

# Safety Data Sheet

in accordance with regulation (EC) 1907/2006

Update: 21.05.2015

Version: 1.0

**DEGAPLAST® Siegelharz (Gebinde < 30 L)**

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## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

**DEGAPLAST® Siegelharz (Gebinde < 30 L)**

preparation

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

Recommended use(s): laminating resin for orthopedic technology

Non-recommended use(s): None known.

### 1.3. Details of the supplier of the safety data sheet

Schein Orthopädie Service KG

Hildegardstr. 5

42897 Remscheid

Germany

Tel.: +49 2191 910-0

Fax: +49 2191 910-100

remscheid@schein.de

www.schein.de

### 1.4. Emergency telephone number

+49 6151 18 43 42

## 2. HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

This mixture is classified as hazardous according to CLP/GHS

#### **Regulation (EC) No 1272/2008**

|   |                     |      |
|---|---------------------|------|
| Flammable liquids                                   | Hazard category 2   | H225 |
| Caustic burning / irritation of skin                | Hazard category 2   | H315 |
| Skin Sensitisation                                  | Hazard category 1 B | H317 |
| Specific Target Organ Toxicity -<br>Single exposure | Hazard category 3   | H335 |

#### **Classification according to EU Directives 67/548/EEC or 1999/45/EC**

Highly flammable.

Irritating to respiratory system and skin.

May cause sensitisation by skin contact.

### 2.2. Label elements

#### **Regulation (EC) No 1272/2008**

Signal word

**Danger**

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GHS pictogram



hazard statement

Highly flammable liquid and vapour. (H225)  
Causes skin irritation. (H315)  
May cause an allergic skin reaction. (H317)  
May cause respiratory irritation. (H335)

Safety notice (general)

Wear protective gloves/protective clothing/eye protection. (P280)

Precautionary Statement (Response)

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. (P303 + P361 + P353)  
IF INHALED: Remove person to fresh air and keep comfortable for breathing. (P304 + P340)  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P305 + P351 + P338)  
Call a POISON CENTER or doctor/ physician if you feel unwell. (P312)

Precautionary Statement (Disposal)

Dispose of contents/container in accordance with local regulation. (P501)

Further Information

Nota D

Hazardous component(s) for labelling

contains methyl methacrylate

## 2.3. Other hazards

electrostatic charge

Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions.

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

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### 3.2. Mixtures

Regulation (EC) No 1272/2008

| Component                             | EINECS-No.<br>REACH-No.<br>CAS-No.          | Content        | Hazard class / Hazard category / Hazard statement                                   |
|---------------------------------------|---|----------------|---|
| methyl methacrylate                   | 201-297-1<br>01-2119452498-28<br>80-62-6    | 60.0 - 100.0 % | Flam. Liq. 2; H225<br>Skin Irrit. 2; H315<br>Skin Sens. 1B; H317<br>STOT SE 3; H335 |
| N,N-bis-(2-hydroxypropyl)-p-toluidine | 254-075-1<br>01-2119980937-17<br>38668-48-3 | 0.1 - 1.0 %    | Acute Tox. 2 (oral); H300<br>Eye Irrit. 2; H319<br>Aquatic Chronic 3; H412          |
| tris(nonylphenyl) phosphite           | 247-759-6<br>-<br>26523-78-4                | 0.1 - 1.0 %    | Skin Sens. 1; H317<br>Aquatic Acute 1; H400<br>Aquatic Chronic 1; H410              |

**Hazardous Ingredients as per Directive 67/548/EC or Directive 1999/45/EC**

| Component                             | CAS Number | Hazard symbol(s) / R-phrases | Content        |
|---------------------------------------|------------|------------------------------|----------------|
| methyl methacrylate                   | 80-62-6    | F, Xi<br>11-37/38-43         | 60.0 - 100.0 % |
| N,N-bis-(2-hydroxypropyl)-p-toluidine | 38668-48-3 | T<br>25-52/53-R36            | 0.1 - 1.0 %    |
| tris(nonylphenyl) phosphite           | 26523-78-4 | Xi, N<br>43-50/53            | 0.1 - 1.0 %    |

