

**926 AGR Ventil Reiniger MF92600250Z**

Print date: 03.08.2020

Product code: 1102040

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

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

Cleaner

**1.3. Details of the supplier of the safety data sheet**

Company name:	TUNAP GmbH & Co. KG	
Street:	Bürgermeister-Seidl-Str. 2	
Place:	D-82515 Wolfratshausen	
Telephone:	+49 (0) 8171/1600 - 0	Telefax: +49 (0) 8171/1600 - 40
e-mail:	sdb@tunap.com	
Internet:	www.tunap.com	

**1.4. Emergency telephone number:** +49 (0) 30 30 686 790 (Giftnotruf Berlin)

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Aerosol: Aerosol 3

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Dam. 1

Hazard Statements:

Pressurised container: May burst if heated.

Causes skin irritation.

Causes serious eye damage.

**2.2. Label elements****Regulation (EC) No. 1272/2008****Hazard components for labelling**

2-aminoethanol; ethanolamine

**Signal word:** Danger**Pictograms:****Hazard statements**

H229	Pressurised container: May burst if heated.
H315	Causes skin irritation.
H318	Causes serious eye damage.

**Precautionary statements**

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe spray.
P280	Wear eye/face protection.
P302+P352	IF ON SKIN: Wash with plenty of Water and soap..
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

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P337+P313	present and easy to do. Continue rinsing.
P314	If eye irritation persists: Get medical advice/attention.
P410+P412	Get medical advice/attention if you feel unwell.
P251	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
	Do not pierce or burn, even after use.

**Special labelling of certain mixtures**

&lt; 1 % by mass of the contents are flammable.

**2.3. Other hazards**

Heating causes rise in pressure with risk of bursting.

**SECTION 3: Composition/information on ingredients****3.2. Mixtures****Hazardous components**

CAS No	Chemical name	Quantity
	EC No	
	Index No	
	REACH No	
	GHS Classification	
141-43-5	2-aminoethanol; ethanolamine	3 - < 5 %
	205-483-3	603-030-00-8
	Acute Tox. 4, Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, STOT SE 3, Aquatic Chronic 3; H332 H312 H302 H314 H335 H412	
14171-00-7	N-dodecyl-β-alanine, compound with 2,2',2''-nitrilotriethanol (1:1)	0.1 - < 1 %
	238-015-1	
	Skin Irrit. 2, Eye Dam. 1; H315 H318	
100-37-8	2-diethylaminoethanol; N,N-diethylethanolamine	0.1 - < 1 %
	202-845-2	603-048-00-6
	Flam. Liq. 3, Repr. 2, Acute Tox. 3, Acute Tox. 3, Acute Tox. 4, Skin Corr. 1B, STOT RE 2; H226 H361 H331 H311 H302 H314 H373	

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

**Labelling for contents according to Regulation (EC) No 648/2004**

&lt; 5 % amphoteric surfactants, perfumes (Limonene).

**SECTION 4: First aid measures****4.1. Description of first aid measures****General information**

First aider: Pay attention to self-protection! Remove persons to safety. Never give anything by mouth to an unconscious person or a person with cramps.

**After inhalation**

Remove person to fresh air and keep comfortable for breathing. In all cases of doubt, or when symptoms persist, seek medical advice.

**After contact with skin**

Wash with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. In all cases of doubt, or when symptoms persist, seek medical advice.

**After contact with eyes**

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. In case of troubles or persistent symptoms, consult an ophthalmologist.

**After ingestion**

Do NOT induce vomiting. Observe risk of aspiration if vomiting occurs. Call a physician in any case!

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

Headache, nausea, dizziness, fatigue, skin irritation

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

Treat symptomatically. Call a POISON CENTER. Symptoms can occur only after several hours.

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**Water fog. Foam. Carbon dioxide (CO<sub>2</sub>). Extinguishing powder.**Unsuitable extinguishing media**

High power water jet.

