

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

1.1. Product identifier

Product form : Substance
Substance name : DENSURF TBT

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

Main use category : Chemical substance, Industrial use
Use of the substance/mixture : Adhesives and sealants

1.3. Details of the supplier of the safety data sheet

DENGE KİMYA VE TEKSTİL SAN. TİC. A.Ş.
Velimeşe Organize Sanayi Bölgesi Mah.
259.Sok. No:4/1
Ergene TEKİRDAĞ TÜRKİYE
T +90 (0282) 674 54 00 - F +90 (0282) 674 50 01
mduvenci@dengekimya.com - www.densurf.com

1.4. Emergency telephone number

No additional information available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Classification, Labelling and Packaging of Substances and Mixtures (SEA) Regulation published in the Official Journal numbered 28848 on December 11, 2013.

Flammable liquids, Category 3	H226
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 1	H318
Specific target organ toxicity – Single exposure, Category 3, Narcosis	H336
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335

Full text of H-statements: see section 16

Adverse physicochemical, human health and environmental effects : May cause drowsiness or dizziness. May cause respiratory irritation. Causes skin irritation. Causes serious eye damage.

2.2. Label elements

Classification according to Classification, Labelling and Packaging of Substances and Mixtures (SEA) Regulation published in the Official Journal numbered 28848 on December 11, 2013.

Hazard pictograms (SEA) :



Signal word (SEA) :

Hazard statements (SEA) :

Danger
H226 - Flammable liquid and vapour.
H315 - Causes skin irritation.
H318 - Causes serious eye damage.
H335 - May cause respiratory irritation.
H336 - May cause drowsiness or dizziness.

Precautionary statements (SEA) : 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.
 P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
 P264 - Wash hands, forearms and face thoroughly after handling.

2.3. Other hazards

Other hazards not contributing to the classification

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : DENSURF TBT

Name	Product identifier	%	Classification according to Classification, Labelling and Packaging of Substances and Mixtures (SEA) Regulation published in the Official Journal numbered 28848 on December 11, 2013.
Titanium tetrabutanolate	CAS-No.: 5593-70-4 EC-No.: 227-006-8	100	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H336 STOT SE 3, H335

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Call a poison center or a doctor if you feel unwell. If medical advice is needed, have product container or label at hand. If you feel unwell, seek medical advice (show the label where possible). Never give anything by mouth to an unconscious person. People with over sensibility problems are not allowed to work or be exposed to the product.

First-aid measures after inhalation : Call a poison center or a doctor if you feel unwell. If experiencing respiratory symptoms: Call a poison center or a doctor. Remove person to fresh air and keep comfortable for breathing. Allow the victim to rest.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention. After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Do not remove clothing if it sticks to the skin.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately. Obtain medical attention if pain, blinking or redness persists. Consult an ophthalmologist if irritation persists.

First-aid measures after ingestion : Rinse mouth out with water. Do not induce vomiting. Get medical advice/attention if you feel unwell.

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

Symptoms/effects	: May cause drowsiness or dizziness.
Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Irritation.
Symptoms/effects after eye contact	: Serious damage to eyes.

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 spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: Toxic fumes may be released.
--	--------------------------------

5.3. Advice for firefighters

Precautionary measures fire	: Do not allow contact with air. Keep container tightly closed and away from heat, sparks and flame. Keep container closed when not in use.
Firefighting instructions	: In case of fire: stop leak if safe to do so. Cool laterally with water containers exposed to flames, even after the fire is extinguished. Prevent fire fighting water from entering the environment.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
Other information	: On exposure to high temperature, may decompose, releasing toxic gases.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Evacuate area. Avoid contact with skin and eyes. Do not handle until all safety precautions have been read and understood. Stop leak if safe to do so. Absorb spillage to prevent material damage. Isolate from fire, if possible, without unnecessary risk. No open flames. No smoking.
------------------	--

6.1.1. For non-emergency personnel

Emergency procedures	: Ventilate spillage area. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. Avoid contact with skin, eyes and clothing. Evacuate unnecessary personnel. Only qualified personnel equipped with suitable protective equipment may intervene.
----------------------	--

6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. Wear recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Evacuate unnecessary personnel. Stop leak if safe to do so. Use grounded electrical/mechanical equipment. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

