Material Safety data sheet (MSD) for Triethanolamine TEA 85%

1. Identification of the substance/mixture and of the company/undertaking

Product identifier

Triethanolamine Pure 85% Solution

REACH registration number: 01-2119486482-31-0001, 01-2119486482-31-0000

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

Relevant identified uses: Chemical used in synthesis and/or formulation of industrial products

Details of the supplier of the safety data sheet

Company:
ATDMCO
CD.FAHREDDIN PASA (613) SOKAK,
NO.6,
ÇANKAYA ANKARA/TURKEY
www.basekim.com
Contact email: info@basekim.com Fax:
00903125147074

Emergency telephone number

International emergency number:
Telephone: + 00903125147055

Hazards Identification

Label elements

According to Regulation (EC) No 1272/2008 [CLP]

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2. Globally Harmonized System, EU (GHS)

The product does not require a hazard warning label in accordance with GHS criteria.

The product does not require a hazard warning label in accordance with EC Directives.

Classification of the substance or mixture

According to Regulation (EC) No 1272/2008 [CLP]

No need for classification according to GHS criteria for this product.

According to Directive 67/548/EEC or 1999/45/EC

Possible Hazards:
No particular hazards known.

Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

Other Hazards (GHS):
If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

3. Composition/Information on Ingredients

Substances

Chemical nature

Contains:
2,2',2''-nitrilotriethanol (Content (W/W): 85 %)
CAS Number: 102-71-6
EC-Number: 203-049-8

4. First-Aid Measures

Description of first aid measures

Remove contaminated clothing.

If inhaled:
If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.

On skin contact:
Wash off thoroughly with ample water.

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:
Rinse mouth and then drink plenty of water.

Most important symptoms and effects, both acute and delayed
Symptoms: No significant symptoms are expected due to the non-classification of the product.

Indication of any immediate medical attention and special treatment needed
Treatment: Symptomatic treatment (decontamination, vital functions).

5. Fire-Fighting Measures

Extinguishing media
Suitable extinguishing media:
water spray, dry powder, foam, carbon dioxide

Special hazards arising from the substance or mixture
nitrogen oxides, carbon oxides
The substances/groups of substances mentioned can be released in case of fire. Under certain conditions in case of fire other hazardous combustion products may be generated.

Advice for fire-fighters
Special protective equipment:
Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:
Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures
Handle in accordance with good industrial hygiene and safety practice.

Environmental precautions
Discharge into the environment must be avoided.

Methods and material for containment and cleaning up
For large amounts: Pump off product.
For residues: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr). Dispose of absorbed material in accordance with regulations.

Reference to other sections
Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

7. Handling and Storage

Precautions for safe handling

Ensure thorough ventilation of stores and work areas.

Protection against fire and explosion:
Keep away from sources of ignition - No smoking.

Conditions for safe storage, including any incompatibilities

Segregate from acids and acid forming substances.

Suitable materials for containers: carbon steel (iron), Stainless steel 1.4401, Stainless steel 1.4301 (V2), High density polyethylene (HDPE), glass, Low density polyethylene (LDPE)
Further information on storage conditions: Containers should be stored tightly sealed in a dry place.

Storage stability:
Storage temperature: 20 - 40 °C
Storage duration: 12 Months
May discolour after lengthy storage.

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8. Exposure Controls/Personal Protection

Control parameters

Components with workplace control parameters

102-71-6: 2,2',2''-nitrilotriethanol

PNEC

freshwater: 0.32 mg/l

marine water: 0.032 mg/l

intermittent release: 5.12 mg/l

STP: 10 mg/l

sediment (freshwater): 1.7 mg/kg

sediment (marine water): 0.17 mg/kg

soil: 0.151 mg/kg

DNEL

worker:
Long-term exposure- systemic effects, dermal: 6.3 mg/kg bw/day

worker:
Long-term exposure - systemic and local effects, Inhalation: 5 mg/m3

consumer:
Long-term exposure- systemic effects, dermal: 3.1 mg/kg bw/day

consumer:
Long-term exposure - systemic and local effects, Inhalation: 1.25 mg/m3

consumer:
Long-term exposure- systemic effects, oral: 13 mg/kg bw/day

Exposure controls

Personal protective equipment

Hand protection:
Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) and other Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Eye protection:
Safety glasses with side-shields (frame goggles) (e.g. EN 166)

General safety and hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Form:	viscous	
Colour:	colourless to yellow	
Odour:	amine-like	
pH value:	10.5 (15 g/l, 20 °C)	
melting range:	18 - 23 °C	
Boiling point:	336 °C	
Flash point:	192 °C	(DIN ISO 2592)
Flammability:	does not ignite	
Lower explosion limit:	3.6 %(V)	
Upper explosion limit:	7.2 %(V)	
Ignition temperature:	325 °C	(DIN 51794)
Vapour pressure:	0.00005 mbar (40 °C)	
Density:	1.12 - 1.13 g/cm3 (25 °C)	
Solubility in water:	miscible (25 °C)	
Partitioning coefficient n-octanol/water (log Kow):	-2.3	
Self ignition:	not self-igniting	Test type: Spontaneous self-ignition at room-temperature.

Thermal decomposition:	305 °C, 580 kJ/kg Exothermic reaction above the indicated temperature.	
Viscosity, dynamic:	600 mPa.s (25 °C)	
Viscosity, kinematic:	830.2 mm2/s (20.5 °C)	(OECD 114)

Other information

Self heating ability:	Currently, no data available	
Miscibility with water:	(20 °C) miscible in all proportions	
pKA:	7.86 (25 °C)	(other)
Surface tension:	48.8 mN/m (25 °C; 100 %(V)) Based on chemical structure, surface activity is not to be expected.	(OECD harmonized ring method)
Grain size distribution:	Test substance	The substance / product is marketed or used in a non solid or granular form.
Molar mass:	149.19 g/mol	

10. Stability and Reactivity

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

Corrosion to metals:	Corrosive effects to metal are not anticipated.	
Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.