## 4. FIRST AID MEASURES

### 4.1. Description of first aid measures

|                |  |
|----------------|--|
| General advice | Medical treatment is necessary if symptoms occur which are obviously caused by skin or eye contact with the product or by inhalation of its vapours. Take off all contaminated clothing immediately. |
| Inhalation     | Move subject to fresh air and keep him calm. See a physician.  |
| Skin contact   | Wash off immediately with soap and water. If skin irritation occurs consult a physician.   |
| Eye contact    | Keeping the eyelids apart flush thoroughly with water immediately. If irritation persists, contact a physician.  |
| Ingestion      | Do not induce vomiting. Call a physician immediately.  |

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

Skin Sensitisation, Causes skin and eye irritation., Excessive or prolonged exposure can cause the following:, Headache, confusion

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

no

## 5. FIRE-FIGHTING MEASURES

### 5.1. Extinguishing media

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Suitable extinguishing media                      foam, dry chemical, carbon dioxide

Extinguishing media which must not be used for safety reasons      high volume water jet

## 5.2. Special hazards arising from the substance or mixture

May be released in case of fire: carbon monoxide, carbon dioxide, organic products of decomposition.

## 5.3. Advice for firefighters

Wear self-contained breathing apparatus.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

Assure sufficient ventilation. Keep away sources of ignition. Use personal protective clothing. Use breathing apparatus if exposed to vapours/dust/mist/aerosol.

### 6.2. Environmental precautions

Prevent product from getting into drains/surface water/groundwater.

### 6.3. Methods and material for containment and cleaning up

Larger quantities: Remove mechanically (by pumping). Use explosion-proof equipment! Smaller quantities and/or residues: Contain with absorbent material (e.g. sand, diatomaceous earth, acid absorbent, universal absorbent or sawdust). Dispose of in accordance with regulations.

### 6.4. Reference to other sections

For personal protection see section 8.

## 7. HANDLING AND STORAGE

### 7.1. Precautions for safe handling

|   |   |
|---|---|
| Safe handling advice                            | Provide good room ventilation even at ground level (vapours are heavier than air). Keep container tightly closed.   |
| Advice on protection against fire and explosion | Keep away from sources of ignition --- No smoking. Take precautionary measures against static discharges. In the event of fire, cool the endangered containers with water. Vapours are heavier than air and can form an explosive mixture with air. Use only explosion-proof equipment. |

### 7.2. Conditions for safe storage, including any incompatibilities

|   |   |
|---|---|
| Requirements for storage areas and containers | Keep only in the original container at a temperature not exceeding 25 °C. Protect from the action of light. Fill the container by approximately 90 % only as oxygen (air) is required for stabilisation. With large storage containers make sure the oxygen (air) supply is sufficient to ensure stability. |
|---|---|

### 7.3. Specific end use(s)

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no

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

Components or products of decomposition according to point 10, with limit values related to the place of work which require monitoring

**methyl methacrylate** 80-62-6

WEL (long-term) 2011

208 mg/m<sup>3</sup>

50 ppm

WEL (short-term) 2011

416 mg/m<sup>3</sup>

100 ppm

Indicative occupational exposure limit value

50 ppm

2009/161/EC 2009

Indicative occupational exposure limit value

100 ppm

2009/161/EC (15 minutes) 2009

### 8.2. Exposure controls

Protective measures

Do not breathe vapours. Avoid contact with eyes and skin.

Hygiene measures

Store work clothing separately. Take off all contaminated clothing immediately. Follow the usual good standards of occupational hygiene. After work-time and during work intervals the affected skin areas must be thoroughly cleaned.