6.2. Environmental precautions

Avoid release to the environment. Prevent liquid from entering sewers, watercourses, underground or low areas. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- For containment : Consult an expert on waste disposal or treatment. Do not touch or walk on the spilled product. Cover spill with non combustible material, e.g.: sand, earth, vermiculite. Collect spillage. Using a clean shovel, put the material in a dry container and cover without compressing it. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
- Methods for cleaning up : If the product is liquid. Soak up with inert absorbent material (for example sand, sawdust, a universal binder, silica gel). If the product is solid. Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal.
- Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. Wear personal protective equipment.
- Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Remove contaminated clothes.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Store in a well-ventilated place. Keep container tightly closed. Comply with applicable regulations. Take precautionary measures against static discharge.
- Storage conditions : Store locked up. Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Store in a closed container. Protect from moisture. Keep only in original container.
- Incompatible products : Refer to the detailed list of incompatible materials in section 10 Stability/Reactivity.
- Incompatible materials : For further information, refer to section 10 : "Stability and Reactivity".
- Storage area : Store away from heat. Store in a well-ventilated place.
- Packaging materials : Keep only in the original container in a cool, well-ventilated place away from combustible materials.
- Storage class (LGK, TRGS 510) : LGK 3 - Flammable liquids

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

- Appropriate engineering controls : Measure concentrations regularly, and at the time of any change occurring in conditions likely to have consequences on workers exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure that there is a suitable ventilation system.
- Personal protective equipment : Gloves. Protective goggles. Wear a mask. Protective clothing.
- Hand protection : Protective gloves

Eye protection : Safety glasses
Skin and body protection : Wear suitable protective clothing
Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s)



Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Clear liquid.
Colour : Yellow
Odour : Mixture contains one or more component(s) which have the following odour:
Odour threshold : No data available
pH : <
Relative evaporation rate (butylacetate=1) : No data available
Melting point : Not applicable
Freezing point : No data available
Boiling point : No data available
Flash point : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability : Not applicable
Vapour pressure : No data available
Relative vapour density at 20°C : No data available
Relative density : No data available
Solubility : No data available
Partition coefficient n-octanol/water (Log Pow) : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidising properties : No data available
Explosive limits : No data available

9.2. Other information

Refracto : 80±2
Ionic Structure :

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Causes skin irritation. pH: <
Serious eye damage/irritation	: Causes serious eye damage. pH: <
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause drowsiness or dizziness. May cause respiratory irritation.

Titanium tetrabutanolate (5593-70-4)

STOT-single exposure	May cause drowsiness or dizziness. May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

DENSURF TBT

Bioaccumulative potential	No additional information available
---------------------------	-------------------------------------

12.4. Mobility in soil

DENSURF TBT	
Mobility in soil	No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Ozone : Not classified
Other adverse effects : No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations.
Waste Management Regulation published in the Official Journal numbered 29314 on April 2, 2015.






Waste treatment methods : Assure that emissions are compliant with all applicable air pollution control regulations.
Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations : Avoid release to the environment.

Additional information : Consult an expert on waste disposal or treatment. Do not re-use empty containers.

SECTION 14: Transport information



In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
1993	1993	1993	1993	1993
14.2. UN proper shipping name				
FLAMMABLE LIQUID, N.O.S. (Titanium tetrabutanolate)	FLAMMABLE LIQUID, N.O.S. (Titanium tetrabutanolate)	Flammable liquid, n.o.s. (Titanium tetrabutanolate)	FLAMMABLE LIQUID, N.O.S. (Titanium tetrabutanolate)	FLAMMABLE LIQUID, N.O.S. (Titanium tetrabutanolate)
Transport document description				
UN 1993 FLAMMABLE LIQUID, N.O.S. (Titanium tetrabutanolate), 3, III, (D/E)	UN 1993 FLAMMABLE LIQUID, N.O.S. (Titanium tetrabutanolate), 3, III	UN 1993 Flammable liquid, n.o.s. (Titanium tetrabutanolate), 3, III	UN 1993 FLAMMABLE LIQUID, N.O.S. (Titanium tetrabutanolate), 3, III	UN 1993 FLAMMABLE LIQUID, N.O.S. (Titanium tetrabutanolate), 3, III
14.3. Transport hazard class(es)				
3	3	3	3	3
				
