



according to Regulation (EC) No 1907/2006

915 TUN Solve Cleaner MP91500500A

Print date: 22.06.2016

Product code: 11AFX91500500A

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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 Deutschland Vertriebs GmbH & Co. Betriebs 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**

Indications of danger: F - Highly flammable, Xi - Irritant
 R phrases:
 Flammable.
 Irritating to eyes and skin.
 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 Vapours may cause drowsiness and dizziness.

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

Hazard categories:
 Aerosol: Aerosol 2
 Skin corrosion/irritation: Skin Irrit. 2
 Serious eye damage/eye irritation: Eye Irrit. 2
 Specific target organ toxicity - single exposure: STOT SE 3
 Hazardous to the aquatic environment: Aquatic Chronic 3
 Hazard Statements:
 Flammable aerosol.
 Pressurised container: May burst if heated.
 Causes skin irritation.
 Causes serious eye irritation.
 May cause drowsiness or dizziness.
 Harmful to aquatic life with long lasting effects.

2.2. Label elements**Hazard components for labelling**

propan-2-ol; isopropyl alcohol; isopropanol
 Acetone
 Hydrocarbons C7-C9, iso-alkanes

Signal word: Warning
 Pictograms: GHS02-GHS07



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**Hazard statements**

H223	Flammable aerosol.
H229	Pressurised container: May burst if heated.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P260	Do not breathe Aerosol.
P280	Wear Eye/face protection.
P271	Use only outdoors or in a well-ventilated area.
P302+P352	IF ON SKIN: Wash with plenty of Water and soap..
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314	Get medical advice/attention if you feel unwell.
P273	Avoid release to the environment.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P251	Do not pierce or burn, even after use.

2.3. Other hazards

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

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



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Hazardous components

EC No	Chemical name	Quantity
CAS No	Classification according to Directive 67/548/EEC	
Index No	Classification according to Regulation (EC) No. 1272/2008 [CLP]	
REACH No		
200-661-7	2-Propanol	25 - < 50 %
67-63-0	F - Highly flammable, Xi - Irritant R11-36-67	
603-117-00-0	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336	
01-2119457558-25		
200-662-2	Acetone	20 - < 25 %
67-64-1	F - Highly flammable, Xi - Irritant R11-36-66-67	
606-001-00-8	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066	
921-728-3	Hydrocarbons C7-C9, iso-alkanes	20 - < 25 %
90622-56-3	F - Highly flammable, Xn - Harmful, Xi - Irritant, N - Dangerous for the environment R11-38-51-53-65-67	
	Flam. Liq. 2, Skin Irrit. 2, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2; H225 H315 H336 H304 H411	
01-2119471305-42		
927-241-2	Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclenes, 2% aromatics	3 - < 5 %
64742-48-9	Xn - Harmful R10-52-53-65-66-67	
	Flam. Liq. 3, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 3; H226 H336 H304 H412 EUH066	
01-2119471843-32		
204-696-9	carbon dioxide	3 - < 5 %
124-38-9		

Full text of R, H and EUH phrases: see section 16.

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

15 % - < 30 % aliphatic hydrocarbons.

SECTION 4: First aid measures**4.1. Description of first aid measures****After inhalation**

Provide fresh air. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After contact with skin

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention.

After contact with eyes

If product gets into the eye, keep eyelid open and rinse immediately with large quantities of water, for at least 5 minutes. Subsequently consult an ophthalmologist.

After ingestionRinse mouth immediately and drink plenty of water.
Caution if victim vomits: Risk of aspiration!**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



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Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**Carbon dioxide (CO₂). Foam. Extinguishing powder.**Unsuitable extinguishing media**

Full water jet

5.2. Special hazards arising from the substance or mixture

Combustible. Vapours may form explosive mixtures with air.

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protective suit.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Wear personal protection equipment.

6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Explosion hazard.

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). Treat the recovered material as prescribed in the section on waste disposal.

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**

Do not breathe gas/fumes/vapour/spray.

Advice on protection against fire and explosion

Do not spray on naked flames or any incandescent material. Keep away from sources of ignition. - No smoking. Vapours may form explosive mixtures with air.

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

Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from sources of ignition. - No smoking.

Advice on storage compatibility

Do not store together with: Material, rich in oxygen, oxidizing.

