Version: 06.2023
Rev.0

Material safety data sheet

According to EU Regulation 1907/2006 in the current version

BENZYL ALCOHOL DHA

1. Identification of the substance/mixture and company

Trade name:	Benzyl alcohol DHA Broad spectrum preservative
INCI	Benzyl Alcohol, Dehydroacetic Acid, Water
CAS No. :	100-51-6/ 520-45-6
EINESCS/EC No. :	202-859-9/ 208-293-9
REACH registration No. :	01-2119492630-38-XXXX / 01-2120747930-51-XXXX
Utilization:	Raw material for cosmetics, personal care
Supplier company identification:	Elemental SRL, Piața Cazărmii no.15, 410188-Oradea, jud.Bihor, Romania Tel/Fax: +40259-436.755, www.ellemental.com
Emergency:	RO: număr național pentru cazuri de urgență: 021 3183606 Institutul de Sănătate Publică București. International emergency number: +49 180 2273-112

2. Hazards Identification

2.1 Classification of the substance or mixture
Classification (REGULATION (EC) No 1272/2008)
Serious eye damage/eye irritation, category 2 H319
Full text of H- and EUH-phrases: see section 16

2.2 Label elements
Labelling (REGULATION (EC) No 1272/2008)
Hazard pictograms

Signal word Warning

Hazard statements
H302 + H332 Harmful if swallowed or if inhaled.
H319 Causes serious eye irritation.

Precautionary statements
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves, protective clothing, eye protection, face protection..
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P501 - Dispose of contents and container to in accordance with local/regional/national/international regulations

2.3 Other hazards

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This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

3. Declaration of ingredients

3.2 Mixtures

Components

Chemical name	CAS-No./EC-No./Index-No./REACH Registration Number	Classification	Concentration (% w/w)
Benzyl alcohol	No. CAS: 100-51-6 No. EU: 202-859-9 No. of INDEX: 603-057-00-5	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2, H319	>= 85 - < 90
Dehydracetic acid 3-acetyl-6-methyl-2H-pyran-2,4(3H)-dione;	No. CAS: 520-45-6 No. EU: 208-293-9 No. of INDEX: 607-163-00-2	Acute Tox. 4 (Oral), H302	>= 5 - < 10

Full text of H and EUH phrases: see section 16

4. First aid measures

4.1 Description of first aid measures

If inhaled Move to fresh air. Consult a physician after significant exposure. If unconscious, place in recovery position and seek medical advice. If breathing is irregular or stopped, administer artificial respiration. Keep respiratory tract clear.

In case of skin contact After contact with skin, wash immediately with plenty of soap and water. If on clothes, remove clothes. In the case of skin irritation or allergic reactions see a physician.

In case of eye contact In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. Continue rinsing eyes during transport to hospital. Small amounts splashed into eyes can cause irreversible tissue damage and blindness.

If swallowed Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed
Symptoms/effects after eye contact : Eye irritation

4.3 Indication of any immediate medical attention and special treatment needed
Treatment : Treat symptomatically.

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5. Fire fighting measures

5.1 Extinguishing media
Suitable extinguishing media : Water spray Alcohol-resistant foam Dry chemical, carbon dioxide (CO2).
Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture
Specific hazards during firefighting : Heating or fire can release toxic gas. Do not allow run-off from fire fighting to enter drains or water courses.

5.3 Advice for firefighters
Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.
Do not intervene without appropriate protective equipment. Selfcontained
breathing apparatus. Full body protection. Use a self-contained breathing apparatus and chemical resistant protective clothing

Further information : Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Personal precautions : Use personal protective equipment. Use respirator when performing operations involving potential exposure to vapour of the product.

6.2 Environmental precautions
Environmental precautions : Prevent product from entering drains. Prevent further leakage or spillage if safe to do so.

6.3 Methods and material for containment and cleaning up
Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections
For personal protection see section 8.
For disposal considerations see section 13.

