

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Diethylamine > 99 % for synthesis

Revision: 15.08.2025 Product code: 19881 Page 1 of 13

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

1.1. Product identifier

Diethylamine > 99 % for synthesis

REACH Registration Number: 01-2119475610-41-XXXX

CAS No: 109-89-7 Index No: 612-003-00-X EC No: 203-716-3

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

Use of the substance/mixture

Reagents and laboratory chemicals

Only for laboratory and analysis purposes.

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name: AnalytiChem GmbH

ACD

Street: Stempelstraße 6
Place: D-47167 Duisburg

Telephone: 0203/5194-0 Telefax: 0203/5194-290

E-mail: info@analytichem.de

Contact person: Abteilung Produktsicherheit Telephone: 0203/5194-107/117

E-mail: produktsicherheit@analytichem.de

Internet: www.analytichem.de

Responsible Department: Abteilung Produktsicherheit

<u>1.4. Emergency telephone</u> For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire,

<u>number:</u> Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada:

1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls

accepted)

Further Information

No data available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Flam. Liq. 2; H225

Acute Tox. 3; H311

Acute Tox. 4; H332

Acute Tox. 4; H312

Acute Tox. 4; H302

Skin Corr. 1A; H314

STOT SE 3; H335

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Signal word: Danger



Safety Data Sheet

according to Regulation (EC) No 1907/2006

Diethylamine > 99 % for synthesis

Revision: 15.08.2025 Product code: 19881 Page 2 of 13

Pictograms:







Hazard statements

H225 Highly flammable liquid and vapour. H302+H332 Harmful if swallowed or if inhaled.

H311 Toxic in contact with skin.

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water

or shower

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/doctor.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Sum formula: (C2H5)2NH
Molecular weight: 73,14 g/mol

Relevant ingredients

CAS No	Chemical name	Chemical name			
	EC No	Index No	REACH No		
	Classification (Regulation (EC) No 1272/2008)				
109-89-7	diethylamine	diethylamine			
	203-716-3	612-003-00-X	01-2119475610-41-XXXX		
	' '	Flam. Liq. 2, Acute Tox. 3, Acute Tox. 4, Acute Tox. 4, Acute Tox. 4, Skin Corr. 1A, STOT SE 3; H225 H311 H332 H312 H302 H314 H335			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. L	imits, M-factors and ATE	
109-89-7	203-716-3	diethylamine	100 %
	l .	= 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = : LD50 = 540 mg/kg	

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures



Safety Data Sheet

according to Regulation (EC) No 1907/2006

Diethylamine > 99 % for synthesis

Revision: 15.08.2025 Product code: 19881 Page 3 of 13

General information

Self-protection of the first aider

After inhalation

Provide fresh air.

If breathing is irregular or stopped, administer artificial respiration.

Call a physician immediately.

After contact with skin

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.

Call a physician immediately.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink plenty of water.

Do not allow a neutralisation agent to be drunk. Do NOT induce vomiting.

Call a physician immediately.

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

Irritant

corrosive

Dyspnoea

Risk of serious damage to eyes.

Pulmonary oedema

Gastrointestinal complaints

Vomiting

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

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Foam

Carbon dioxide (CO2)

Extinguishing powder

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Combustible liquids

Hazardous combustion products

In case of fire may be liberated:

Nitrogen oxides (NOx)

Carbon dioxide (CO2) Carbon monoxide

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Heating causes rise in pressure with risk of bursting.

Beware of reignition.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

In case of fire and/or explosion do not breathe fumes.

Avoid contact with skin, eyes and clothes.



Safety Data Sheet

according to Regulation (EC) No 1907/2006

Diethylamine > 99 % for synthesis

Revision: 15.08.2025 Product code: 19881 Page 4 of 13

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Move undamaged containers from immediate hazard area if it can be done safely.

Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Keep away from sources of ignition - No smoking.

This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe).

Take action to prevent static discharges.

For non-emergency personnel

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Consult an expert

Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders: Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.

Danger of explosion

6.3. Methods and material for containment and cleaning up

For containment

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid exposure - obtain special instructions before use.



Safety Data Sheet

according to Regulation (EC) No 1907/2006

Diethylamine > 99 % for synthesis

Revision: 15.08.2025 Product code: 19881 Page 5 of 13

Read label before use. Handle and open container with care.

When using do not eat, drink, smoke, sniff. Keep container tightly closed.

Use personal protection equipment. Use extractor hood (laboratory).

Do not breathe gas/fumes/vapour/spray. Provide adequate ventilation.

Advice on protection against fire and explosion

Take action to prevent static discharges. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

Further information on handling

Take off immediately all contaminated clothing and wash it before reuse.

Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. If handled uncovered, arrangements with local exhaust ventilation have to be used. Store in a place accessible by authorized persons only.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep in a cool, well-ventilated place.

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

Unsuitable container/equipment material:

Aluminium

Zinc

Tin

Hints on joint storage

national regulations

Further information on storage conditions

Keep container tightly closed.