Respiratory protection

Breathing apparatus in case of high concentrations, short term: filter appliance, filter A

Hand protection

butyl rubber gloves (0.7 mm), Break through time ca. 60 min (EN 374)  
In practice, due to variable exposure conditions, this information can only be an aid to orientation for the selection of a suitable chemical protection glove. In particular, this information does not substitute suitability tests by the end user.

General information

Gloves should be replaced regularly, especially after extended contact with the product. For each work-place a suitable glove type has to be selected.

Eye protection

tightly fitting goggles

Skin and body protection

On handling of larger quantities: face mask, chemical-resistant boots and apron

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

|  |  |
|--|--|
| Form                                     | liquid                                     |
| Colour                                   | colourless                                 |
| Odour                                    | ester-like                                 |
| Freezing Temperature                     | not available                              |
| Boiling Temperature                      | ca. 100 °C (1,013 hPa)                     |
| Flash point                              | 10 °C (methyl methacrylate)                |
| Ignition temperature                     | 430 °C (methyl methacrylate)               |
| Lower explosion limit                    | 2.1 % (V) at 10,5 °C (methyl methacrylate) |
| Upper explosion limit                    | 12.5 % (V) (methyl methacrylate)           |
| Vapour pressure                          | ca. 40 hPa (20 °C)                         |
| Density                                  | ca. 1 g/cm <sup>3</sup> (20 °C)            |
| Relative vapour density (related to air) | > 1 (20 °C)                                |
| Solubility in water                      | ca. 16 g/l (20 °C)                         |
| Fat solubility                           | not available                              |
| pH                                       | not applicable                             |

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n-Octanol/water partition coefficient not available

Viscosity (dynamic) ca. 500 mPa·s

## 9.2. Other information

none

## 10. STABILITY AND REACTIVITY

### 10.1. Reactivity

see section 10.2.

### 10.2. Chemical stability

No decomposition if used as directed.

### 10.3. Possibility of hazardous reactions

Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions.

### 10.4. Conditions to avoid

Heat and ignition sources, aging, contamination, oxygen free atmosphere.

### 10.5. Incompatible materials

Peroxides, amines, sulfur compounds, heavy metal ions, alkalis, reducing agents and oxidizing agents.

### 10.6. Hazardous decomposition products

None when used as directed.

## 11. TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

|                                      |  |                |
|--------------------------------------|--|----------------|
| Acute Oral Toxicity                  | LD50 rat, OECD 401, Related to substance: methyl methacrylate  | > 5,000 mg/kg  |
|                                      | LD50 rat, Related to substance: N,N-bis-(2-hydroxypropyl)-p-toluidine  | 25 - 200 mg/kg |
| Acute Inhalational Toxicity          | LC50 rat, Related to substance: methyl methacrylate, Low toxicity by inhalation  | 29.8 mg/l      |
| Acute Dermal Toxicity                | LD50 rabbit, Related to substance: methyl methacrylate, Practically non-toxic in contact with skin   | > 5,000 mg/kg  |
| Caustic burning / irritation of skin | Contact with skin may cause irritations. Related to substance: product   |                |
| Serious eye damage/eye irritation    | Contact with the eyes may cause irritation. Related to substance: product  |                |
| Respiratory/skin sensitization       | In sensitization tests on guinea pigs with and without adjuvant, both positive and negative results were found.<br>In humans various types of allergic reactions have been observed (symptoms: headache, eye irritations, skin affections).<br>Related to substance: methyl methacrylate |                |
| Aspiration hazard                    | not applicable   |                |
| Mutagenicity assessment              | Positive as well as negative results in <i>in vitro</i> mutagenicity/ genotoxicity tests.<br>No experimental indication of genotoxicity <i>in vivo</i> available.  |                |

