



**Safety Data Sheet according to
Regulation (EC) No. 1907/2006 (REACH)**

Version: 1
Replaces version:

Revision date: 17.09.2019
from:

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

1.1. Product identifier

Tikalflex Cleaner

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

Relevant identified uses: Detention ground mediator, Surface cleaner
Uses advised against: Other

1.3. Details of the supplier of the safety data sheet

Manufacturer

Tikal Marine Systems GmbH

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D 22844 Norderstedt

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Supplier

Tikal Marine Systems GmbH

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Information contact

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Website http://www.tikal-online.com

1.4. Emergency telephone number

Tikal Marine Systems GmbH

Telephone +49 40 526 30 60 3

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008:
Flam. Liq. 2, H225; Eye Irrit. 2, H319; Skin Sens. 1/1A/1B, H317; STOT SE 3, H336

2.2. Label elements

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

Hazard pictograms



Signal word:

GHS02, GHS07
Danger

Hazard statements:

H225 Highly flammable liquid and vapour.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary statements:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof [electrical/ventilating/lighting/.?] equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+352 IF ON SKIN: Wash with plenty of water/soap.
P303+361+353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304+340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER/doctor/.? if you feel unwell.
P333+313 If skin irritation or rash occurs: Get medical advice/attention.
P337+313 If eye irritation persists: Get medical advice/attention.
P362+364 Take off contaminated clothing and wash it before reuse.
P403+235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P501 Dispose of contents/container to disposal

Hazardous component(s) for labelling:

Isopropyl alcohol; 3- (2-aminoethylamino) propyltrimethoxysilane

Special labelling of particular preparations:

none

2.3. Other hazards

See attached safety data sheets and/or usage instructions.

SECTION 3: Composition / information on ingredients

3.1. Substances

not applicable

3.2. Mixtures

Alcoholic solution with additives

Composition/information on ingredients

Substance:	EC-no.:	CAS-No.:	INDEX no.:	REACH-no.:	Concentration:	Classification: EC 1272/2008 (CLP):
Isopropyl alcohol	200-661-7	67-63-0	603-117-00-0		50 - 100 %	Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336
3- (2-aminoethylamino) propyltrimethoxysilane		1760-24-3			< 1 %	Skin Irrit. 2, H315; Skin Sens. 1/1A/1B, H317; Eye Dam. 1, H318

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

SECTION 4: First aid measures

4.1. Description of first aid measures

- General information:** In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Take off immediately all contaminated clothing.
- In case of inhalation:** Move victim to fresh air. Put victim at rest and keep warm. Seek medical attention if problems persist.
- Following skin contact:** After contact with skin, wash immediately with plenty of water and soap. Rub greasy ointment into the skin. In case of skin irritation, consult a physician.
- After eye contact:** In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Seek medical attention if problems persist.
- After ingestion:** Rinse mouth immediately and drink plenty of water. Seek medical attention if problems persist.

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

Symptoms drowsiness. Dizziness. Disorientation. unconsciousness. Nausea. Danger Caution if victim vomits: Risk of aspiration!

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media** Water fog. alcohol resistant foam. dry extinguishing powder. Carbon dioxide (CO₂).
- Unsuitable extinguishing media** High power water jet.

5.2. Special hazards arising from the substance or mixture

In case of fire may be liberated: Carbon dioxide (CO₂). Carbon monoxide.

5.3. Advice for firefighters

General information

Move undamaged containers from immediate hazard area if it can be done safely. Use water spray jet to protect personnel and to cool endangered containers. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Special protective equipment for fire-fighters:

In case of fire: Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Remove persons to safety. Remove all sources of ignition. Provide adequate ventilation. Wear personal protection equipment. See protective measures under point 7 and 8.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

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. Avoid generation of dust. Clear contaminated areas thoroughly. Wash with plenty of water.

6.4. Reference to other sections

See protective measures under point 7 and 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advices on safe handling

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Do not breathe gas/fumes/vapour/spray. Provide adequate ventilation as well as local exhaustion at critical locations.

Precautions against fire and explosion:

Take precautionary measures against static discharges. 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 and in a well-ventilated place. Ensure adequate ventilation of the storage area. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Keep/Store only in original container. Keep container tightly closed. Protect against: heat.

