



Das Original

AFD 2000

Safety Data Sheet

according to Regulation (EU) No. 2015/830

Date of issue: 2014-04-09

Revision date: 2019-09-13

Version: 5.0

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

1.1. Product identifier

Product form : Mixture
Product name : AFD 2000

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

1.2.1. Relevant identified uses

Intended for general public
Use of the substance/mixture : Sealants
Adhesives

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

ElringKlinger AG
Max-Eyth-Straße 2
72581 Dettingen/Erms - Germany

Information contact: E-mail: det.iam.sdb@elringklinger.com

Safety Data Sheet: DLAC Dienstleistungsagentur Chemie GmbH, E-mail: sds@dlac-gmbh.de

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number
Germany	Giftinformationszentrum (GIZ-Nord) Zentrum Pharmakologie und Toxikologie der Universität Göttingen	Robert-Koch Strasse 40 D-37075 Göttingen	+49 551 19240 (German/English)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Eye Irrit. 2 H319
Skin Sens. 1 H317
STOT SE 3 H335

Full text of H-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS07

Signal word (CLP) : Warning
Hazardous ingredients : hydroxypropyl methacrylate, 2,2'-ethylenedioxydiethylmethacrylate, α,α -dimethylbenzyl hydroperoxide, 2'-phenylacetohydrazide
Hazard statements (CLP) : H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
Precautionary statements (CLP) : P101 - If medical advice is needed, have product container or label at hand
P102 - Keep out of reach of children
P271 - Use only outdoors or in a well-ventilated area
P312 - Call a POISON CENTRE/doctor if you feel unwell
P405 - Store locked up
P501 - Dispose of contents/container to an authorised waste collection point

2.3. Other hazards

No additional information available

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SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Hydroxypropyl methacrylate	(CAS no) 27813-02-1 (EC no) 248-666-3 (REACH-no) 01-2119490226-37	20 - 35	Eye Irrit. 2, H319 Skin Sens. 1, H317
2,2'-ethylenedioxydiethyldimethacrylate	(CAS no) 109-16-0 (EC no) 203-652-6 (REACH-no) 01-2119969287-21	5 - 25	Skin Sens. 1B, H317
α,α -dimethylbenzyl hydroperoxide, cumene hydroperoxide	(CAS no) 80-15-9 (EC no) 201-254-7 (EC index no) 617-002-00-8	≤ 1	Org. Perox. E, H242 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 3 (Inhalation:dust,mist), H331 Skin Corr. 1B, H314 STOT RE 2, H373 Aquatic Chronic 2, H411
2'-phenylacetohydrazide	(CAS no) 114-83-0 (EC no) 204-055-3	0.1 - 1	Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT SE 3, H335
1,4-dihydroxybenzene, hydroquinone, quinol	(CAS no) 123-31-9 (EC no) 204-617-8 (EC index no) 604-005-00-4	0.01 - 0.05	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 Skin Sens. 1B, H317 Muta. 2, H341 Carc. 2, H351 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410
Name	Product identifier	Specific concentration limits according to Regulation (EC) No. 1272/2008 [CLP]	
α,α -dimethylbenzyl hydroperoxide, cumene hydroperoxide	(CAS no) 80-15-9 (EC no) 201-254-7 (EC index no) 617-002-00-8	(1 \leq C < 3) Eye Irrit. 2, H319 (C < 10) STOT SE 3, H335 (3 \leq C < 10) Skin Irrit. 2, H315 (3 \leq C < 10) Eye Dam. 1, H318 (C \geq 10) Skin Corr. 1B, H314	

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Remove/Take off immediately all contaminated clothing.
- First-aid measures after inhalation : Allow victim to breathe fresh air.
- First-aid measures after skin contact : Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.
- First-aid measures after eye contact : 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.
- First-aid measures after ingestion : Do NOT induce vomiting. Rinse mouth. Drink plenty of water as a precaution. Get medical advice/attention.

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

- Symptoms/injuries after inhalation : May cause respiratory irritation.
- Symptoms/injuries after skin contact : May cause an allergic skin reaction.
- Symptoms/injuries after eye contact : Causes serious eye irritation.

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

Treat symptomatically. If possible show him this sheet. Failing this, show him the packaging or label.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Carbon dioxide. extinguishing powder. Water spray. Foam.
- 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 : Carbon dioxide. Carbon monoxide. Nitrogen oxides.

5.3. Advice for firefighters

- Firefighting instructions : Do not dispose of fire-fighting water in the environment. Dispose in a safe manner in accordance with local/national regulations.

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Protection during firefighting : Use a self-contained breathing apparatus and also a protective suit. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protective equipment as required. Provide adequate ventilation.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate the danger area.