Further information on storage conditions

Protect against direct sunlight. Protect from frost.

7.3. Specific end use(s)

Solvent-based cleaner



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

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
67-64-1	Acetone	500	1210		TWA (8 h)	WEL
		1500	3620		STEL (15 min)	WEL
124-38-9	Carbon dioxide	5000	9150		TWA (8 h)	WEL
		15000	27400		STEL (15 min)	WEL
67-63-0	Propan-2-ol	400	999		TWA (8 h)	WEL
		500	1250		STEL (15 min)	WEL

Additional advice on limit values

- a no restriction
- b End of exposure or shift
- c in long-term exposure: after several shifts
- d prior to next shift

TWA (EC): time-weighted average

U: Urea

B: Blood

8.2. Exposure controls**Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Protective and hygiene measures

Protect skin by using skin protective cream. After work, wash hands and face. When using do not eat or drink.

Eye/face protection

Suitable eye protection: Tightly sealed safety glasses.

Hand protection

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 (DIN EN 374)

Skin protection

Wear suitable protective clothing.

Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols.
Suitable respiratory protection apparatus: Combination filtering device (EN 14387)
Filtering device with filter or ventilator filtering device of type: A
Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190).

Environmental exposure controls

No information available.



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

Physical state: Aerosol
 Colour: colourless
 Odour: solvent like

Test method

pH-Value (at 20 °C): not applicable DIN 19268

Changes in the physical state

Melting point: No information available.

Initial boiling point and boiling range: 56 °C

Sublimation point: No information available.

Softening point: No information available.

Flash point: -17 °C

Lower explosion limits: >1,5 vol. %

Upper explosion limits: 14 vol. %

Ignition temperature: No information available.

Vapour pressure: No information available.

Vapour pressure: No information available.

Density (at 20 °C): 0,755 g/cm³ DIN 51757

Bulk density: No information available.

Water solubility: partially soluble

Partition coefficient: No information available.

Viscosity / dynamic: No information available.

Viscosity / kinematic: No information available.

Flow time: No information available.

Vapour density: No information available.

Evaporation rate: No information available.

Solvent separation test: No information available.

Solvent content: No information available.

9.2. Other information

Solid content: No information available.

density: Data apply to technical substance.

pressure:-5 bar (20°C)

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.



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10.5. Incompatible materials

Reacts with : Oxidizing agents.

10.6. Hazardous decomposition products

Incomplete combustion and thermolysis gases of different toxicity can occur . In the case of hydrocarbonaceous products such as CO, CO₂, 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 other chemicals.

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Toxicokinetics, metabolism and distribution**

No information available.

Acute toxicity

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

Acute toxicity

CAS No	Chemical name				
	Exposure route	Method	Dose	Species	Source
67-63-0	2-Propanol				
	oral	LD50	5280 mg/kg	Rat	
	dermal	LD50 mg/kg	> 2000	Rabbit	
	inhalative (4 h) vapour	LC50	47,5 mg/l	Rat	
67-64-1	Acetone				
	oral	LD50	5800 mg/kg	Rat	RTECS
	dermal	LD50 mg/kg	20000	Rabbit	IUCLID
	inhalative (4 h) vapour	LC50	76 mg/l	Rat	
90622-56-3	Hydrocarbons C7-C9, iso-alkanes				
	oral	LD50 mg/kg	> 5000	Rat	
	dermal	LD50 mg/kg	> 2000	Rabbit	
	inhalative (4 h) vapour	LC50	21 mg/l	Rat	
	inhalative (4 h) aerosol	LC50	>9,4 mg/l	Rat	
64742-48-9	Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclenes, 2% aromatics				
	oral	LD50 mg/kg	> 5000	Rat	
	dermal	LD50 mg/kg	> 5000	Rabbit	
	inhalative (4 h) vapour	LC50	> 4951 mg/l	Rat	

Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

Sensitising effects

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



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STOT-single exposure

May cause drowsiness or dizziness. (2-Propanol), (Acetone), (Hydrocarbons C7-C9, iso-alkanes), (Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclenes, 2% aromatics)

Severe effects after repeated or prolonged exposure

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 indication of human carcinogenicity.

No indications of human germ cell mutagenicity exist.

No indications of human reproductive toxicity exist.