Keep cool. Protect from sunlight.

storage temperature < +30°C

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

CAS No	Substance	ppm	mg/m³	fib/cm³	Category	Origin
109-89-7	Diethylamine	5	15		TWA (8 h)	
		10	30		STEL (15 min)	

DNEL/DMEL values

CAS No	Substance						
DNEL type		Exposure route	Effect	Value			
109-89-7	diethylamine						
Worker DNEL,	long-term	inhalation	local	15 mg/m³			
Worker DNEL, acute		inhalation	local	30 mg/m³			



Safety Data Sheet

according to Regulation (EC) No 1907/2006

Diethylamine > 99 % for synthesis

Revision: 15.08.2025 Product code: 19881 Page 6 of 13

PNEC values

CAS No	Substance			
Environmental compartment Value				
109-89-7	diethylamine			
Freshwater		0,04 mg/l		
Freshwater (ir	0,046 mg/l			
Marine water 0,004 r				
Freshwater se	0,48 mg/kg			
Marine sedime	0,048 mg/kg			
Micro-organisms in sewage treatment plants (STP)				
Soil	0,072 mg/kg			

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Individual protection measures, such as personal protective equipment

Eye/face protection

goggles

Face protection umbrella

Hand protection

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact: No data available

By short-term hand contact

Trade name/designation KCL 890 Vitoject® Suitable material: FKM (fluoro rubber) 0,7 mm

Wearing time with occasional contact (splashes): > 120 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

Take off immediately all contaminated clothing and wash it before reuse.

Wear fire resistant or flame retardant clothing.

Wash hands and face before breaks and after work and take a shower if necessary.

Draw up and observe skin protection programme.

Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Filtering device with filter or ventilator filtering device of type: AX

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls

Do not allow to enter into surface water or drains.



Safety Data Sheet

according to Regulation (EC) No 1907/2006

Diethylamine > 99 % for synthesis

Revision: 15.08.2025 Product code: 19881 Page 7 of 13

Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Danger of explosion

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:

Colour:

Odour:

Odour threshold:

Liquid

colourless

like: Amines

No data available

Melting point/freezing point: -50 °C
Boiling point or initial boiling point and 56 °C

boiling range:

No data available Flammability: 2 vol. % Lower explosion limits: Upper explosion limits: 11.8 vol. % Flash point: -20 °C 290 °C Auto-ignition temperature: No data available Decomposition temperature: 13 (100 g/l) pH-Value (at 20 °C): No data available Viscosity / kinematic: Soluble in: Water Water solubility:

(at 20 °C)

Solubility in other solvents

No data available

Dissolution rate:

Partition coefficient n-octanol/water:

Dispersion stability:

Vapour pressure:

No data available

No data available

No data available

253 hPa

(at 20 °C)

Vapour pressure:No data availableDensity:0,71 g/cm³Relative density:No data availableBulk density:No data availableRelative vapour density:No data availableParticle characteristics:No data available

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Sustained combustibility:

Sustained combustibility:

Self-ignition temperature

Solid: No data available
Gas: No data available

Oxidizing properties

No data available

Other safety characteristics

Evaporation rate:

Solvent separation test:

Solid content:

Sublimation point:

No data available
No data available
No data available
No data available



Safety Data Sheet

according to Regulation (EC) No 1907/2006

Diethylamine > 99 % for synthesis

Revision: 15.08.2025 Product code: 19881 Page 8 of 13

Softening point:

Pour point:

No data available

No data available

No data available

No data available

Viscosity / dynamic:

0,34 mPa·s

(at 25 °C)

Flow time: No data available

Further Information
No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Vapours may form explosive mixtures with air.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Oxidising agent

Acids

Alcohols

Ketone

aldehydes

ester

Nitriles

Phenols

mercury (Hg).

10.4. Conditions to avoid

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

10.5. Incompatible materials

copper

Copper alloys

Tin

Zinc iron and steel

Lead

10.6. Hazardous decomposition products

SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicocinetics, metabolism and distribution

Avoid exposure - obtain special instructions before use.



Safety Data Sheet

according to Regulation (EC) No 1907/2006

Diethylamine > 99 % for synthesis

Revision: 15.08.2025 Product code: 19881 Page 9 of 13

Acute toxicity

Toxic in contact with skin.

Harmful if inhaled.

Harmful if swallowed.

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

Pulmonary oedema

Mucous membrane irritation in the mouth, throat, esophagus and gastrointestinal tract.

Inhalation effect: Damage to the respiratory tract.

Resorption (oral)

Resorption (by inhalation) Resorption (dermal)

CAS No	Chemical name	Chemical name							
	Exposure route	Dose		Species	Source	Method			
109-89-7	diethylamine								
	oral	LD50 mg/kg	540	Rat	cited in: Patty's Ind.Hyg. and Toxicol	OECD Guideline 401			
	dermal	LD50 mg/kg	582	Rabbit	cited in: Patty's Ind.Hyg. and Toxicol	Penetration of rabbit skin is estimated			
	inhalation vapour	ATE	11 mg/l						
	inhalation dust/mist	ATE	1,5 mg/l						

Irritation and corrosivity

Skin corrosion/irritation: Causes severe skin burns and eye damage.