7. Handling and storage

7.1 Precautions for safe handling

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Advice on safe handling : Do not breathe vapours/dust. Avoid contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Take precautionary measures against static discharges.

Hygiene measures : Avoid contact with skin, eyes and clothing. When using do not eat or drink. When using do not smoke.

7.2 Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers : Keep container tightly closed. Keep in a well-ventilated place. Electrical installations / working materials must comply with the technological safety standards. To maintain product quality, do not store in heat or direct sunlight.

7.3 Specific end use(s)
Specific use(s) : No other information available.

8. Exposure controls / personal protection

8.1 Control parameters
Occupational Exposure Limits
Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:
Substance name End Use Exposure routes Potential health effects Value
Benzyl alcohol Consumers Oral Short-term exposure, Acute systemic effects 20 mg/kg
Consumers Oral Long-term systemic effects 4 mg/kg
Consumers Inhalation Short-term exposure, Systemic effects 27 mg/m3
Consumers Inhalation Long-term systemic effects 5,4 mg/m3
Workers Inhalation Short-term exposure, Systemic effects 110 mg/m3
Workers Inhalation Long-term systemic effects 22 mg/m3
Workers Dermal Short-term exposure, Systemic effects 40 mg/kg
Workers Dermal Long-term systemic effects 8 mg/kg

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:
Substance name Environmental Compartment Value
Benzyl alcohol Soil 0,456 mg/kg
Sewage treatment plant 39 mg/l
Marine sediment 0,527 mg/kg
Marine water 0,1 mg/l
Fresh water sediment 5,27 mg/kg
Fresh water 1 mg/l

Dehydracetic acid (520-45-6)
DNEL/DMEL (workers)
Long-term - systemic effects, skin 3.12 mg/kg body weight/day
Long term – systemic effects, inhalation 10.99 mg/m³
DNEL/DMEL (general population)
Long term – systemic effects, oral 0.78 mg/kg body weight/day
Long term – systemic effects, inhalation 2.71 mg/m³
Long-term - systemic effects, skin 1.56 mg/kg body weight/day

8.2 Exposure controls

Personal protective equipment
Eye protection : Safety glasses with side-shields conforming to EN166 Wear face-shield and protective suit for abnormal processing problems.

Hand protection : Material Nitrile rubber
Remarks : Wear protective gloves. Break through time : > 480 min. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place. Impervious clothing.

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties
Appearance liquid
Colour light yellow
Odour characteristic
Odour Threshold no data available
pH no data available
Melting point/range no data available
Boiling point/boiling range 245 °C
Flash point > 100 °C
Evaporation rate no data available
Flammability (solid, gas) no data available
Upper explosion limit no data available
Lower explosion limit no data available
Vapour pressure not determined
Relative vapour density not determined
Relative density no data available

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Density 1,056 - 1,066 g/cm3
Water solubility slightly soluble
Partition coefficient: n-octanol/water no data available
Auto-ignition temperature not determined
Decomposition temperature no data available
Viscosity, kinematic not determined
Explosive properties No hazards to be specially mentioned.
Oxidizing properties no data available

9.2 Other information
no data available

10. Stability and reactivity

10.1 Reactivity
The product is not reactive under normal conditions of use, storage and transport.

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No dangerous reactions are known under normal conditions of use.

10.4 Conditions to avoid
Not present under recommended storage and handling conditions (see section 7).

10.5 Incompatible materials
Materials to avoid : Strong acids and strong bases. Oxidizing agents

10.6 Hazardous decomposition products
Under normal conditions of storage and use, no hazardous decomposition products should be generated

11. Toxicological information

Information on the hazard classes defined in Regulation (EC) no. 1272/2008
Acute toxicity (oral): Not classified (Based on available data, the classification criteria are not fulfiled)
Acute toxicity (dermal route): Not classified (Based on available data, the classification criteria are not fulfiled)
Acute toxicity (inhalation): Not classified (Based on available data, the classification criteria are not fulfiled)
Skin corrosion/irritation: Not classified (Based on available data, the classification criteria are not fulfiled)
Serious eye damage/eye irritation: Not classified (Based on available data, the classification criteria are not fulfiled)
Respiratory or skin sensitisation: Not classified (Based on available data, the classification criteria are not fulfiled)
Germ cell mutagenicity: Not classified (Based on available data, the classification criteria are not fulfiled)
Genotoxicity in vitro : Not classified (Based on available data, the classification criteria are not fulfiled)

