

**TUNFLUID TAC 2000**

Print date: 13.01.2021

Product code: 11ACI14224A0500

Page 1 of 11

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

TUNFLUID TAC 2000

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

Lubricants, greases, release products

**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 1

Skin corrosion/irritation: Skin Irrit. 2

Specific target organ toxicity - single exposure: STOT SE 3

Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:

Extremely flammable aerosol.

Pressurised container: May burst if heated.

Causes skin irritation.

May cause drowsiness or dizziness.

Harmful to aquatic life with long lasting effects.

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

Hydrocarbons C7-C9, iso-alkanes

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

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.
H315	Causes skin 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
------	---


**TUNFLUID TAC 2000**

Print date: 13.01.2021

Product code: 11ACI14224A0500

Page 2 of 11

	smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P261	Avoid breathing spray.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves.
P302+P352	IF ON SKIN: Wash with plenty of water.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER/doctor if you feel unwell.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

**2.3. Other hazards**

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.  
The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

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

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
75-28-5	isobutane			25 - < 50 %
	200-857-2	601-004-00-0	01-2119485395-27	
	Flam. Gas 1, Liquefied gas; H220 H280			
90622-56-3	Hydrocarbons C7-C9, iso-alkanes			10 - < 20 %
	921-728-3		01-2119471305-42	
	Flam. Liq. 2, Skin Irrit. 2, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2; H225 H315 H336 H304 H411			
74-98-6	propane			3 - < 5 %
	200-827-9	601-003-00-5	01-2119486944-21	
	Flam. Gas 1, Liquefied gas; H220 H280			
106-97-8	butane			1 - < 3 %
	203-448-7	601-004-00-0	01-2119474691-32	
	Flam. Gas 1, Liquefied gas; H220 H280			
128-37-0	2,6-di-tert-butyl-4-kresol			0.1 - < 1 %
	204-881-4		01-2119480433-40	
	Aquatic Chronic 1; H410			

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

**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.

**TUNFLUID TAC 2000**

Print date: 13.01.2021

Product code: 11ACI14224A0500

Page 3 of 11

**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!

**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**

Full 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**


**TUNFLUID TAC 2000**

Print date: 13.01.2021

Product code: 11ACI14224A0500

Page 4 of 11

**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**

Keep away from sources of ignition - No smoking. Heating causes rise in pressure with risk of bursting.

**Further information on handling**

Avoid contact with skin and eyes.

**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
128-37-0	2,6-Di-tert-butyl-p-cresol	-	10		TWA (8 h)	WEL
106-97-8	Butane	600	1450		TWA (8 h)	WEL
		750	1810		STEL (15 min)	WEL

**DNEL/DMEL values**

CAS No	Substance	Exposure route	Effect	Value
90622-56-3	Hydrocarbons C7-C9, iso-alkanes			
	Worker DNEL, long-term	inhalation	systemic	2035 mg/m <sup>3</sup>
	Worker DNEL, long-term	dermal	systemic	773 mg/kg bw/day
	Consumer DNEL, long-term	inhalation	systemic	608 mg/m <sup>3</sup>
	Consumer DNEL, long-term	dermal	systemic	699 mg/kg bw/day
	Consumer DNEL, long-term	oral	systemic	699 mg/kg bw/day

**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



### TUNFLUID TAC 2000

Print date: 13.01.2021

Product code: 11ACI14224A0500

Page 5 of 11

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.

##### 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: AX  
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:	clear
Odour:	characteristic

pH-Value (at 20 °C):

**Test method**  
DIN 19268

#### Changes in the physical state

Initial boiling point and boiling range:	-40 °C
Flash point:	-80 °C
Lower explosion limits:	1 vol. %
Upper explosion limits:	11 vol. %
Density (at 20 °C):	0,816 g/cm <sup>3</sup> DIN 51757

### 9.2. Other information

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

**TUNFLUID TAC 2000**

Print date: 13.01.2021

Product code: 11ACI14224A0500

Page 6 of 11

**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 other chemicals.

**SECTION 11: Toxicological information****11.1. Information on toxicological effects****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
75-28-5	isobutane			
	inhalation vapour	LC50 1237 mg/l	Mouse.	
90622-56-3	Hydrocarbons C7-C9, iso-alkanes			
	oral	LD50 > 7100 - 7800 mg/kg	Rat	Study report (1961)
	dermal	LD50 > 2200 - 2500 mg/kg	Rabbit	Study report (1961)
	inhalation (4 h) vapour	LC50 > 21 mg/l	Rat	Study report (1985)
	inhalation (4 h) aerosol	LC50 >9,4 mg/l	Rat	
106-97-8	butane			
	inhalation (4 h) gas	LC50 658 ppm	Rat	GESTIS

**Irritation and corrosivity**

Causes skin irritation.

Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

Vapours may cause drowsiness and dizziness.