**5.2. Special hazards arising from the substance or mixture**Incomplete combustion and thermolysis gases of different toxicity can occur. In the case of hydrocarbonaceous products such as CO, CO<sub>2</sub>, aldehydes and soot. These can be very dangerous if they are inhaled in high concentrations or in enclosed spaces.**5.3. Advice for firefighters**

In case of fire and/or explosion do not breathe fumes. Move undamaged containers from immediate hazard area if it can be done safely. In case of fire: Wear self-contained breathing apparatus.

**Additional information**

Danger of bursting container.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**Wear breathing apparatus if exposed to vapours/dusts/aerosols. Remove all sources of ignition. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Wear personal protection equipment.**6.2. Environmental precautions**

Do not allow to enter into surface water or drains. Prevent spread over a wide area (e.g. by containment or oil barriers). Ensure all waste water is collected and treated via a waste water treatment plant.

**6.3. Methods and material for containment and cleaning up**

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Clean contaminated articles and floor according to the environmental legislation.

**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**

Observe instructions for use.

Dust must be exhausted directly at the point of origin. Vapours/aerosols must be exhausted directly at the point of origin. If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.

When using do not eat, drink, smoke, sniff.

Wear personal protection equipment (refer to section 8).

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

**Advice on protection against fire and explosion**

Heating causes rise in pressure with risk of bursting.

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**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed. Observe legal regulations and provisions.

**Hints on joint storage**

Do not store together with: Oxidizing agents. Pyrophoric or self-heating substances. Food and feedingstuffs.

**Further information on storage conditions**

Protect from frost. Protect against direct sunlight. Store in a cool dry place. Observe legal regulations and provisions.

**7.3. Specific end use(s)**

No information available.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
141-43-5	2-Aminoethanol	1	2.5		TWA (8 h)	WEL
		3	7.6		STEL (15 min)	WEL

**DNEL/DMEL values**

CAS No	Substance	Exposure route	Effect	Value
141-43-5	2-aminoethanol; ethanolamine			
Worker DNEL, long-term		inhalation	local	3,3 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	1 mg/kg bw/day
Consumer DNEL, long-term		inhalation	local	2 mg/m <sup>3</sup>
Consumer DNEL, long-term		dermal	systemic	0,24 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	3,75 mg/kg bw/day
100-37-8	2-diethylaminoethanol; N,N-diethylethanolamine			
Worker DNEL, long-term		inhalation	systemic	18,3 mg/m <sup>3</sup>
Worker DNEL, long-term		inhalation	local	10,7 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	2,5 mg/kg bw/day

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**PNEC values**

CAS No	Substance		Value
Environmental compartment			
141-43-5	2-aminoethanol; ethanolamine		
Freshwater			0,085 mg/l
Freshwater (intermittent releases)			0,028 mg/l
Marine water			0,009 mg/l
Freshwater sediment			0,434 mg/kg
Marine sediment			0,043 mg/kg
Micro-organisms in sewage treatment plants (STP)			100 mg/l
Soil			0,037 mg/kg
100-37-8	2-diethylaminoethanol; N,N-diethylethanolamine		
Freshwater			0,062 mg/l
Freshwater (intermittent releases)			0,34 mg/l
Marine water			0,006 mg/l
Freshwater sediment			0,673 mg/kg
Marine sediment			0,067 mg/kg
Micro-organisms in sewage treatment plants (STP)			10 mg/l
Soil			0,098 mg/kg

**Additional advice on limit values**

- a no restriction
- b End of exposure or end of shift
- c at long term exposure: after several previous shifts
- d before next shift

blood (B)  
Urine (U)

**8.2. Exposure controls****Appropriate engineering controls**

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

**Protective and hygiene measures**

Avoid exposure. Wear suitable protective clothing. Draw up and observe skin protection programme.

**Eye/face protection**

Suitable eye protection: Tightly sealed safety glasses.  
DIN EN 166

**Hand protection**

Protect skin by using skin protective cream. When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

Suitable material: NBR (Nitrile rubber) Breakthrough time (maximum wearing time) 480min  
Thickness of the glove material 0,45 mm  
EN ISO 374

**Skin protection**

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

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**Respiratory protection**

Wear breathing apparatus if exposed to vapours/dusts/aerosols.  
When exceeding the relevant workplace exposure limits, note the following:  
Suitable respiratory protective equipment: Combination filter device (DIN EN 141)..  
Filtering device with filter or ventilator filtering device of type: A  
Observe the wear time limits as specified by the manufacturer.  
Observe legal regulations and provisions.