Hints on joint storage

Do not store together with: Explosive hazardous substances Gases (except aerosol dispensers and lighters) Other potentially explosive hazardous substances Flammable solids Pyrophoric or self-heating substances Hazardous substances that release flammable gases when in contact with water Highly oxidising substances Ammonium nitrate and preparations containing ammonium nitrate Organic peroxides and self-reactive substances Non-combustible substances of acute toxicity, category 1 and 2 / very toxic substances Infectious substances Radioactive substances Keep away from food, drink and animal feedingstuffs.

7.3. Specific end use(s)

Observe instructions for use.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

occupational exposure limit value

Substance:	CAS-No.:	Source:	Occupational exposure limit value:[ppm]	Occupational exposure limit value:[mg/m ³]	Limitation of exposure peaks:	Remark:

Substance with a common (EC) occupational exposure limit value.

Substance:	CAS-No.:	Source:	Occupational exposure limit value:[ppm]	Occupational exposure limit value:[mg/m ³]	Limitation of exposure peaks:	Remark:

DNEL-/PNEC-values

DNEL value

Substance:	CAS-No.:	DNEL/DMEL
Isopropyl alcohol	67-63-0	worker dermal long-term, systemic 880 mg/kg bw/day worker inhalative long-term, systemic 500 mg/m ³ population dermal long-term, systemic 319 mg/kg bw/day population inhalative long-term, systemic 89 mg/m ³ population oral long-term, systemic 26 mg/kg bw/day

PNEC Value

Substance:	CAS-No.:	PNEC
Isopropyl alcohol	67-63-0	aquatic, freshwater 140,9 mg/l aquatic, marine water 140,9 mg/l soil 28 xxx(mg/kg) sewage treatment plant 2251 mg/l

Additional information

DFG Y: A risk of reproductive effects needs not to be feared if the occupational exposure limit value (AGW) and the biological limit value (BGW) is kept

8.2. Exposure controls

Occupational exposure controls:

Provide adequate ventilation as well as local exhaustion at critical locations. Technical measures and the application of suitable work processes have priority over personal protection equipment.

General protection and hygiene measures:

When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work. Apply skin care products after work. Wash contaminated clothing prior to re-use.

Personal protection equipment

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

Respiratory protection

Respiratory protection necessary at: Formation of aerosol. gas filtering equipment (EN 141).

Hand protection

Tested protective gloves are to be worn: DIN-/EN-Norms: EN ISO 374 Suitable material: Butyl rubber. FKM (fluororubber).

Eye/face protection

Tightly sealed safety glasses.

Body protection:

Suitable protective clothing: Overall. For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes). Only wear fitting, comfortable and clean protective clothing.

Environmental exposure controls

refer to chapter 7. No further action is necessary.

Consumer exposure controls

refer to chapter 7. No further action is necessary.

Exposure Scenario:

none

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state:	lliquid
Colour:	greenish blue
Odour:	characteristic
Odour threshold:	No data available

Safety relevant basis data

	parameter	Value	unit	Remark
pH:				not applicable
Melting point/freezing point:		-89	°C	No data available
Initial boiling point and boiling range:		82	°C	No data available
Flash point:		12	°C	
Evaporation rate:				No data available
Flammability (solid, gas):		425	°C	Combustible.
Explosivity:				No data available
Upper flammability or explosive limits:		2	Vol-%	literature value Isopropyl alcohol.
lower flammability or explosive limits:		10	Vol-%	literature value Isopropyl alcohol.
Vapour pressure:		43	hPa	No data available
Vapour density:		2		No data available
Relative density:				No data available
Density:	at °C:			No data available
Soluble (g/L) in:				No data available
Water solubility (g/L):				miscible
Fat solubility (g/L):				No data available
Partition coefficient: n-octanol/water:				No data available
Ignition temperature:				No data available
Decomposition temperature:				No data available
Viscosity:				No data available
Oxidizing properties:				No data available

9.2. Other information

none

SECTION 10: Stability and reactivity

10.1. Reactivity

Vapours may form explosive mixtures with air.

10.2. Chemical stability

With proper storage and handling the product is stable.

10.3. Possibility of hazardous reactions

Violent reaction with: Oxidizing agents.

10.4. Conditions to avoid

heat. Keep away from sources of ignition - No smoking.