6.1.2. For emergency responders

Protective equipment : Wear suitable respiratory equipment in case of insufficient ventilation.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Contain the spilled material by bunding.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up small spills with dry chemical absorbent. Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal.

6.4. Reference to other sections

Concerning personal protective equipment to use, see section 8. Concerning disposal elimination after cleaning, see 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. Keep away from sources of ignition - No smoking.

Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Take off contaminated clothing and wash it before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. When using do not eat, drink or smoke.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in original container. Store in dry, cool, well-ventilated area. Keep container tightly closed. Protect from sunlight.

Storage temperature : 15 - 25 °C

Prohibitions on mixed storage : Keep away from food, drink and animal feedingstuffs. Do not store near oxidizing agents or acidic material.

7.3. Specific end use(s)

Sealants. Adhesives.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

1,4-dihydroxybenzene, hydroquinone, quinol (123-31-9)		
Ireland	Local name	Hydroquinone
Ireland	OEL (8 hours ref) (mg/m ³)	0.5 mg/m ³
Ireland	Notes (IE)	Sens.
United Kingdom	Local name	Hydroquinone
United Kingdom	WEL TWA (mg/m ³)	0.5 mg/m ³
Hydroxypropyl methacrylate (27813-02-1)		
DNEL/DMEL (Workers)		
Long-term - systemic effects, dermal	4.2 mg/kg bodyweight/day	
Long-term - systemic effects, inhalation	14.7 mg/m ³	
DNEL/DMEL (General population)		
Long-term - systemic effects, oral	2.5 mg/kg bodyweight/day	
Long-term - systemic effects, inhalation	8.8 mg/m ³	
Long-term - systemic effects, dermal	2.5 mg/kg bodyweight/day	
PNEC (Water)		
PNEC aqua (freshwater)	0.904 mg/l	
PNEC aqua (marine water)	0.904 mg/l	
PNEC (Sediment)		
PNEC sediment (freshwater)	6.28 mg/kg dwt	
PNEC sediment (marine water)	6.28 mg/kg dwt	
PNEC (Soil)		
PNEC soil	0.727 mg/kg dwt	

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Hydroxypropyl methacrylate (27813-02-1)	
PNEC (STP)	
PNEC sewage treatment plant	10 mg/l
2,2'-ethylenedioxydiethylmethacrylate (109-16-0)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	13.9 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	48.5 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	8.33 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	14.5 mg/m ³
Long-term - systemic effects, dermal	8.33 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.016 mg/l
PNEC aqua (marine water)	0.002 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0.185 mg/kg dwt
PNEC sediment (marine water)	0.018 mg/kg dwt
PNEC (Soil)	
PNEC soil	0.027 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	1.7 mg/l

8.2. Exposure controls

Hand protection	: Wear suitable gloves (to European standard EN 374 or equivalent). Butyl rubber. Nitrile rubber. > 0,4 mm. The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
Eye protection	: Chemical goggles or safety glasses (EN 166).
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: Ensure good ventilation of the work station. In case of inadequate ventilation wear respiratory protection. Gas mask with filter type A.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	: Liquid. Paste. Green.
Odour	: Characteristic
Odour threshold	: No data available
pH	: No data available
Melting point/freezing point	: No data available
Initial boiling point and boiling range	: 261 °C
Flash point	: 95 °C
Evaporation rate	: No data available
Flammability (solid, gas)	: Not applicable
Upper/lower flammability or explosive limits	: No data available
Vapour pressure	: No data available
Vapour density	: No data available
Relative density	: 1.1 g/cm ³
Solubility(ies)	: Water: partly soluble
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: > 400 °C
Decomposition temperature	: No data available
Viscosity	: 17000 - 50000 mPa.s (25 °C) (dynamic)
Explosive properties	: No data available
Oxidising properties	: No

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts with: Oxidizer. Acids. At high temperatures: Polymerization.

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10.2. Chemical stability

Stable under use and storage conditions as recommended in section 7.

10.3. Possibility of hazardous reactions

No dangerous reactions known.

10.4. Conditions to avoid

Extremely high or low temperatures.

10.5. Incompatible materials

Metals. Oxidizing agent. Strong acids.

