

SAFETY DATA SHEET

1. Identification

Product identifier: SURFYNOL® AD-01

Chemical name: Alkane diol

Other means of identification

Recommended use: Industrial use

Recommended restrictions: None known.

Manufacturer/Importer/Distributor Information

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Germany

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2. Hazard(s) identification

Classification according to GHS

Health Hazards

Acute toxicity (Oral)	Category 5
Acute toxicity (Dermal)	Category 5
Serious Eye Damage/Eye Irritation	Category 2A

Environmental Hazards

Acute hazards to the aquatic environment	Category 3
Chronic hazards to the aquatic environment	Category 3

Label Elements

Hazard Symbol:



Signal Word: Warning

Hazard Statement: May be harmful if swallowed or in contact with skin.
 Causes serious eye irritation.
 Harmful to aquatic life with long lasting effects.

Precautionary Statements

Prevention: Wash face, hands and any exposed skin thoroughly after handling. Avoid release to the environment. Wear eye protection/face protection.

Response: Call a POISON CENTER or doctor/ physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Disposal: Dispose of contents/ container to an approved facility in accordance with local, regional, national and international regulations.

Other hazards: None known.

3. Composition/information on ingredients

Chemical name:
 Alkane diol

Substances

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%) [*]
2,4,7,9-Tetramethyl-4,7-Decanediol		17913-76-7	>60%

^{*} All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

The exact concentration has been withheld as a trade secret.

4. First-aid measures

Description of necessary first-aid measures

General information: Immediately remove contaminated clothing.

Inhalation:	fresh air supply, consult a doctor if feeling unwell.
Skin Contact:	In case of contact with skin wash off with soap and water. In case of discomfort: Supply with medical care.
Eye contact:	In case of contact with eyes rinse thoroughly with plenty of water. If symptoms persist, seek medical advice.
Ingestion:	Thoroughly clean the mouth with water In case of discomfort: Supply with medical care.
Personal Protection for First-aid Responders:	No data available.

Most important symptoms and effects, both acute and delayed

Symptoms:	Serious eye irritation
Hazards:	No data available.

Indication of immediate medical attention and special treatment needed

Treatment:	Treat symptomatically.
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5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: foam, carbon dioxide, dry powder, water spray.

Unsuitable extinguishing media: High volume water jet.

Special hazards arising from the substance or mixture:

In the event of fire the following can be released: - carbon dioxide, carbon monoxide Under certain conditions of combustion traces of other toxic substances cannot be excluded

Special protective equipment and precautions for fire-fighters

Special fire-fighting procedures: No specific precautions.

Special protective equipment for fire-fighters:

Do not inhale explosion and/or combustion gases. Use self-contained breathing apparatus and wear protective suit

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Use personal protective equipment.

Accidental release measures:

No data available.

Methods and material for containment and cleaning up:

Pick up with absorbent material (e.g. sand, sawdust, general-purpose binder). Dispose of absorbed material in accordance with the regulations.

Environmental Precautions: Do not allow to enter drains or waterways Prevent product from getting into subsoil/soil.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation):

No data available.

Safe handling advice:

Provide good ventilation of working area (local exhaust ventilation if necessary). Avoid contact with skin and eyes. Do not inhale gases/vapours/aerosols.

Contact avoidance measures:

No data available.

Storage

Safe storage conditions:

Keep container tightly closed in a cool, well-ventilated place. Do not store together with oxidizing agents.

Safe packaging materials:

No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Observe national threshold limit values.

Biological Limit Values

Observe national threshold limit values.

Appropriate Engineering Controls

No data available.

Individual protection measures, such as personal protective equipment

General information:

No data available.

Eye/face protection:

Safety glasses

Skin Protection

Hand Protection:

Additional Information: gloves made of chloroprene (CR, e.g. Neoprene), gloves made of nitril (NBR)

Other:

protective clothing

Respiratory Protection:

in case of formation of vapours/aerosols: Short term: filter apparatus, combination filter A-P2

Hygiene measures:

Wash hands before breaks and at the end of workday. When using do not eat, drink or smoke. Remove soiled or soaked clothing immediately.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Physical state:	liquid
Form:	Viscous Liquid
Color:	White
Odor:	of methanol
Odor Threshold:	not measured
Freezing point:	-35 °F/-37 °C (EC Method A.1)
Boiling Point:	532 °F/278 °C (OECD 103)
Flammability:	not measured