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Carcinogenicity: Not classified (Based on available data, the classification criteria are not fulfiled)
Reproductive toxicity
Effects on fertility : Not classified (Based on available data, the classification criteria are not fulfiled)
STOT - single exposure: Not classified (Based on available data, the classification criteria are not fulfiled)
STOT - repeated exposure: Not classified (Based on available data, the classification criteria are not fulfiled)
Aspiration toxicity: Not classified (Based on available data, the classification criteria are not fulfiled)

The following toxicological data refer to:
Benzyl alcohol (CAS-No.: 100-51-6)

Acute toxicity

Acute oral toxicity	LD50 (Rat): 1 610 mg/kg Remarks: Literary reference
Acute inhalation toxicity	LC50 (Rat): > 4,178 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	LD50 (Rabbit): 2 000 mg/kg Assessment: The component/mixture is minimally toxic after single contact with skin. Remarks: Literary reference

Skin corrosion/irritation
Species: Rabbit
Exposure time: 4 h
Method: OECD Test Guideline 404
Result: No skin irritation

Serious eye damage/eye irritation
Species: Rabbit
Assessment: No eye irritation
Method: OECD Test Guideline 405
Result: Moderate eye irritation

Respiratory or skin sensitisation
Test Type: Magnusson & Kligman
Species: Guinea pig
Result: not sensitizing
Remarks: Literary reference

Germ cell mutagenicity

Genotoxicity in vitro	Test Type: Ames test

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	Result: negative
	Test Type: gene mutation test Species: mouse lymphoma cells Result: equivocal
	Test Type: Chromosome aberration test in vitro Result: positive
Genotoxicity in vivo	Test Type: In vivo micronucleus test Species: Mouse Application Route: ip Dose: 50 -100-200 mg/kg Result: negative

Reproductive toxicity
Effects on fertility:
Species: Mouse, female
Application Route: Oral
Dose: 10d Fertility: NOAEL: 550 mg/kg food

Repeated dose toxicity
Species: Rat
Application Route: Oral
Remarks: Literary reference

Further information
No additional information is available

12. Ecological information

12.1 Toxicity
Dangerous for the aquatic environment, in the long term short: Unclassified
Dangerous for the aquatic environment, in the long term long: Unclassified
It does not degrade quickly

12.2 Persistence and degradability
Biodegradability :
Result: no data available

12.3 Bioaccumulative potential
Partition coefficient n-octanol/water (Log Pow) 1.05
Bioaccumulation : Remarks: no further data available

12.4 Mobility in soil

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Distribution among environmental compartments :
Remarks: no data available

12.5 Results of PBT and vPvB assessment
Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects
Additional ecological information : no data available

The following ecotoxicological data refer to:
Benzyl alcohol (CAS-No.: 100-51-6)

Toxicity to fish	LC50 (Leuciscus idus (Golden orfe)): 646 mg/l Exposure time: 48 h Method: DIN 38412 Part 15
	LC50 (Pimephales promelas (fathead minnow)): 460 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50 (Daphnia magna (Water flea)): 400 mg/l Exposure time: 24 h Test Type: Immobilization Method: DIN 38412 L11 Remarks: Literary reference
Toxicity to algae	IC50 (Pseudokirchneriella subcapitata (green algae)): 770 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
	NOEC (Pseudokirchneriella subcapitata (green algae)): 310 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	NOEC: 51 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211
Toxicity to microorganisms	EC50 (Pseudomonas putida): 658 mg/l Exposure time: 16 h Remarks: Literary reference
	EC50 (Photobacterium phosphoreum): 71 mg/l Exposure time: 30 min Remarks: Literary reference
Biodegradability	Test Type: Closed Bottle test

