Diethanolamine 99% Analytical Grade

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Date of issue: 27/12/2012 Revision date: 28/11/2022 Supersedes version of: 06/04/2018 Version: 2.3

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

1.1. Product identifier

Product form	:	Substance
Trade name	:	Diethanolamine 99% Analytical Grade
Chemical name	:	2,2'-iminodiethanol; diethanolamine
IUPAC name	:	2,2'-iminodiethanol
EC Index-No.	:	603-071-00-1
EC-No.	:	203-868-0
CAS-No.	:	111-42-2
Product code	:	DETA-00A
Formula	:	NH(CH2CH2OH)2

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

1.2.1. Relevant identified uses

Main use category : Laboratory use

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

labbox labware s.l.
Migjorn, 1
P.O. Box Barcelona (SPAIN)
08338 Premia de Dalt – SPAIN
ES
T +34 937 07 79 70 - F +34 937 909 532
info@labbox.com - www.labbox.com

1.4. Emergency telephone number

Emergency number : +34 937 077 970 (For technical information_Office Hours) In case of medical emergency phone 112 or to your local emergency number.

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA	0344 892 0111	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Acute toxicity (oral), Category 4	H302
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 1	H318
Specific target organ toxicity — Repeated exposure, Category 1	H372

Full text of H and EUH statements: see section 16

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) :



GHS05 GHS07 GHS08

Signal word (CLP) : Danger

Hazard statements (CLP) : H302 - Harmful if swallowed.
H315 - Causes skin irritation.
H318 - Causes serious eye damage.
H372 - Causes damage to organs through prolonged or repeated exposure.

Precautionary statements (CLP) : P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P301+P312 - IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.
P302+P352 - IF ON SKIN: Wash with plenty of water.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%
Diethanolamine	CAS-No.: 111-42-2 EC-No.: 203-868-0 EC Index-No.: 603-071-00-1	≤ 100

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Allow affected person to breathe fresh air. Give oxygen or artificial respiration if necessary. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Gently wash with plenty of soap and water. Take off immediately all contaminated clothing. Get medical advice/attention.

First-aid measures after eye contact : Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

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

No additional information available

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

Never give anything by mouth to an unconscious person.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : ABC-powder.

Unsuitable extinguishing media : Strong water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Carbon monoxide.

5.3. Advice for firefighters

Firefighting instructions : Exercise caution when fighting any chemical fire.

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Collect spillage. On land, sweep or shovel into suitable containers.

6.4. Reference to other sections

For further information refer to section 13. See Heading 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Hygiene measures : 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

Storage conditions : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Store in a well-ventilated place. Keep container tightly closed.

Storage temperature : 5 – 30 °C

Special rules on packaging : Store in a closed container. Keep only in original container.

7.3. Specific end use(s)

Laboratory chemicals.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Diethanolamine 99% Analytical Grade (111-42-2)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA [ppm]	0,46 ppm
France - Occupational Exposure Limits	
Local name	Diéthanolamine
VME (OEL TWA)	15 mg/m³
VME (OEL TWA) [ppm]	3 ppm
Remark	Valeurs recommandées/admises
Portugal - Occupational Exposure Limits	
Local name	Dietanolamina
OEL TWA	1 mg/m³ FIV (Fração inalável e vapor)
Spain - Occupational Exposure Limits	
Local name	Dietanolamina
VLA-ED (OEL TWA) [1]	2 mg/m³
VLA-ED (OEL TWA) [2]	0,46 ppm
Remark	Vía dérmica (Indica que, en las exposiciones a esta sustancia, la aportación por la vía cutánea puede resultar significativa para el contenido corporal total si no se adoptan medidas para prevenir la absorción. En estas situaciones, es aconsejable la utilización del control biológico para poder cuantificar la cantidad global absorbida del contaminante. Para más información véase el Apartado 5 de este documento), f (Reacciona con agentes nitrosantes que pueden dar lugar a la formación de N-Nitrosaminas carcinógenas).