Aspiration hazard

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

Specific effects in experiment on an animal

No information available.

Additional information on tests

This mixture is classified as hazardous according to regulation (EC) No. 1272/2008 [CLP].

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

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

CAS No	Chemical name					
	Aquatic toxicity	Method	Dose	[h] [d]	Species	Source
67-63-0	2-Propanol					
	Acute fish toxicity	LC50	9640 mg/l	96 h	Pimephales promelas	
	Acute algae toxicity	ErC50	> 100 mg/l	72 h	Desmodesmus subspicatus.	
	Acute crustacea toxicity	EC50	> 100 mg/l	48 h	Daphnia magna	
67-64-1	Acetone					
	Acute fish toxicity	LC50	5540 mg/l	96 h	Onchorhynchus mykiss	
	Acute crustacea toxicity	EC50	6100 mg/l	48 h	Daphnia magna	
90622-56-3	Hydrocarbons C7-C9, iso-alkanes					
	Acute fish toxicity	LC50	18,4 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)	
	Acute algae toxicity	ErC50	29 mg/l	72 h	Pseudokirchneriella subcapitata	
	Acute crustacea toxicity	EC50	2,4 mg/l	48 h	Daphnia magna	
64742-48-9	Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclenes, 2% aromatics					
	Acute fish toxicity	LC50	>1000 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)	
	Acute algae toxicity	ErC50	>1000 mg/l	72 h	Pseudokirchneriella subcapitata	
	Acute crustacea toxicity	EC50	>1000 mg/l	48 h	Daphnia magna	

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.



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Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
67-63-0	2-Propanol	0,05
67-64-1	Acetone	-0,24

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

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

12.6. Other adverse effects

No information available.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Advice on disposal**

Dispose of waste according to applicable legislation.

Waste disposal number of waste from 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
Classified as hazardous waste.

Waste disposal number of 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
Classified as hazardous waste.

Waste disposal number of contaminated packaging

150104 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); metallic packaging

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

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:	2.1
Classification code:	5F
Special Provisions:	190 327 344 625
Limited quantity:	1 L
Transport category:	2
Tunnel restriction code:	D

Inland waterways transport (ADN)

14.1. UN number:	UN 1950
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14.2. UN proper shipping name:	AEROSOLS
14.3. Transport hazard class(es):	2
14.4. Packing group:	-
Hazard label:	2.1
Classification code:	5F
Special Provisions:	190 327 344 625
Limited quantity:	1 L

Marine transport (IMDG)

14.1. UN number:	UN 1950
14.2. UN proper shipping name:	AEROSOLS
14.3. Transport hazard class(es):	2.1
14.4. Packing group:	-
Hazard label:	2.1
Marine pollutant:	no
Special Provisions:	63, 190, 277, 327, 344, 959
Limited quantity:	1000 mL
EmS:	F-D, S-U

Air transport (ICAO)

14.1. UN number:	UN 1950
14.2. UN proper shipping name:	AEROSOLS, flammable
14.3. Transport hazard class(es):	2.1
14.4. Packing group:	-
Hazard label:	2.1
Special Provisions:	A145 A167 A802
Limited quantity Passenger:	30 kg G
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

Warning: Flammable gases

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****EU regulatory information**

1999/13/EC (VOC): No information available.

Additional information

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National regulatory information

Water contaminating class (D): 1 - slightly water contaminating

Additional information

94/69/EC (21st ATP). The benzene content of the product is less than 0.1%. It applies the annotation P.



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Classification and labeling as carcinogenic is not necessary.

SECTION 16: Other information**Changes**

This data sheet contains changes from the previous version in section(s): 1,2,9.

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 R phrases (number and full text)

10	Flammable.
11	Highly flammable.
36	Irritating to eyes.
36/38	Irritating to eyes and skin.
38	Irritating to skin.
51	Toxic to aquatic organisms.
52	Harmful to aquatic organisms.
52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
53	May cause long-term adverse effects in the aquatic environment.
65	Harmful: may cause lung damage if swallowed.
66	Repeated exposure may cause skin dryness or cracking.
67	Vapours may cause drowsiness and dizziness.

Relevant H and EUH statements (number and full text)

H223	Flammable aerosol.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H229	Pressurised container: May burst if heated.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Further Information

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

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