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|                                     |  |
|-------------------------------------|--|
|                                     | In summary not mutagenic according to internationally accepted criteria.<br>Related to substance: methyl methacrylate  |
| Carcinogenicity                     | Non-carcinogenic in inhalation and feeding studies carried out on rats, mice and dogs.   |
|                                     | Related to substance: methyl methacrylate  |
| Reprotoxicity / teratogenicity      | No indications of toxic effects were observed in reproduction studies in animals.<br>Related to substance: methyl methacrylate   |
| Human health hazard assessment      | CMR: no  |
| Toxicity on Repeated Administration | rat, inhalation, 2 Years<br>Findings: Damage to mucous membranes in the nose at 400 ppm<br>Related to substance: methyl methacrylate<br>rat, in drinking water, 2 Years<br>Findings: no toxic effects<br>Related to substance: methyl methacrylate |
| General information                 | Avoid contact with the skin and eyes and inhalation of the product vapours.  |

## 12. ECOLOGICAL INFORMATION

### 12.1. Toxicity

|  |   |                    |
|--|---|--------------------|
| Aquatic toxicity, fish                   | LC50 Oncorhynchus mykiss, rainbow trout, OECD 203, flow through, GLP, 96 h<br>Related to substance: methyl methacrylate   | > 79 mg/l          |
| Aquatic toxicity, in vertebrates         | EC50 Daphnia magna, OECD 202, flow through, 48 h<br>Related to substance: methyl methacrylate<br>NOEC Daphnia magna, OECD 202 part 2, flow through, 21 d<br>Related to substance: methyl methacrylate | 69 mg/l<br>37 mg/l |
| Aquatic toxicity, algae / aquatic plants | EC3 Scenedesmus quadricauda, DIN 38412 section 9, 8 d<br>Related to substance: methyl methacrylate  | 37 mg/l            |
| Toxicity in microorganisms               | EC0 Pseudomonas putida<br>Related to substance: methyl methacrylate   | 100 mg/l           |

### 12.2. Persistence and degradability

|                  |  |      |
|------------------|--|------|
| Biodegradability | readily biodegradable, OECD 301 C, 14 d<br>Related to substance: methyl methacrylate | 94 % |
|------------------|--|------|

### 12.3. Bioaccumulative potential

|                 |  |
|-----------------|--|
| Bioaccumulation | no specific test data available<br>no evidence for hazardous properties<br>(structure-activity-relationships)<br>(analogy) |
|-----------------|--|

### 12.4. Mobility in soil

|          |                                 |
|----------|---------------------------------|
| Mobility | no specific test data available |
|----------|---------------------------------|

### 12.5. Results of PBT and vPvB assessment

|                         |                     |
|-------------------------|---------------------|
| PBT and vPvB assessment | PBT: no<br>vPvB: no |
|-------------------------|---------------------|

### 12.6. Other adverse effects

|                     |  |
|---------------------|--|
| General Information | Prevent substance from entering soil, natural bodies of water and sewer systems. |
|---------------------|--|

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## 13. DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

|                     |  |
|---------------------|--|
| Product             | Waste is hazardous. It must be disposed of in accordance with the regulations after consultation of the competent local authorities and the disposal company in a suitable and licensed facility.  |
| Uncleaned packaging | Contaminated packaging should ideally be emptied; it can then be recycled after having been decontaminated. Packaging that cannot be cleaned should be disposed of professionally. Uncontaminated packaging may be taken for recycling.  |
| Code of waste EWC   | 07 02 08<br>waste from the manufacture, formulation, supply and use (MFSU) of plastics, synthetic rubber and man-made fibres - other still bottoms and reaction residues<br><br>Always check the given waste codes according to the actual conditions of manufacturing, formulation or use in your facilities. |

## 14. TRANSPORT INFORMATION

### 14.1. UN number

see section 14.2.

