

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

1.1. Product identifier

Product name : DENSURF AF 220
Type of product : Organo-Modified Silicone Copolymer

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

Main use category : Industrial use
Use of the substance/mixture : Deaerating agent

1.3. Details of the supplier of the safety data sheet

Manufacturer

DENGE KİMYA VE TEKSTİL SAN. TİC. A.Ş.
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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.

Not classified

Adverse physicochemical, human health and environmental effects : To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

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.

No labelling applicable

2.3. Other hazards

Other hazards not contributing to the classification

Contains PBT/vPvB substances $\geq 0.1\%$ assessed in accordance with the Regulation on Safety Data Sheets Regarding Hazardous Substances and Mixtures published in the Official Journal numbered 29204 on December 13, 2014

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

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.
Decamethylcyclopentasiloxane substance listed as REACH Candidate PBT substance; vPvB substance	CAS-No.: 541-02-6 EC-No.: 208-764-9	1 – 2,5	Not classified
octamethylcyclotetrasiloxane; [D4] substance listed as REACH Candidate (Octamethylcyclotetrasiloxane) PBT substance; vPvB substance	CAS-No.: 556-67-2 EC-No.: 209-136-7 EC Index-No.: 014-018-00-1 REACH-no: 01-2119529238-36	0,5 – 0,7	Flam. Liq. 3, H226 Repr. 2, H361 Aquatic Chronic 4, H413
Dodecamethylcyclohexasiloxane substance listed as REACH Candidate PBT substance; vPvB substance	CAS-No.: 540-97-6 EC-No.: 208-762-8	0,2 – 0,5	Not classified

Full text of H-statements: see section 16

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.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.

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

No additional information available

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	: Eliminate all ignition sources if safe to do so. Keep container closed when not in use.
Firefighting instructions	: In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. DO NOT fight fire when fire reaches explosives. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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

General measures : Do not handle until all safety precautions have been read and understood. Avoid contact with skin and eyes. Notify authorities if product enters sewers or public waters.

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.
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 : Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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.
Storage conditions : Store in a well-ventilated place. Keep cool.

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 : Ensure good ventilation of the work station.
Personal protective equipment : Gloves. Safety glasses.
Hand protection : Protective gloves
Eye protection : Safety glasses
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	: Slight yellow, blurred liquid.
Colour	: slight yellow
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
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

Solid content (160 °C, 10 min) : 95±2

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

Decamethylcyclopentasiloxane (541-02-6)	
LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	> 2000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	8,67 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: EPA OTS 798.1150 (Acute inhalation toxicity), 95% CL: 7,3 - 10,32

Dodecamethylcyclohexasiloxane (540-97-6)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

octamethylcyclotetrasiloxane; [D4] (556-67-2)	
LD50 oral rat	> 4800 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Remarks on results: other:
LD50 dermal rat	2400 mg/kg
LC50 Inhalation - Rat	36 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Remarks on results: other:

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified

Decamethylcyclopentasiloxane (541-02-6)	
NOAEL (oral, rat, 90 days)	≥ 1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (dermal, rat/rabbit, 90 days)	≥ 1600 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)

Dodecamethylcyclohexasiloxane (540-97-6)	
NOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

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

Decamethylcyclopentasiloxane (541-02-6)	
LC50 - Fish [1]	> 16 µg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	> 2,9 µg/l Test organisms (species): Daphnia magna

Dodecamethylcyclohexasiloxane (540-97-6)	
LC50 - Fish [1]	0,028 mg/l Source: Ecological Structure Activity Relationships
EC50 96h - Algae [1]	0,033 mg/l Source: Ecological Structure Activity Relationships

octamethylcyclotetrasiloxane; [D4] (556-67-2)	
LC50 - Fish [1]	> 22 µg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	> 15 µg/l Test organisms (species): Daphnia magna

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

DENSURF AF 220	
Bioaccumulative potential	No additional information available

Decamethylcyclopentasiloxane (541-02-6)	
Partition coefficient n-octanol/water (Log Pow)	5,2 Source: Corporate Solution From Thomson Micromedex

Dodecamethylcyclohexasiloxane (540-97-6)	
Partition coefficient n-octanol/water (Log Pow)	6,33 Source: National Library of Medicine

octamethylcyclotetrasiloxane; [D4] (556-67-2)	
Partition coefficient n-octanol/water (Log Pow)	5,1

12.4. Mobility in soil

DENSURF AF 220	
Mobility in soil	No additional information available

Decamethylcyclopentasiloxane (541-02-6)	
Mobility in soil	16000 Source: HSDB
Dodecamethylcyclohexasiloxane (540-97-6)	
Mobility in soil	79000 Source: HSDB

12.5. Results of PBT and vPvB assessment

No additional information available

Component	
Decamethylcyclopentasiloxane (541-02-6)	This substance/mixture meets the PBT criteria according to the Regulation on Safety Data Sheets Regarding Hazardous Substances and Mixtures published in the Official Journal numbered 29204 on December 13, 2014 This substance/mixture meets the vPvB criteria according to the Regulation on Safety Data Sheets Regarding Hazardous Substances and Mixtures published in the Official Journal numbered 29204 on December 13, 2014
Dodecamethylcyclohexasiloxane (540-97-6)	This substance/mixture meets the PBT criteria according to the Regulation on Safety Data Sheets Regarding Hazardous Substances and Mixtures published in the Official Journal numbered 29204 on December 13, 2014 This substance/mixture meets the vPvB criteria according to the Regulation on Safety Data Sheets Regarding Hazardous Substances and Mixtures published in the Official Journal numbered 29204 on December 13, 2014
octamethylcyclotetrasiloxane; [D4] (556-67-2)	This substance/mixture meets the PBT criteria according to the Regulation on Safety Data Sheets Regarding Hazardous Substances and Mixtures published in the Official Journal numbered 29204 on December 13, 2014 This substance/mixture meets the vPvB criteria according to the Regulation on Safety Data Sheets Regarding Hazardous Substances and Mixtures published in the Official Journal numbered 29204 on December 13, 2014

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 : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not regulated for transport				
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

ADR	IMDG	IATA	ADN	RID
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
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

No data available

Transport by sea

No data available

Air transport

No data available

Inland waterway transport

No data available

Rail transport

No data available

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) :

- : Personal Protective Equipment Regulation published in the Official Journal numbered 30761 on May 1, 2019
- Classification according to Classification, Labelling and Packaging of Substances and Mixtures (SEA) Regulation published in the Official Journal numbered 28848 on December 11, 2013.
- 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
- Waste Management Regulation published in the Official Journal numbered 29314 on April 2, 2015
- according to By-law on Registration, Evaluation, Authorization and Restriction of Chemicals (O.G: 23.06.2017 - 30105).

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.

Substance(s) are not subject to Regulation on Persistent Organic Pollutants (O.G. 14.11.2018-30595)

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
N.O.S.	Not Otherwise Specified

Abbreviations and acronyms

vPvB	Very Persistent and Very Bioaccumulative
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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

Aquatic Chronic 4	Hazardous to the aquatic environment – Chronic Hazard, Category 4
Flam. Liq. 3	Flammable liquids, Category 3
Repr. 2	Reproductive toxicity, Category 2
H226	Flammable liquid and vapour.
H361	Suspected of damaging fertility or the unborn child.
H413	May cause long lasting harmful effects to aquatic life.

Safety Data Sheet author's

Name	DEREN ERCAN
Certificate number	LONCA KDU 81/2021.26
Certificate valid until	14/10/2026
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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.