained breathing apparatus readily available for emergency use. Where exposure through inhalation may occur from use, respiratory protection equipment is recommended

Other information:

Do not eat, drink or smoke during use.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Gas
Appearance	: Liquefied compressed gas.
Molecular mass	: 45.08 g/mol
Colour	: No data available
Odour	: Ammonia like.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 6.8 - 7 °C
Flash point	: -7 °C
Auto-ignition temperature	: 402 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 0.68 g/cm ³ at 20 °C
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Lower explosive limit (LEL)	: 2.8 vol %
Upper explosive limit (UEL)	: 14.4 vol %

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

Stable under normal conditions of use.

10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5. Incompatible materials

Strong acids. Acid anhydrides. Acid chlorides. Oxidising agents.

10.6. Hazardous decomposition products

Thermal decomposition generates : Carbon oxides (CO, CO₂). Nitrogen oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Inhalation: Harmful if inhaled.

di-methylamine (124-40-3)

LD50 oral rat	698 mg/kg bodyweight
LC50 inhalation rat (ppm)	3555 ppm/4h
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Germ cell mutagenicity	: Not classified

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Additional information	: Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified

di-methylamine (124-40-3)

LC50 fish 1	16 mg/l 48h - Leuciscus Idus (Golden orfe)
EC50 Daphnia 1	163 mg/l 48h - Daphnia Magna (water flea)

12.2. Persistence and degradability

di-methylamine (124-40-3)

Persistence and degradability	Readily biodegradable.
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12.3. Bioaccumulative potential

di-methylamine (124-40-3)

Bioaccumulative potential	No bioaccumulation data available.
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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

di-methylamine (124-40-3)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

Additional information	: Avoid release to the environment.
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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Container under pressure. Do not drill or burn even after use.
Additional information	: Handle empty containers with care because residual vapours are flammable. Hazardous waste due to potential risk of explosion.
Ecology - waste materials	: Avoid release to the environment.

SECTION 14: Transport information







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

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
1032	1032	1032	1032	1032
14.2. UN proper shipping name				
DIMETHYLAMINE, ANHYDROUS	DIMETHYLAMINE, ANHYDROUS	Dimethylamine, anhydrous	DIMETHYLAMINE, ANHYDROUS	DIMETHYLAMINE, ANHYDROUS

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Transport document description				
UN 1032 DIMETHYLAMINE, ANHYDROUS, 2.1, (B/D)	UN 1032 DIMETHYLAMINE, ANHYDROUS, 2.1	UN 1032 Dimethylamine, anhydrous, 2.1	UN 1032 DIMETHYLAMINE, ANHYDROUS, 2.1	UN 1032 DIMETHYLAMINE, ANHYDROUS, 2.1
14.3. Transport hazard class(es)				
2.1	2.1	2.1	2.1	2.1
				
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				
14.6. Special precautions for user				
Overland transport				
Classification code (ADR)	: 2F			
Special provisions (ADR)	: 662			
Limited quantities (ADR)	: 0			
Excepted quantities (ADR)	: E0			
Packing instructions (ADR)	: P200			
Mixed packing provisions (ADR)	: MP9			
Portable tank and bulk container instructions (ADR)	: (M), T50			
Tank code (ADR)	: PxBN(M)			
Tank special provisions (ADR)	: TA4, TT9			
Vehicle for tank carriage	: FL			
Transport category (ADR)	: 2			
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV9, CV10, CV36			
Special provisions for carriage - Operation (ADR)	: S2, S20			
Hazard identification number (Kemler No.)	: 23			
Orange plates				
Tunnel restriction code (ADR)	: B/D			
EAC code	: 2PE			
APP code	: A(fg)			
Transport by sea				
Limited quantities (IMDG)	: 0			
Excepted quantities (IMDG)	: E0			
Packing instructions (IMDG)	: P200			
Tank instructions (IMDG)	: T50			
EmS-No. (Fire)	: F-D			
EmS-No. (Spillage)	: S-U			
Stowage category (IMDG)	: D			
Stowage and handling (IMDG)	: SW2			
Properties and observations (IMDG)	: Liquefied, flammable gas with an ammonia-like odour. Heavier than air (1.6). Boiling point: 7°C. Suffocating in low concentrations.			
Air transport				
PCA Excepted quantities (IATA)	: E0			
PCA Limited quantities (IATA)	: Forbidden			

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PCA limited quantity max net quantity (IATA)	: Forbidden
PCA packing instructions (IATA)	: Forbidden
PCA max net quantity (IATA)	: Forbidden
CAO packing instructions (IATA)	: 200
CAO max net quantity (IATA)	: 150kg
Special provisions (IATA)	: A1
ERG code (IATA)	: 10L

Inland waterway transport

Classification code (ADN)	: 2F
Special provisions (ADN)	: 662
Limited quantities (ADN)	: 0
Excepted quantities (ADN)	: E0
Equipment required (ADN)	: PP, EX, A
Ventilation (ADN)	: VE01
Number of blue cones/lights (ADN)	: 1

Rail transport

Classification code (RID)	: 2F
Special provisions (RID)	: 662
Limited quantities (RID)	: 0
Excepted quantities (RID)	: E0
Packing instructions (RID)	: P200
Mixed packing provisions (RID)	: MP9
Portable tank and bulk container instructions (RID)	: T50(M)
Special provisions for RID tanks (RID)	: TU38, TE22, TA4, TT9, TM6
Transport category (RID)	: 2
Special provisions for carriage - Loading, unloading and handling (RID)	: CW9, CW10, CW36
Colis express (express parcels) (RID)	: CE3
Hazard identification number (RID)	: 23

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

40. Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.

di-methylamine

di-methylamine is not on the REACH Candidate List
di-methylamine is not on the REACH Annex XIV List
Directive 2012/18/EU (SEVESO III)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H- and EUH-statements:

Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
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Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Flam. Gas 1	Flammable gases, Category 1
Press. Gas	Gases under pressure
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H220	Extremely flammable gas.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

SDS EU (REACH Annex II)

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.