Serious eye damage/eye irritation: Causes serious eye damage.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT-single exposure

May cause respiratory irritation. (diethylamine)

Damage to:

kidneys

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Information on likely routes of exposure

No data available

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Practical experience

No data available

11.2. Information on other hazards

Endocrine disrupting properties

No data available



Safety Data Sheet

according to Regulation (EC) No 1907/2006

Diethylamine > 99 % for synthesis

Revision: 15.08.2025 Product code: 19881 Page 10 of 13

Other information

No data available

Further information

Irritant

corrosive

Dyspnoea

Risk of serious damage to eyes.

Pulmonary oedema

Gastrointestinal complaints

Vomiting

SECTION 12: Ecological information

12.1. Toxicity

Based on available data, the classification criteria are not met.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] [d]	Species	Source	Method
109-89-7	diethylamine						
	Acute fish toxicity	LC50	27 mg/l	96 h	Oryzias latipes	NITE (National Institute of Technology a	OECD Guideline 203
	Acute algae toxicity	ErC50	54 mg/l	72 h	Pseudokirchneriella subcapitata	NITE (National Institute of Technology a	OECD Guideline 201
	Acute crustacea toxicity	EC50	4,6 mg/l	48 h	Ceriodaphnia dubia	Study report (1994)	other: Standard guide for conducting acu
	Crustacea toxicity	NOEC	4,2 mg/l	21 d	Daphnia magna	Publication (1999)	OECD Guideline 211

12.2. Persistence and degradability

> 70 %; 28 d

OECD 301C

Readily biodegradable (according to OECD criteria).

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
109-89-7	diethylamine	0,58

BCF

CAS No	Chemical name	BCF	Species	Source
109-89-7	diethylamine	ca. 1,62		Medchem. Project Iss

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects



Safety Data Sheet

according to Regulation (EC) No 1907/2006

Diethylamine > 99 % for synthesis

Revision: 15.08.2025 Product code: 19881 Page 11 of 13

Do not allow to enter into surface water or drains.

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

LINIAACA

Send to a physico-chemical treatment facility under observation of official regulations.

Do not empty into drains.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 1154
14.2. UN proper shipping name:	DIETHYLAMINE
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3+8

Hazard label: 3+8
Classification code: FC
Limited quantity: 1 L
Excepted quantity: E2
Transport category: 2
Hazard No: 338
Tunnel restriction code: D/E

Inland waterways transport (ADN)

14.1. UN number or ID number: UN 1154

14.2. UN proper shipping name: DIETHYLAMINE

14.3. Transport hazard class(es):314.4. Packing group:IIHazard label:3+8Classification code:FCLimited quantity:1 LExcepted quantity:E2

Marine transport (IMDG)

14.1. UN number or ID number: UN 1154

14.2. UN proper shipping name: DIETHYLAMINE

 14.3. Transport hazard class(es):
 3

 14.4. Packing group:
 II

 Hazard label:
 3+8

 Special Provisions:

 Limited quantity:
 1 L

 Excepted quantity:
 E2

 EmS:
 F-E, S-C

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1154

14.2. UN proper shipping name: DIETHYLAMINE



Safety Data Sheet

according to Regulation (EC) No 1907/2006

Diethylamine > 99 % for synthesis						
Revision: 15.08.2025	•	roduct code: 19881	Page 12 of 13			
14.3. Transport hazard class(es):	3					
14.4. Packing group:	II					
Hazard label:	3+8					
Limited quantity Passenger:	0.5 L					
Passenger LQ:	Y340					
Excepted quantity:	E2					
IATA-packing instructions - Passenger:		352				
IATA-max. quantity - Passenger:		1 L				

363

5 L

SECTION 15: Regulatory information

IATA-packing instructions - Cargo:

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

EU regulatory information

IATA-max. quantity - Cargo:

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 75

Information according to Directive

2012/18/EU (SEVESO III):

P5c FLAMMABLE LIQUIDS

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile

work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or

nursing mothers.

Water hazard class (D): 1 - slightly hazardous to water

SECTION 16: Other information

Abbreviations and acronyms

Flam. Liq. 2: Flammable liquids, hazard category 2 Acute Tox. 3: Acute toxicity, hazard category 3 Skin Corr. 1A: Skin corrosion, sub-category 1A Eye Dam. 1: Serious eye damage, hazard category 1

STOT SE 3: Specific target organ toxicity - single exposure, hazard category 3

Relevant H and EUH statements (number and full text)

H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H302+H332 Harmful if swallowed or if inhaled.
H311 Toxic in contact with skin.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

Further Information

Provide appropriate information, instructions and training to users

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

The information is based on the present level of our knowledge. It does not, however, give assurance of product



Safety Data Sheet

according to Regulation (EC) No 1907/2006

Diethylamine > 99 % for synthesis

Revision: 15.08.2025 Product code: 19881 Page 13 of 13

properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.