### 14.2. UN proper shipping name

**Transport on land ADR/GGVSEB**

UN 1866 RESIN SOLUTION, 3, III, (E)

**Transport on land RID/GGVSEB**

UN 1866 RESIN SOLUTION, 3, III

**Inland waterway transport ADN/GGVSEB (Germany)**

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UN 1866 RESIN SOLUTION, 3, III

## Shipment by sea IMDG/GGVSee

|                      |                |
|----------------------|----------------|
| UN number            | 1866           |
| Class                | 3              |
| EmS                  | F-E, S-E       |
| Marine pollutant     | No             |
| Packaging group      | III            |
| Proper Shipping Name | RESIN SOLUTION |

## Air transport ICAO/IATA

|                      |                |
|----------------------|----------------|
| UN number            | 1866           |
| Class                | 3              |
| Packaging group      | III            |
| Proper Shipping Name | RESIN SOLUTION |

## Remarks

|        |  |
|--------|--|
| ADR    | Classification according to 2.2.3.1.4 ADR  |
| ADNR   | Classification according to 2.2.3.1.4 ADN  |
| RID    | Classification according to 2.2.3.1.4 RID  |
| IMDG   | Transport in accordance with 2.3.2.2 of the IMDG-Code (Receptables <= 30L capacity).                             |
| IATA_C | According to classification criteria 3.3.3.1 IATA-DGR<br>The capacity of the packaging used does not exceed 30 L |
| IATA_P | According to classification criteria 3.3.3.1 IATA-DGR<br>The capacity of the packaging used does not exceed 30 L |

### 14.3. Transport hazard class(es)

see section 14.2.

### 14.4. Packing group

see section 14.2.

### 14.5. Environmental hazards

if not mentioned in Point 14.2 then it does not apply

### 14.6. Special precautions for user

see section 14.2.

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

for transportapproval see regulatory information

## 15. REGULATORY INFORMATION

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

#### National legislation

|                           |   |
|---------------------------|---|
| Occupational restrictions | Note for juveniles. Note for pregnant woman and nursing mothers (EC Directive 92/85/EEC). |
|---------------------------|---|

|                            |   |
|----------------------------|---|
| Chemical safety assessment | No chemical safety assessment was carried out for this product. |
|----------------------------|---|

|                        |            |                                       |
|------------------------|------------|---------------------------------------|
| Status of Registration | REACH (EU) | preregistered, registered or exempted |
|                        | TSCA (USA) | listed or exempted                    |
|                        | DSL (CDN)  | listed or exempted                    |
|                        | ECL (KOR)  | listed or exempted                    |

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|              |                    |
|--------------|--------------------|
| PICCS (RP)   | listed or exempted |
| IECSC (CN)   | listed or exempted |
| ECS (Taiwan) | listed or exempted |

## 16. OTHER INFORMATION

|                                       |   |  |
|---------------------------------------|---|--|
| Other information                     | The product is normally supplied in a stabilized form. If the permissible storage period and/or storage temperature is exceeded, the product may polymerize with heat evolution.  |  |
| Relevant H phrases from chapter 3     | methyl methacrylate<br>H225 Highly flammable liquid and vapour.<br>H315 Causes skin irritation.<br>H317 May cause an allergic skin reaction.<br>H335 May cause respiratory irritation.<br>N,N-bis-(2-hydroxypropyl)-p-toluidine<br>H300 Fatal if swallowed.<br>H319 Causes serious eye irritation.<br>H412 Harmful to aquatic life with long lasting effects. |  |
| R-phrases of relevance from chapter 3 | 11  | Highly flammable.  |
|                                       | 25  | Toxic if swallowed.  |
|                                       | 37/38   | Irritating to respiratory system and skin.   |
|                                       | 43  | May cause sensitisation by skin contact.   |
|                                       | 50/53   | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
|                                       | 52/53   | Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.    |
|                                       | R36   | Irritating to eyes.  |
| References                            | relevant manuals and publications<br>own examinations<br>own toxicological and ecotoxicological studies<br>toxicological and ecotoxicological studies of other manufacturers<br>SIAR<br>OECD-SIDS<br>RTK public files   |  |

Places marked by || have been amended from the last version.

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