10.6. Hazardous decomposition products

Irritating vapours. Carbon dioxide. Carbon monoxide. Nitrogen oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Hydroxypropyl methacrylate (27813-02-1)

LD50 oral rat	> 2000 mg/kg (OECD 401)
LD50 dermal rabbit	> 5000 mg/kg

2,2'-ethylenedioxydiethylmethacrylate (109-16-0)

LD50 oral rat	10837 mg/kg
LD50 dermal mouse	> 2000 mg/kg

α,α -dimethylbenzyl hydroperoxide, cumene hydroperoxide (80-15-9)

LD50 oral rat	382 mg/kg
LC50 inhalation rat	220 ppm/4 h

Skin corrosion/irritation	: Not classified Based on available data, the classification criteria are not met
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified Based on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	: May cause respiratory irritation.
Specific target organ toxicity (repeated exposure)	: Not classified Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified Based on available data, the classification criteria are not met
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified

Hydroxypropyl methacrylate (27813-02-1)

LC50 fish	493 mg/l 48 h <i>Leuciscus idus melanotus</i> (DIN 38412-15)
EC50 daphnia	> 143 mg/l 48 h <i>Daphnia magna</i> (OECD 202)
NOEC daphnia	45.2 mg/l 21 d <i>Daphnia magna</i> (OECD 202)
NOEC algae	> 97.2 mg/l 72 h <i>Pseudokirchneriella subcapitata</i> (OECD 201)

2,2'-ethylenedioxydiethylmethacrylate (109-16-0)

LC50 fish	16.4 mg/l 96 h <i>Danio rerio</i> (OECD 203)
EC50 daphnia	51.9 mg/l 21 d <i>Daphnia magna</i> (OECD 211)
ErC50 algae	> 100 mg/l 72 h <i>Pseudokirchneriella subcapitata</i> (OECD 201)

α,α -dimethylbenzyl hydroperoxide, cumene hydroperoxide (80-15-9)

LC50 fish	3.9 mg/l 96 h <i>Oncorhynchus mykiss</i> (OECD 203)
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α,α-dimethylbenzyl hydroperoxide, cumene hydroperoxide (80-15-9)	
EC50 daphnia	18.84 mg/l 48 h Daphnia magna (OECD 202)
ErC50 algae	3.1 mg/l 72 h Scenedesmus subspicatus (OECD 201)

12.2. Persistence and degradability

Hydroxypropyl methacrylate (27813-02-1)	
Persistence and degradability	Readily biodegradable.
Biodegradation	94.2 % (OECD 301 E)

2,2'-ethylenedioxydiethyldimethacrylate (109-16-0)	
Persistence and degradability	Readily biodegradable.
Biodegradation	85 % (OECD 301 B)

α,α-dimethylbenzyl hydroperoxide, cumene hydroperoxide (80-15-9)	
Persistence and degradability	May cause long-term adverse effects in the environment.
Biodegradation	2-7 % (OECD 301 B)

12.3. Bioaccumulative potential

Hydroxypropyl methacrylate (27813-02-1)	
Log Kow	0.97

2,2'-ethylenedioxydiethyldimethacrylate (109-16-0)	
Log Kow	1.88

α,α-dimethylbenzyl hydroperoxide, cumene hydroperoxide (80-15-9)	
Bioconcentration factor (BCF REACH)	9
Log Kow	2.16

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. 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 disposal recommendations	: Empty the packaging completely prior to disposal. When totally empty, containers are recyclable like any other packing.
European List of Waste (LoW) code	: 08 00 00 - WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS 08 04 00 - wastes from MFSU of adhesives and sealants (including waterproofing products) 08 04 09* - waste adhesives and sealants containing organic solvents or other dangerous substances
Waste code number	: The valid EWC waste code numbers are source related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available.

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14.6. Special precautions for user

14.6.1. Overland transport

Not applicable

14.6.2. Transport by sea

Not applicable

14.6.3. Air transport

Not applicable

14.7. Transport in bulk according to Annex II of MARPOL 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. EU-Regulations

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out

SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Changes compared to the previous version : Section 2: Hazards identification
Section 3: Composition/information on ingredients
Section 8: Exposure controls/personal protection
Section 11: Toxicological information
Section 12: Ecological information
Section 16: Full text of H- and EUH-phrases

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
BCF	Biological concentration factor
DNEL	Derived-No Effect Level
EC50	Median effective concentration
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
NOEC	No-Observed Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
LOAEL	Lowest Observed Adverse Effect Level
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
STP	Sewage treatment plant
vPvB	Very Persistent and Very Bioaccumulative

Full text of H- and EUH-phrases:

Acute Tox. 3 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1

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Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Carc. 2	Carcinogenicity, Hazard Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Muta. 2	Germ cell mutagenicity, Hazard Category 2
Org. Perox. E	Organic Peroxides, Type E
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Sensitisation — Skin, category 1
Skin Sens. 1B	Sensitisation — Skin, category 1B
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H242	Heating may cause a fire
H301	Toxic if swallowed
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H331	Toxic if inhaled
H335	May cause respiratory irritation
H341	Suspected of causing genetic defects
H351	Suspected of causing cancer
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects

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