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

Diethanolamine 99% Analytical Grade (111-42-2)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	0,13 mg/kg bodyweight/day
Long-term - local effects, inhalation	1 mg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	0,06 mg/kg bodyweight/day
Long-term - systemic effects, dermal	0,07 mg/kg bodyweight/day
Long-term - local effects, inhalation	0,25 mg/m³
PNEC (Water)	
PNEC aqua (freshwater)	0,0156 mg/l
PNEC aqua (marine water)	0,00156 mg/l
PNEC aqua (intermittent, freshwater)	0,097 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0,0718 mg/kg dwt
PNEC sediment (marine water)	0,00718 mg/kg dwt

Diethanolamine 99% Analytical Grade (111-42-2)	
PNEC (Soil)	
PNEC soil	0,00518 mg/kg dwt
PNEC (Oral)	
PNEC oral (secondary poisoning)	1,04 mg/kg food
PNEC (STP)	
PNEC sewage treatment plant	100 mg/l

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No additional information available

8.2.2. Personal protection equipment

Personal protective equipment:
Avoid all unnecessary exposure. EN 374.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:
Face shield

Eye protection			
Type	**Field of application**	**Characteristics**	**Standard**
Category II			EN 166, EN 167, EN 168

8.2.2.2. Skin protection

Skin and body protection:
Wear suitable protective clothing

Skin and body protection	
Type	**Standard**
Protective clothing	EN 13034, EN ISO 13982-2, EN ISO 6529, EN ISO 6530, EN 464

Hand protection:
protective gloves

Hand protection					
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**	**Standard**
Category III					EN ISO 374-1, EN 374-3, EN 420

Other skin protection Materials for protective clothing		
Condition	**Material**	**Standard**
		EN ISO 20345, EN 13832

8.2.2.3. Respiratory protection

Respiratory protection:
Wear appropriate mask

Respiratory protection			
Device	**Filter type**	**Condition**	**Standard**
filtering face piece	with filter for vapors/gases		EN 405

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Other information:
Do not eat, drink or smoke when using this product. Wash hands with water as a precaution. The present safety data sheet is consistent with the specific conditions relied on to justify the registration of the substance as isolated intermediate.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Not available
Odour	:	Not available
Odour threshold	:	Not available
Melting point	:	27 °C Atm. press.: 1013 hPa
Freezing point	:	Not available
Boiling point	:	269,9 °C Atm. press.: 1013,25 hPa Decomposition: 'yes' Decomp. temp.: 200 °C
Flammability	:	Not available
Explosive limits	:	Not available
Lower explosion limit	:	1,8
Upper explosion limit	:	13,4
Flash point	:	152 °C
Auto-ignition temperature	:	662 °C
Decomposition temperature	:	Not available
pH	:	Not available
Viscosity, kinematic	:	Not available
Solubility	:	Not available
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	Not available
Vapour pressure at 50 °C	:	3000 hPa
Density	:	1095,3 kg/m³ Type: 'density' Temp.: 23,8 °C
Relative density	:	Not available
Relative vapour density at 20 °C	:	1,097
Particle characteristics	:	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

VOC content	:	0 %

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable in use and storage conditions as recommended in item 7.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Strong bases. Strong acids.

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

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

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

Diethanolamine 99% Analytical Grade (111-42-2)	
LD50 oral rat	710 mg/kg
LD50 dermal rabbit	12200 mg/kg

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Diethanolamine 99% Analytical Grade (111-42-2)	
NOAEL (chronic, oral, animal/male, 2 years)	64 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 451 (Carcinogenicity Studies), Remarks on results: other:Effect type: carcinogenicity (migrated information)

Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Causes damage to organs through prolonged or repeated exposure.

Diethanolamine 99% Analytical Grade (111-42-2)	
LOAEL (dermal, rat/rabbit, 90 days)	32 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)
NOAEC (inhalation, rat, dust/mist/fume, 90 days)	0,003 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)

Aspiration hazard : Not classified

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

Diethanolamine 99% Analytical Grade (111-42-2)	
LC50 - Fish [1]	800 mg/l
EC50 - Daphnia [1]	30,1 mg/l Test organisms (species): Ceriodaphnia dubia
EC50 - Daphnia [2]	89,9 mg/l Test organisms (species): Ceriodaphnia dubia
EC50 72h - Algae [1]	9,5 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	2,7 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	9,7 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [2]	2 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
LOEC (chronic)	1,56 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0,78 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	> 1 mg/l Test organisms (species): other:freshwater fish

12.2. Persistence and degradability

Diethanolamine 99% Analytical Grade (111-42-2)	
Biodegradation	54 %

12.3. Bioaccumulative potential

Diethanolamine 99% Analytical Grade (111-42-2)	
Bioaccumulative potential	Low.