Chemical stability
The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions
Reacts with acids. Reacts with oxidizing agents. Reacts with acid chlorides. Reacts with halogenated compounds. The progress of reaction is exothermic. Incompatible with acid chlorides and acid anhydrides.

Conditions to avoid
Avoid extreme temperatures. See MSDS section 7 - Handling and storage.

Incompatible materials

Substances to avoid:
oxidizing agents, acids, acid forming substances

Hazardous decomposition products

No hazardou decomposition product if stored and handled as prescribed/indicated

Hazardous decomposition products:
carbon oxides, nitrogen oxides, nitrous gases

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:
Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact. Inhalation-risk test (IRT): No mortality within 8 hours as shown in animal studies. The inhalation of a highly saturated vapor-air mixture represents no acute hazard.

Experimental/calculated data:
LD50 rat (oral): approx. 7,200 mg/kg (Test)

rat (by inhalation): 8 h (IRT)
No mortality within the stated exposition time as shown in animal studies.

LD50 rabbit (dermal): > 2,000 mg/kg
Literature data.

Irritation

Assessment of irritating effects:
Not irritating to the skin. Not irritating to the eyes.

Experimental/calculated data:
Skin corrosion/irritation rabbit: non-irritant (Test)

Serious eye damage/irritation rabbit: non-irritant (Test)

Respiratory/Skin sensitization

Assessment of sensitization:
Skin sensitizing effects were not observed in animal studies.

Experimental/calculated data:
Guinea pig maximization test guinea pig: Non-sensitizing. (OECD Guideline 406)
Literature data.

Germ cell mutagenicity

Assessment of mutagenicity:
No mutagenic effect was found in various tests with bacteria and mammalian cell culture. Literature data.

Experimental/calculated data:
Ames-test
negative

Carcinogenicity

Assessment of carcinogenicity:
Under certain conditions the substance can form nitrosamines. Nitrosamines are carcinogenic in animal studies.

Developmental toxicity

Assessment of teratogenicity:
No indications of a developmental toxic / teratogenic effect were seen in animal studies. Literature data.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
No adverse effects were observed after repeated exposure in animal studies.

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms.

Toxicity to fish:
LC50 (96 h) 450 - 1,000 mg/l, Lepomis macrochirus (static)
Literature data.

Aquatic invertebrates:
EC50 (24 h) 1,390 mg/l, Daphnia magna (DIN 38412 Part 11, static)
The details of the toxic effect relate to the nominal concentration. The product will cause changes in the pH value of the test system. The result refers to an unneutralized sample. Literature data.

Aquatic plants:
EC50 (72 h) 216 mg/l, Scenedesmus subspicatus (DIN 38412 Part 9, static)
The details of the toxic effect relate to the nominal concentration. The product will cause changes in the pH value of the test system. The result refers to an unneutralized sample. After neutralization a reduction in harmful effect can be observed. Literature data.

EC50 (72 h) 512 mg/l, Scenedesmus subspicatus (DIN 38412 Part 9)
The details of the toxic effect relate to the nominal concentration. The product will cause changes in the pH value of the test system. The result refers to an neutralized sample. Literature data.

Microorganisms/Effect on activated sludge:
EC50 (16 h) > 10,000 mg/l, Pseudomonas putida (DIN 38412 Part 8, aquatic)
The details of the toxic effect relate to the nominal concentration. Literature data.

Chronic toxicity to fish:
Study scientifically not justified.

Chronic toxicity to aquatic invertebrates:
No observed effect concentration (21 d), 16 mg/l, Daphnia magna (other, semistatic)
Literature data.

Soil living organisms:
Study scientifically not justified.

Terrestrial plants:
Study scientifically not justified.

Other terrestrial non-mammals:
LC50 (3 d) 49,950 mg/kg, Drosophila melanogaster

Persistence and degradability

Assessment biodegradation and elimination (H2O):
Readily biodegradable (according to OECD criteria). Literature data.

Elimination information:
90 - 100 % DOC reduction (19 d) (OECD 301E/92/69/EEC, C.4-B) (municipal sewage treatment plant effluent)

Assessment of stability in water:
According to structural properties, hydrolysis is not expected/probable.

Bioaccumulative potential

Assessment bioaccumulation potential:
Does not accumulate in organisms.

Bioaccumulation potential:
Bioconcentration factor: < 0.4 (42 d), Cyprinus carpio (OECD Guideline 305 C)
Does not accumulate in organisms. Literature data.

Mobility in soil (and other compartments if available)

Assessment transport between environmental compartments:
The substance will not evaporate into the atmosphere from the water surface.
Adsorption to solid soil phase is not expected.

Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria. Self classification

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): Not fulfilling vPvB (very persistent/very bioaccummulative) criteria. Self classification

13. Disposal Considerations

Waste treatment methods

Incinerate in suitable incineration plant, observing local authority regulations.

A waste code in accordance with the European waste catalog (EWC) cannot be specified, due to dependence on the usage.

The waste code in accordance with the European waste catalog (EWC) must be specified in cooperation with disposal agency/manufacturer/authorities.

Contaminated packaging:
Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

14. Transport Information

Land transport

ADR

Not classified as a dangerous good under transport regulations

RID

Not classified as a dangerous good under transport regulations

Inland waterway transport
ADN

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

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

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

16. Other Information

Vertical lines in the left hand margin indicate an amendment from the previous version.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's

Properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.