Upper/lower limit on flammability or explosive limits

Explosive limit - upper:	not measured
Explosive limit - lower:	not measured
Flash Point:	> 230 °F/> 110 °C (EC Method A.9) 279 °F/137 °C
Self Ignition Temperature:	725 °F/385 °C (1.013 hPa, EC Method A.15)
Decomposition Temperature:	536 °F/280 °C
pH:	7 (10 g/l, 25 °C) in Water

Viscosity

Dynamic viscosity:	1.131 mPa.s (77 °F/25 °C) 150 mPa.s (104 °F/40 °C)
Kinematic viscosity:	165 mm ² /s (104 °F/40 °C)
Flow Time:	No data available.

Solubility(ies)

Solubility in Water:	Approximate 1,57 g/l (67,6 °F/19,8 °C, OECD 105)
Solubility (other):	not measured
Partition coefficient (n-octanol/water):	3,8 (OECD 117)
Vapor pressure:	Approximate 0,00019 hPa (68 °F/20 °C) (OECD 104) 15,3 mbar (302 °F/150 °C)
Relative density:	not measured
Density:	0,9 g/cm ³ (77 °F/25 °C) (EC Method A.3) 0,904 g/cm ³ (70,0 °F/21,1 °C)
Bulk density:	No data available.
Relative vapor density:	not measured

Other information

Explosive properties:	not measured
Oxidizing properties:	not oxidizing
Minimum ignition temperature:	725 °F/385 °C (EC Method A.15)
Metal Corrosion:	Not corrosive to metals
Evaporation Rate:	not measured
Surface tension	33,4 mN/m, 1,4 mg/l, 68 °F/20 °C, OECD 115

10. Stability and reactivity

Reactivity:	see section "Possibility of hazardous reactions".
Chemical Stability:	The product is stable under normal conditions.
Possibility of hazardous reactions:	No hazardous reactions with proper storage and handling
Conditions to avoid:	None with proper storage and handling.
Incompatible Materials:	Oxidizing agents.
Hazardous Decomposition Products:	None with proper storage and handling.

11. Toxicological information

Information on toxicological effects

Information on likely routes of exposure

Inhalation:	Information on effects are given below.
Skin Contact:	Information on effects are given below.
Eye contact:	Information on effects are given below.
Ingestion:	Information on effects are given below.

Acute toxicity (list all possible routes of exposure)

Oral

Product:	LD 50 (Rat, Female, Male): > 2.000 mg/kg (OECD 423)
Components:	
2,4,7,9-Tetramethyl-4,7-Decanediol	LD 50 (Rat): > 2.000 mg/kg

Dermal

Product:	LD 50 (Rat, Female, Male): > 2.000 mg/kg (OECD 402)
Components:	
2,4,7,9-Tetramethyl-4,7-Decanediol	LD 50 (Rat): > 2.000 mg/kg

Inhalation

Product:	No data available.
Components:	
2,4,7,9-Tetramethyl-4,7-Decanediol	Vapour, No data available. Dusts, mists and fumes, No data available.

Repeated dose toxicity

Product:	No data available.
Components:	
2,4,7,9-Tetramethyl-4,7-	No data available.

Decanediol

Skin Corrosion/Irritation

Not irritating

Product: OECD 404 (Rabbit, 4 h): Not irritating;
Components:
 2,4,7,9-Tetramethyl-4,7-Decanediol OECD 404 (Rabbit): Not irritating , 4 h

Serious Eye Damage/Eye Irritation

Irritating.

Product: OECD 405 (Rabbit): Irritating.;
Components:
 2,4,7,9-Tetramethyl-4,7-Decanediol OECD 405 (Rabbit): Irritating.

Respiratory or Skin Sensitization

Not a skin sensitizer.

Product: Local Lymph Node Assay (LLNA), OECD 429 (Mouse): Not a skin sensitizer.
Components:
 2,4,7,9-Tetramethyl-4,7-Decanediol Local Lymph Node Assay (LLNA), OECD 429 (Mouse): Not a skin sensitizer.

Carcinogenicity

Product: No data available.
Components:
 2,4,7,9-Tetramethyl-4,7-Decanediol No data available.

Germ Cell Mutagenicity

No data available.