**Sensitising effects**

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

**TUNFLUID TAC 2000**

Print date: 13.01.2021

Product code: 11ACI14224A0500

Page 7 of 11

**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.

**STOT-single exposure**

May cause drowsiness or dizziness. (Hydrocarbons C7-C9, iso-alkanes)

**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.

**Additional information on tests**

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

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

Harmful to aquatic life with long lasting effects.


**TUNFLUID TAC 2000**

Print date: 13.01.2021

Product code: 11ACI14224A0500

Page 8 of 11

CAS No	Chemical name				
	Aquatic toxicity	Dose	[h]   [d]	Species	Source
75-28-5	isobutane				
	Acute fish toxicity	LC50 91,42 mg/l	96 h	Fish, no other information	United States Environmental Protection A
	Acute algae toxicity	ErC50 19,37 mg/l	96 h	Algae	USEPA OPPT Risk Assessment Division (200)
	Acute crustacea toxicity	EC50 69,43 mg/l	48 h	Daphnia sp.	USEPA OPPT Risk Assessment Division (200)
90622-56-3	Hydrocarbons C7-C9, iso-alkanes				
	Acute fish toxicity	LC50 1000 mg/l	96 h	Oncorhynchus mykiss	SIDS Initial Assessment Report For SIAM
	Acute algae toxicity	ErC50 1000 mg/l	72 h	Pseudokirchneriella subcapitata	SIDS Initial Assessment Report For SIAM
	Acute crustacea toxicity	EC50 1000 mg/l	48 h	Daphnia magna	Publication (1986)
	Fish toxicity	NOEC 0,778 mg/l	28 d	Oncorhynchus mykiss	CONCAWE, Brussels, Belgium (2009)
	Crustacea toxicity	NOEC 1 mg/l	21 d	Daphnia magna	SIDS Initial Assessment Report For SIAM
74-98-6	propane				
	Acute fish toxicity	LC50 49,9 mg/l	96 h	Fish, no other information	United States Environmental Protection A
	Acute algae toxicity	ErC50 19,37 mg/l	96 h	Algae	USEPA OPPT Risk Assessment Division (200)
	Acute crustacea toxicity	EC50 69,43 mg/l	48 h	Daphnia sp.	USEPA OPPT Risk Assessment Division (200)
106-97-8	butane				
	Acute fish toxicity	LC50 49,9 mg/l	96 h	Fish, no other information	United States Environmental Protection A
	Acute algae toxicity	ErC50 19,37 mg/l	96 h	Algae	USEPA OPPT Risk Assessment Division (200)
	Acute crustacea toxicity	EC50 69,43 mg/l	48 h	Daphnia sp.	USEPA OPPT Risk Assessment Division (200)

**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.





### TUNFLUID TAC 2000

Print date: 13.01.2021

Product code: 11ACI14224A0500

Page 9 of 11

#### Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
75-28-5	isobutane	1,09
74-98-6	propane	1,09
106-97-8	butane	1,09

#### 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. Do not allow to enter into soil/subsoil.

### 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

##### List of Wastes Code - 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

### SECTION 14: Transport information

#### Land transport (ADR/RID)

<b>14.1. UN number:</b>	UN 1950
<b>14.2. UN proper shipping name:</b>	AEROSOLS
<b>14.3. Transport hazard class(es):</b>	2
<b>14.4. Packing group:</b>	-
Hazard label:	2.1
Classification code:	5F
Special Provisions:	190 327 344 625
Limited quantity:	1 L
Excepted quantity:	E0
Transport category:	2
Tunnel restriction code:	D

#### Inland waterways transport (ADN)

<b>14.1. UN number:</b>	UN 1950
<b>14.2. UN proper shipping name:</b>	AEROSOLS



### TUNFLUID TAC 2000

Print date: 13.01.2021

Product code: 11ACI14224A0500

Page 10 of 11

<b>14.3. Transport hazard class(es):</b>	2
<b>14.4. Packing group:</b>	-
Hazard label:	2.1
Classification code:	5F
Special Provisions:	190 327 344 625
Limited quantity:	1 L
Excepted quantity:	E0

**Marine transport (IMDG)**

<b>14.1. UN number:</b>	UN 1950
<b>14.2. UN proper shipping name:</b>	AEROSOLS
<b>14.3. Transport hazard class(es):</b>	2.1
<b>14.4. Packing group:</b>	-
Hazard label:	2.1
Marine pollutant:	no
Special Provisions:	63, 190, 277, 327, 344, 381,959
Limited quantity:	1000 mL
Excepted quantity:	E0
EmS:	F-D, S-U

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

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

## SECTION 15: Regulatory information

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

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 28

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): 2 - obviously hazardous to water

**TUNFLUID TAC 2000**

Print date: 13.01.2021

Product code: 11ACI14224A0500

Page 11 of 11

**Additional information**

UFI: 5Q6A-N3FQ-JCAW-FUE8

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

This data sheet contains changes from the previous version in section(s): 15.

**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)**

H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H225	Highly flammable liquid and vapour.
H229	Pressurised container: May burst if heated.
H280	Contains gas under pressure; may explode if heated.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
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.

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