12.4. Mobility in soil

Diethanolamine 99% Analytical Grade (111-42-2)	
Surface tension	3,4 N/m

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	:	Disposal must be done according to official regulations.
Waste treatment methods	:	Must follow special treatment according to local regulation.
HP Code	:	HP5 - “Specific Target Organ Toxicity (STOT)/Aspiration Toxicity:” waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration. HP6 - “Acute Toxicity:” waste which can cause acute toxic effects following oral or dermal administration, or inhalation exposure. HP4 - “Irritant — skin irritation and eye damage:” waste which on application can cause skin irritation or damage to the eye.

SECTION 14: Transport information

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

14.1. UN number or ID number

UN-No. (ADR)	:	Not regulated
UN-No. (IMDG)	:	Not regulated
UN-No. (IATA)	:	Not regulated
UN-No. (ADN)	:	Not regulated
UN-No. (RID)	:	Not regulated

14.2. UN proper shipping name

Proper Shipping Name (ADR)	:	Not regulated
Proper Shipping Name (IMDG)	:	Not regulated
Proper Shipping Name (IATA)	:	Not regulated
Proper Shipping Name (ADN)	:	Not regulated
Proper Shipping Name (RID)	:	Not regulated

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not regulated

IMDG

Transport hazard class(es) (IMDG) : Not regulated

IATA

Transport hazard class(es) (IATA) : Not regulated

ADN

Transport hazard class(es) (ADN) : Not regulated

RID

Transport hazard class(es) (RID) : Not regulated

14.4. Packing group

Packing group (ADR)	:	Not regulated
Packing group (IMDG)	:	Not regulated
Packing group (IATA)	:	Not regulated
Packing group (ADN)	:	Not regulated
Packing group (RID)	:	Not regulated

14.5. Environmental hazards

Dangerous for the environment	:	No
Marine pollutant	:	No
Other information	:	No supplementary information available

14.6. Special precautions for user

Overland transport
Not regulated

Transport by sea
Not regulated

Air transport
Not regulated

Inland waterway transport
Not regulated

Rail transport
Not regulated

14.7. Maritime transport in bulk according to IMO instruments

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

REACH Annex XVII (Restriction List)

No REACH Annex XVII restrictions

REACH Annex XIV (Authorisation List)

Diethanolamine 99% Analytical Grade is not on the REACH Annex XIV List

REACH Candidate List (SVHC)

Diethanolamine 99% Analytical Grade is not on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Diethanolamine 99% Analytical Grade is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 july 2012 concerning the export and import of hazardous chemicals.

POP Regulation (Persistent Organic Pollutants)

Diethanolamine 99% Analytical Grade is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Ozone Regulation (1005/2009)

Diethanolamine is not subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

VOC Directive (2004/42)

VOC content : 0 %

Explosives Precursors Regulation (2019/1148)

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

Drug Precursors Regulation (273/2004)

Contains no substance subject to Regulation (EC) 273/2004 of the European Parliament and of the Council of 11 February 2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances.

15.1.2. National regulations

France

Occupational diseases	
Code	Description
RG 49	Skin disorders caused by aliphatic, alicyclic amines or ethanolamines
RG 49 BIS	Respiratory disorders caused by aliphatic amines, ethanolamines or isophoronediamine

Germany

Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to VwVwS, Annex 1 or 2; ID No. 77).

Chemicals Prohibition Ordinance (ChemVerbotsV) : This product is subject to ChemVerbotsV Annex 2 Entry 1. The following requirements must be observed: authorization requirement (according to § 6 paragraph 1 sentence 1), basic requirements for carrying out the delivery (according to § 8 paragraph 1, 3 and 4), identification and documentation (according to § 9 paragraph 1 to 3) and exclusion of the shipping route (according to § 10).

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:	
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H372	Causes damage to organs through prolonged or repeated exposure.
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1

Safety Data Sheet (SDS), EU

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.