	Result: Readily biodegradable. Biodegradation: > 90,0 % Exposure time: 30 d Method: OECD Test Guideline 301D Remarks: Literary reference
Bioaccumulation	Bioconcentration factor (BCF): 4 Remarks: Literary reference
Distribution among environmental compartments	Adsorption/Soil Remarks: Literary reference

13. Disposal considerations

13.1 Waste treatment methods
Dispose of contents/container in accordance with sorting instructions of authorized collector.
Contaminated packaging : Dispose of as unused product. Do not re-use empty containers. Disposal must be carried out in accordance with the legal provisions.
HP code: HP6 - «Acute toxicity»: waste that can produce acute toxic effects in following oral or cutaneous administration or by inhalation. HP4 - «Irritants - skin irritation and eye damage»: waste which, upon application, can cause skin irritation or eye damage.

14. Transport information

IATA: Not dangerous goods
IMDG : Not dangerous goods
ADR: Not dangerous goods
RID: Not dangerous goods
DOT : Not dangerous goods
TDG : Not dangerous goods

14.1 UN number : Not applicable
14.2 Proper shipping name : Not applicable
14.3 Transport hazard class : Not applicable
14.4 Packing group: Not applicable
14.5 Environmental hazards : Marine pollutant: no
14.6 Special precautions for user : none
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code: Not applicable

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
REACH Annex XVII (List of restricted substances)

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Reference code 3(b), Applicable to Benzyl alcohol: Substances or mixtures meeting the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) no. 1272/2008: Hazard classes 3.1-3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10
REACH Annex XIV (Authorization List): Does not contain any substance/substances listed in Annex XIV REACH (Authorization List)
REACH Candidate List of Substances (SVHC): It does not contain any substance(s) listed in the REACH Candidate List
PIC Regulation (regarding prior informed consent): Does not contain any substance/substances listed in the PIC List (EU Regulation 649/2012 on the export and import of hazardous chemicals)
POPs Regulation (on persistent organic pollutants): Does not contain any substance/substances listed in the POP List (EU Regulation 2019/1021 on persistent organic pollutants)
Ozone Regulation (1005/2009): Does not contain any substance/substances listed in the List of substances that contribute to the depletion of the ozone layer (EU Regulation 1005/2009 on substances that contribute to the depletion of the ozone layer)
Regulation on the marketing and use of explosives precursors (2019/1148): Does not contain any substance/substances listed in the List of Explosives Precursors (EU Regulation 2019/1148 on the Marketing and Use of Explosives Precursors

15.2 Chemical safety assessment
No aditional information available

16. Additional information

Classification of the mixture:	Classification procedure:
Acute Tox. 4	H302 Calculation method
Acute Tox. 4	H332 Calculation method
Eye Dam. 1	H318 Calculation method

Full text of H-Statements
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.

16.1 Abbreviations

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS: Chemical Abstracts Service (division of the American Chemical Society).
CLP: Classification, Labeling, Packaging.
DNEL: Derived No Effect Level.
EINECS: European Inventory of Existing Commercial Chemical Substances.

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GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
IATA: International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO: International Civil Aviation Organization.
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG: International Maritime Code for Dangerous Goods.
INCI: International Nomenclature of Cosmetic Ingredients.
LTE: Long-term exposure.
PNEC: Predicted No Effect Concentration.
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
STE: Short-term exposure.
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.

Disclaimer:
This material safety data sheet does not constitute a guarantee of the properties of the product and is not a contractual legal report. The information is given in good faith on the basis of our best knowledge of the product at the indicated time. However, we cannot accept responsibility or liability for any consequences arising from its use, no warranty for correctness and completeness is given. We caution the users against the incurred possible risks when the product is used at other ends than the use for which it was initially planned. It is the user's responsibility during handling, storage and product use to consult the main regulatory texts in force regarding workers and environment protection.