SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Velvetol® H500

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

1.1 Product identifier

Trade name : Velvetol® H500

Product code : 000000000000281829

Substance name : 1,3-propanediol, homo polymer

CAS-No. : 345260-48-2

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

Use of the Substance/Mixture : Textile auxiliary, Cosmetic additive, Film preservatives

Recommended restrictions on use : For industrial use only.

1.3 Details of the supplier of the safety data sheet

Company : Allessa GmbH
Alt-Fechenheim 34
60386 Frankfurt am Main
Germany

Telephone : +49 69 4109 01
Telefax : +49 69 4109 2100

Responsible/issuing person : sdb@allessa.com
+49 69 4109 2710 (8.00 - 16.00 Uhr)

1.4 Emergency telephone number

Telephone : 24-7 Emergency Advice Europe
+49 69 22222571

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)
Not a dangerous substance or mixture according to the Globally Harmonised System (GHS).

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)
Not a dangerous substance or mixture according to the Globally Harmonised System (GHS).
2.3 Other hazards

Does not require a hazard warning label, but the normal safety precautions for handling chemicals must be observed.

SECTION 3: Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Substance name</th>
<th>1,3-propanediol, homo polymer</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS-No.</td>
<td>345260-48-2</td>
</tr>
<tr>
<td>Chemical nature</td>
<td>Polymer</td>
</tr>
<tr>
<td>Remarks</td>
<td>Contains no hazardous ingredients according to GHS</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1 Description of first aid measures

<table>
<thead>
<tr>
<th>General advice</th>
<th>If you feel unwell, seek medical advice (show the label where possible).</th>
</tr>
</thead>
<tbody>
<tr>
<td>If inhaled</td>
<td>If breathed in, move person into fresh air.</td>
</tr>
<tr>
<td>In case of skin contact</td>
<td>Wash off immediately with soap and plenty of water.</td>
</tr>
<tr>
<td></td>
<td>Take off all contaminated clothing immediately.</td>
</tr>
<tr>
<td>In case of eye contact</td>
<td>Immediately flush eye(s) with plenty of water.</td>
</tr>
<tr>
<td>If swallowed</td>
<td>Rinse mouth with water.</td>
</tr>
<tr>
<td></td>
<td>Get medical attention if symptoms occur.</td>
</tr>
</tbody>
</table>

4.2 Most important symptoms and effects, both acute and delayed

| Symptoms                               | No symptoms known currently.                                             |

4.3 Indication of any immediate medical attention and special treatment needed

| Treatment                              | Treat symptomatically.                                                  |

SECTION 5: Firefighting measures

5.1 Extinguishing media

<table>
<thead>
<tr>
<th>Suitable extinguishing media</th>
<th>Alcohol-resistant foam</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dry powder</td>
</tr>
<tr>
<td></td>
<td>Carbon dioxide (CO2)</td>
</tr>
<tr>
<td></td>
<td>Water spray jet</td>
</tr>
</tbody>
</table>
5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Hazardous decomposition products formed under fire conditions.

Hazardous combustion products : Carbon dioxide (CO2), Carbon monoxide

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Further information : In the event of fire and/or explosion do not breathe fumes.
Standard procedure for chemical fires.
Please observe escape and rescue routes!

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment. Evacuate personnel to safe areas. Avoid contact with skin, eyes and clothing. The danger areas must be delimited and identified using relevant warning and safety signs.

6.2 Environmental precautions

Environmental precautions : Avoid release to the environment. Prevent spreading over a wide area (e.g. by containment or oil barriers). Retain and dispose of contaminated wash water.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Large spills should be collected mechanically (remove by pumping) for disposal. Clean contaminated floors and objects thoroughly while observing environmental regulations.

6.4 Reference to other sections

For personal protection see section 8.
SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes.

Advice on protection against fire and explosion: Normal measures for preventive fire protection. Keep away from heat and sources of ignition.

Hygiene measures: General industrial hygiene practice. Keep away from food and drink. Avoid contact with skin, eyes and clothing. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and at the end of work day. Please thoroughly clean and care for the skin after finishing work. Follow the skin protection plan.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers: Keep containers tightly closed in a cool, well-ventilated place. Store in original container. Keep away from heat and sources of ignition. Keep under nitrogen.

Advice on common storage: Keep away from food, drink and animal feedingstuffs.

7.3 Specific end use(s)

Specific use(s): Not relevant

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

We are not aware of any national exposure limit.

8.2 Exposure controls

Engineering measures

Provide sufficient air exchange and/or exhaust in work rooms.