**Environmental exposure controls**

Observe legal regulations and provisions.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state:	Aerosol
Colour:	neon yellow
Odour:	Lemon

pH-Value (at 20 °C):

	Test method
10,7	DIN 19268

**Changes in the physical state**

Initial boiling point and boiling range:

100 °C

Flash point:

179 °C

Density:

1 g/cm<sup>3</sup> DIN 51757**9.2. Other information**

Data apply to technical substance: Relative density, Colour, Odour, Viscosity, pH.

**SECTION 10: Stability and reactivity****10.1. Reactivity**

No information available.

**10.2. Chemical stability**

The product is stable under normal conditions.

**10.3. Possibility of hazardous reactions**

Do not expose to temperatures above 50 °C. Heating causes rise in pressure with risk of bursting.

**10.4. Conditions to avoid**

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air. Take precautionary measures against static discharges.

**10.5. Incompatible materials**

Oxidizing agents. Pyrophoric or self-heating substances.

**10.6. Hazardous decomposition products**

Incomplete combustion and thermolysis gases of different toxicity can occur. In the case of hydrocarbonaceous products such as CO, CO<sub>2</sub>, aldehydes and soot. These can be very dangerous if they are inhaled in high concentrations or in enclosed spaces.

**Further information**

Do not mix with acids.

**SECTION 11: Toxicological information****11.1. Information on toxicological effects**

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**Toxicokinetics, metabolism and distribution**

There are no data available on the mixture itself.

**Acute toxicity**

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

CAS No	Chemical name				
	Exposure route	Dose		Species	Source
141-43-5	2-aminoethanol; ethanolamine				
	oral	LD50 mg/kg	ca. 1515	Rat	Study report (1966)
	dermal	LD50	2504 mg/kg	Rabbit	Study report (1988)
	inhalation (4 h) aerosol	LC50	1,3 mg/l	Rat	
100-37-8	2-diethylaminoethanol; N,N-diethylethanolamine				
	oral	LD50 mg/kg	ca. 1320	Rat	Study report (1969)
	dermal	LD50 mg/kg	ca. 1100	Rabbit	Cited in: Documentation of the Threshold
	inhalation (1 h) vapour	LC50	ca. 4,6 mg/l	Rat	Study report (1969)

**Irritation and corrosivity**

Causes skin irritation.

Causes serious eye damage.

**Sensitising effects**

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

**Carcinogenic/mutagenic/toxic effects for reproduction**

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

No indications of human carcinogenicity exist.

No indications of human germ cell mutagenicity exist.

No indications of human reproductive toxicity exist.

**STOT-single exposure**

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

**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.

**Specific effects in experiment on an animal**

No information available.

**SECTION 12: Ecological information****12.1. Toxicity**

There are no data available on the mixture itself.



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CAS No	Chemical name				
	Aquatic toxicity	Dose	[h]   [d]	Species	Source
141-43-5	2-aminoethanol; ethanolamine				
	Acute fish toxicity	LC50 349 mg/l	96 h	Cyprinus carpio	Study report (1997)
	Acute algae toxicity	ErC50 2,8 mg/l	72 h	Pseudokirchneriella subcapitata	unpublished (1997)
	Acute crustacea toxicity	EC50 65 mg/l	48 h	Daphnia magna	Study report (1997)
	Fish toxicity	NOEC 1,24 mg/l	41 d	Oryzias latipes	unpublished (2008)
	Crustacea toxicity	NOEC 0,85 mg/l	21 d	Daphnia magna	unpublished (1997)
100-37-8	2-diethylaminoethanol; N,N-diethylethanolamine				
	Acute fish toxicity	LC50 147 mg/l	96 h	Leuciscus idus	Study report (1987)
	Acute algae toxicity	ErC50 62,3 mg/l	72 h	Desmodesmus subspicatus	Study report (1988)
	Acute crustacea toxicity	EC50 83,6 mg/l	48 h	Daphnia magna	Study report (1988)

**12.2. Persistence and degradability**

There are no data available on the mixture itself. AOX (mg/l): 0

**12.3. Bioaccumulative potential**

There are no data available on the mixture itself.