14.4. Packing group				
III	III	III	III	III

ADR	IMDG	IATA	ADN	RID
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR)	: F1
Special provisions (ADR)	: 274, 601
Limited quantities (ADR)	: 5I
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P001, IBC03, LP01, R001
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T4
Portable tank and bulk container special provisions (ADR)	: TP1, TP29
Tank code (ADR)	: LGBF
Vehicle for tank carriage	: FL
Transport category (ADR)	: 3
Special provisions for carriage - Packages (ADR)	: V12
Special provisions for carriage - Operation (ADR)	: S2
Hazard identification number (Kemler No.)	: 30
Orange plates	:  
Tunnel restriction code (ADR)	: D/E

Transport by sea

Special provisions (IMDG)	: 223, 274, 955
Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: LP01, P001
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T4
Tank special provisions (IMDG)	: TP1, TP29
EmS-No. (Fire)	: F-E
EmS-No. (Spillage)	: S-E
Stowage category (IMDG)	: A

Air transport

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y344
PCA limited quantity max net quantity (IATA)	: 10L
PCA packing instructions (IATA)	: 355
PCA max net quantity (IATA)	: 60L
CAO packing instructions (IATA)	: 366
CAO max net quantity (IATA)	: 220L
Special provisions (IATA)	: A3
ERG code (IATA)	: 3L

Inland waterway transport

Classification code (ADN)	: F1
Special provisions (ADN)	: 274, 601

Limited quantities (ADN)	: 5 L
Excepted quantities (ADN)	: E1
Carriage permitted (ADN)	: T
Equipment required (ADN)	: PP, EX, A
Ventilation (ADN)	: VE01
Number of blue cones/lights (ADN)	: 0

Rail transport

Classification code (RID)	: F1
Special provisions (RID)	: 274, 601
Limited quantities (RID)	: 5L
Excepted quantities (RID)	: E1
Packing instructions (RID)	: P001, IBC03, LP01, R001
Mixed packing provisions (RID)	: MP19
Portable tank and bulk container instructions (RID)	: T4
Portable tank and bulk container special provisions (RID)	: TP1, TP29
Tank codes for RID tanks (RID)	: LGBF
Transport category (RID)	: 3
Special provisions for carriage – Packages (RID)	: W12
Colis express (express parcels) (RID)	: CE4
Hazard identification number (RID)	: 30

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

Not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****15.1.1. National regulations**

Local regulations (Turkey)	: Regulation on Transportation of Dangerous Goods by Road published in the Official Journal numbered 28801 on October 24, 2013 Personal Protective Equipment Regulation published in the Official Journal numbered 30761 on May 1, 2019 Regulation on Use of Personal Protective Equipments in Workplaces published in the Official Journal numbered 28695 on July 2, 2013 Occupational Health and Safety Regulation published in the Official Journal numbered 25311 on December 9, 2003 Regulation on Test Methods that will be Applied to Determine the Physicochemical, Toxicological and Ecotoxicological Properties of Substances and Mixtures published in the Official Journal numbered 28848 on December 11, 2013 Regulation on Health and Safety Precautions When Working with Chemical Substances published in the Official Journal numbered 28733 on August 12, 2013 Regulation on Health and Safety Precautions When Working with Carcinogenic and Mutagenic Substances published in the Official Journal numbered 28730 on August 6, 2013 according to By-law on Registration, Evaluation, Authorization and Restriction of Chemicals (O.G: 23.06.2017 - 30105) Waste Management Regulation published in the Official Journal numbered 29314 on April 2, 2015 Classification according to Classification, Labelling and Packaging of Substances and Mixtures (SEA) Regulation published in the Official Journal numbered 28848 on December 11, 2013.
----------------------------	--

This product doesn't contain any substances that is controlled or prohibited for use according to the Regulation on Ozone Depleting Substances published in the Official Journal numbered 30031 on April 7, 2017.

No KKDİK Annex 17 restrictions

DENSURF TBT is not subject to Regulation on Persistent Organic Pollutants (O.G. 14.11.2018-30595)

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number

Abbreviations and acronyms	
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative

Data sources : ECHA (European Chemicals Agency). Classification according to Classification, Labelling and Packaging of Substances and Mixtures (SEA) Regulation published in the Official Journal numbered 28848 on December 11, 2013.

Full text of H- and EUH-statements	
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Flam. Liq. 3	Flammable liquids, Category 3
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.

Safety Data Sheet author's	
Name	MERVE ASLI DÜVENÇİ
Certificate number	LONCA KDU 65/2021.10
Certificate valid until	06/03/2026
Contact information	mduvenci@dengekimya.com

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.