10.5. Incompatible materials

Oxidizing agents.

10.6. Hazardous decomposition products

In case of fire may be liberated: Carbon dioxide. Carbon monoxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

There are no data available on the mixture itself. The mixture is not classified as toxic for the purposes of Regulation (EC) No 1272/2008 [GHS] (summation method).

M-factor:

Acute toxicity (oral):

Acute toxicity (dermal):

Acute toxicity (inhalative):

Acute toxicity

Substance:	CAS-No.:	Toxicological information
Isopropyl alcohol	67-63-0	LD50 oral (rat) 5050 mg/kg LD50 dermal (rabbit) 12800 mg/kg

Skin corrosion/irritation:

There are no data available on the preparation/mixture itself. Based on available data, the classification criteria are not met. Not an irritant. (Additivity)

Serious eye damage/irritation:

There are no data available on the preparation/mixture itself. irritant. (Additivity)

Respiratory or skin sensitisation:

May cause sensitisation especially in sensitive humans.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity:

No indications of human carcinogenicity exist.

Germ cell mutagenicity:

No indications of human germ cell mutagenicity exist.

Reproductive toxicity:

No indications of human reproductive toxicity exist.

STOT-single exposure:

The following symptoms may occur: drowsiness. Dizziness.

STOT-repeated exposure:

none

Aspiration hazard:

There are no data available on the preparation/mixture itself. Based on available data, the classification criteria are not met. (Additivity)

SECTION 12: Ecological information

12.1. Toxicity

There are no data available on the mixture itself. Toxic to aquatic life with long lasting effects. Bridging principle ' dilution.'

Ecotoxicity

Substance:	CAS-No.:	Ecotoxicity
Isopropyl alcohol	67-63-0	LC50 9640 mg/l LC50 (crustaceans, 48h) 1400 mg/l

12.2. Persistence and degradability

Easily biodegradable (concerning to the criteria of the OECD)

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

12.4. Mobility in soil

If product enters soil, it will be mobile and may contaminate groundwater.

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

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

Appropriate disposal/Product:

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Appropriate disposal / Package

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

List of proposed waste codes / waste designations according to EWC / AVV

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

14.1. UN number

UN No.: 1993

14.2. UN proper shipping name

Land transport (ADR/RID)

FLAMMABLE LIQUID, N.O.S.

Isopropyl alcohol

Sea transport (IMDG), Air transport (ICAO-TI / IATA-DGR)

FLAMMABLE LIQUID, N.O.S.

Isopropyl alcohol

14.3. Transport hazard class(es)

Hazard label(s) / Label: 3

Classification code: / Classification Code: F1



14.4. Packing group

Packing group/ Packing Group: II

14.5. Environmental hazards

ADR/RID / IMDG / ICAO-TI / IATA-DGR:
Marine pollutant:

Yes

No

14.6. Special precautions for user

Land transport (ADR/RID)

transport category: 2
Special provisions: 274, 601, 640D

tunnel restriction code: D/E
Limited quantity (LQ): 1I

Sea transport (IMDG)

EmS-No: F-E, S-E

Special provisions: 274 Limited quantity (LQ): 1I

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Remark No information available.

SECTION 15: Regulatory information

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

EU legislation

Information on Regulation (EC) No 166/2006 establishing a European Pollutant Release and Transfer Register:

No information available.

Regulation (EC) No. 1005/2009 on substances that lead to the depletion of the ozone layer:

No information available.

Regulation (EC) No. 648/2004 (Detergents regulation)

No information available.

Regulation (EC) No 850/2004 [POP-Regulation]:

No information available.

Regulation (EU) No 649/2012 on the export and import of dangerous chemicals:

No information available.

Use restriction according to REACH annex XVII, no.:

Use restriction according to REACH annex XVII, no.:

National regulations

Observe in addition any national regulations!

Restrictions of occupation

none

Other regulations, restrictions and prohibition regulations

none

15.2. Chemical Safety Assessment

For this preparation a chemical safety assessment has been carried out. -

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Relevant H- and EUH-phrases (Number and full text):

Hazard statements

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Training advice

none

Recommended restrictions of use:

refer to chapter 1.

Further remarks:

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.

Documentation of changes:

none

Key literature references and sources for data

Data arise from reference works and literature.

Abbreviations and acronyms

none