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
141-43-5	2-aminoethanol; ethanolamine	-2,3
100-37-8	2-diethylaminoethanol; N,N-diethylethanolamine	0,21

**BCF**

CAS No	Chemical name	BCF	Species	Source
141-43-5	2-aminoethanol; ethanolamine	2,3		SAR and QSAR in Envi
100-37-8	2-diethylaminoethanol; N,N-diethylethanolamine	< 6,1	Cyprinus carpio	Publication (2002)

**12.4. Mobility in soil**

No information available.

**12.5. Results of PBT and vPvB assessment**

This substance does not meet the criteria for classification as PBT or vPvB.

**12.6. Other adverse effects**

No information available.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

**List of Wastes Code - residues/unused products**

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing hazardous substances; hazardous waste

**List of Wastes Code - used product**

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing hazardous substances; hazardous waste




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**List of Wastes Code - contaminated packaging**

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

**SECTION 14: Transport information**
**Land transport (ADR/RID)**

**14.1. UN number:** UN 1950  
**14.2. UN proper shipping name:** AEROSOLS  
**14.3. Transport hazard class(es):** 2  
**14.4. Packing group:** -  
 Hazard label: 2.2  
 Classification code: 5A  
 Special Provisions: 190 327 344 625  
 Limited quantity: 1 L  
 Excepted quantity: E0  
 Transport category: 3  
 Tunnel restriction code: E

**Inland waterways transport (ADN)**

**14.1. UN number:** UN 1950  
**14.2. UN proper shipping name:** AEROSOLS  
**14.3. Transport hazard class(es):** 2  
**14.4. Packing group:** -  
 Hazard label: 2.2  
 Classification code: 5A  
 Special Provisions: 190 327 344 625  
 Limited quantity: 1 L  
 Excepted quantity: E0

**Marine transport (IMDG)**

**14.1. UN number:** UN 1950  
**14.2. UN proper shipping name:** AEROSOLS  
**14.3. Transport hazard class(es):** 2.2  
**14.4. Packing group:** -  
 Hazard label: 2.2  
 Marine pollutant: no  
 Special Provisions: 63, 190, 277, 327, 344, 959  
 Limited quantity: 1000 mL  
 Excepted quantity: E0  
 EmS: F-D, S-U

**Air transport (ICAO-TI/IATA-DGR)**

**14.1. UN number:** UN 1950  
**14.2. UN proper shipping name:** AEROSOLS, non-flammable  
**14.3. Transport hazard class(es):** 2.2  
**14.4. Packing group:** -  
 Hazard label: 2.2  
 Special Provisions: A98 A145 A167 A802  
 Limited quantity Passenger: 30 kg G



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Passenger LQ:	Y203	
Excepted quantity:	E0	
IATA-packing instructions - Passenger:		203
IATA-max. quantity - Passenger:		75 kg
IATA-packing instructions - Cargo:		203
IATA-max. quantity - Cargo:		150 kg

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

**14.6. Special precautions for user**

No dangerous good in sense of this transport regulation.

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

No dangerous good in sense of this transport regulation.

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

2010/75/EU (VOC): No information available.

2004/42/EC (VOC): No information available.

**Additional information**Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)  
Aerosol directive (75/324/EEC)**National regulatory information**

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

**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 7,9.

**Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IATA: International Air Transport Association

IMDG: International Maritime Code for Dangerous Goods

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL/DMEL: Derived No Effect Level / Derived Minimal Effect Level

WEL (UK): Workplace Exposure Limits

TWA (EC): Time-Weighted Average

ATE: Acute Toxicity Estimate

STEL (EC) Short Term Exposure Limit

LC50: Lethal Concentration

EC50: half maximal Effective Concentration

ErC50: means EC50 in terms of reduction of growth rate

**Relevant H and EUH statements (number and full text)**

H226 Flammable liquid and vapour.

H229 Pressurised container: May burst if heated.



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H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

**Further Information**

Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]:  
Calculation method.

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.

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*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*