Personal protective equipment

Eye protection: Depending on the risk, wear sufficient eye protection (safety glasses with side protection or goggles, and if necessary, face shield.)

Hand protection

Remarks: Choose gloves to protect hands against chemicals depending
on the concentration and quantity of the hazardous substance and specific to place of work.
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

- Nitrile rubber gloves.
- Butyl rubber gloves.

Gloves must be inspected prior to use.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Gloves must be rinsed thoroughly after use.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific workplace, e.g. apron, boots, protective suit (EN 14605, EN ISO 13982-1, EN 13034).

Respiratory protection : No personal respiratory protective equipment normally required.

Protective measures : Handle in accordance with good industrial hygiene and safety practice.
Handle and open container with care.
Avoid contact with the skin and the eyes.
Follow the skin protection plan.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>clear</td>
</tr>
<tr>
<td>Odour</td>
<td>weak</td>
</tr>
<tr>
<td>Melting point</td>
<td>0 - 5 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 200 °C</td>
</tr>
<tr>
<td>Method</td>
<td>Tag open cup</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Velvetol® H500

Version 1.5
Revision Date: 06.06.2017
SDS Number: 100000000258
Date of last issue: 06.07.2016

Density : 1,02 g/cm³ (40 °C)

Solubility(ies)
  Water solubility : slightly soluble

Viscosity
  Viscosity, dynamic : 90 - 120 mPa.s (40 °C)

Explosive properties : On the basis of the chemical structure of the substance it can be assumed that the substance is not an explosion hazard. The substance has no chemically unstable or highly reactive groups that could lead to an explosion.

Oxidizing properties : On the basis of the chemical structure of the substance it may be assumed that the substance has no oxidising properties. The substance has no functional groups that could have an oxidising effect.

9.2 Other information
  Surface tension : 40,7 mN/m
  Refractive index : 1,4617
  Molecular weight : 400 - 600 g/mol

SECTION 10: Stability and reactivity

10.1 Reactivity
No dangerous reaction known under conditions of normal use.

10.2 Chemical stability
Decomposes on heating.

10.3 Possibility of hazardous reactions
  Hazardous reactions : May form explosive peroxides.

10.4 Conditions to avoid
  Conditions to avoid : Do not expose to temperatures above 212 °F/100 °C.

10.5 Incompatible materials
  Materials to avoid : Strong oxidizing agents

10.6 Hazardous decomposition products
No decomposition if used as directed.
SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

**Product:**
Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg

Skin corrosion/irritation

**Product:**
Species: Rabbit
Result: No skin irritation

Serious eye damage/eye irritation

**Product:**
Species: rabbit eye
Result: No eye irritation

Respiratory or skin sensitisation

**Product:**
Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

**Product:**
Germ cell mutagenicity - Assessment: In vitro tests did not show mutagenic effects

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

STOT - single exposure
No data available

STOT - repeated exposure
No data available
Aspiration toxicity

No data available

Further information

Product:
Information given is based on data obtained from similar substances.

SECTION 12: Ecological information

12.1 Toxicity

Product:
Toxicity to fish : LC50 (Onchorhynchus mykiss (rainbow trout)): > 120 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 102 mg/l
Exposure time: 48 h

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 120 mg/l
Exposure time: 72 h

12.2 Persistence and degradability

Product:
Biodegradability : Result: Inherently biodegradable.

Result: According to the results of tests of biodegradability this product is not readily biodegradable.

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:
Assessment : Not required.

12.6 Other adverse effects

Product:
Additional ecological information : Information given is based on data obtained from similar substances.
SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product: Dispose of as special waste in compliance with local and national regulations.

Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal. Packaging that is not properly emptied must be disposed of as the unused product.

SECTION 14: Transport information

14.1 UN number

Not regulated as a dangerous good

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

Not regulated as a dangerous good

14.4 Packing group

Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture


Not applicable

Volatile organic compounds: Law on the incentive tax for volatile organic compounds (VOCV)

Volatiles organic compounds (VOC) content: 0 %

Remarks: According to the composition the product contains no VOC component as defined by the Swiss VOC Law

Other regulations: The product does not need to be labelled in accordance with EC directives or respective national laws.
The components of this product are reported in the following inventories:

REACH: Product falls under the EU-polymer definition. This substance is exempt from registration according to Regulation (EC) No. 1907/2006 (REACH).

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance.

SECTION 16: Other information

Full text of other abbreviations

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; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50% of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific
material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.