In vitro

Product: Chromosomal aberration (OECD 473): negative;
 Bacterial reverse mutation assay (OECD 471): negative;
 gene mutation test (OECD 476): negative; The data are derived from the evaluations or test results achieved with similar products (conclusion by analogy).;

Components:
 2,4,7,9-Tetramethyl-4,7-Decanediol Chromosomal aberration (OECD 473): negative
 Ames test (OECD 471): negative
 gene mutation test (OECD 476): (analogy)

In vivo

Product: No data available.

Components:
 2,4,7,9-Tetramethyl-4,7-Decanediol No data available.

Reproductive toxicity

Product: No data available.
Components:

2,4,7,9-Tetramethyl-4,7-
Decanediol Oral

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Components:
2,4,7,9-Tetramethyl-4,7-
Decanediol No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Components:
2,4,7,9-Tetramethyl-4,7-
Decanediol No data available.

Aspiration Hazard

Product: Not classified

Components:
2,4,7,9-Tetramethyl-4,7-
Decanediol Not classified

Information on health hazards

Other hazards

Product: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: LC 50 (Oncorhynchus mykiss, 96 h): Approximate 53,2 mg/l

Components:

2,4,7,9-Tetramethyl-4,7-
Decanediol LC 50 (Oncorhynchus mykiss, 96 h): Approximate 53,2 mg/l

Aquatic Invertebrates

Product: EC 50 (Daphnia magna, 48 h): Approximate 127 mg/l

Components:

2,4,7,9-Tetramethyl-4,7-
Decanediol EC 50 (Daphnia magna, 48 h): Approximate 127 mg/l

Toxicity to Aquatic Plants

Product: ErC50 (Algae (Pseudokirchneriella subcapitata), 72 h): 127 mg/l (OECD 201)

Components:

2,4,7,9-Tetramethyl-4,7-
Decanediol EC 50 (Algae (Pseudokirchneriella subcapitata), 72 h): Approximate 127 mg/l (OECD 201)

Toxicity to microorganisms

Product: EC 50 (activated sludge, 3 h): > 1.000 mg/l (OECD 209)

Components:

2,4,7,9-Tetramethyl-4,7-Decanediol EC 50 (activated sludge, 3 h): > 1.000 mg/l (OECD 209)

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Components:
 2,4,7,9-Tetramethyl-4,7-Decanediol No data available.

Aquatic Invertebrates

Product: No data available.

Components:
 2,4,7,9-Tetramethyl-4,7-Decanediol No data available.

Toxicity to Aquatic Plants

Product: No data available.

Components:
 2,4,7,9-Tetramethyl-4,7-Decanediol NOEC (Algae (*Pseudokirchneriella subcapitata*), 72 h): 6,25 mg/l (OECD 201)

Toxicity to microorganisms

Product: EC 50 (activated sludge, 3 h): > 1.000 mg/l (OECD 209)

Components:
 2,4,7,9-Tetramethyl-4,7-Decanediol EC 50 (activated sludge, 3 h): > 1.000 mg/l (OECD 209)

Persistence and Degradability

Biodegradation

Product: 44 % (28 d, OECD 301 F) The product is not biodegradable.

Components:
 2,4,7,9-Tetramethyl-4,7-Decanediol 44 % (28 d, OECD 301 F) The product is not biodegradable., aerobic

BOD/COD Ratio

Product: No data available.

Components:
 2,4,7,9-Tetramethyl-4,7-Decanediol No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Components:
 2,4,7,9-Tetramethyl-4,7-Decanediol No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: Log Kow: 3,8 25 °C (OECD 117)

Components:
 2,4,7,9-Tetramethyl-4,7-Decanediol Log Kow: 3,8 25 °C (OECD 117)

Mobility in soil:

Product No data available.

Components:
2,4,7,9-Tetramethyl-4,7-
Decanediol No data available.

Product No data available.

Components:
2,4,7,9-Tetramethyl-4,7-
Decanediol No data available.

Other adverse effects:

Other hazards

Product: Do not allow to enter soil, waterways or waste water canal.

13. Disposal considerations

Disposal methods: In accordance with local authority regulations, take to special waste incineration plant

Contaminated Packaging: If empty contaminated containers are recycled or disposed of, the receiver must be informed about possible hazards.

14. Transport information

International Regulations

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

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

Not applicable for product as supplied.

15. Regulatory information

16. Other information, including date of preparation or last revision

Issue Date: 26.03.2019

Version #: 1.4

Further Information: No data available.

Revision Information: Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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