

**Trade name:** Durofluid**Product no.:** 52008**Current version :** 1.0.1, issued: 08.05.2012**Replaced version:** 1.0.1, issued: 06.03.2012**Region:** GB**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Trade name

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

Manufacturing of dental prosthesis in a dental laboratory

**1.3 Details of the supplier of the safety data sheet****Address**BEGO Bremer Goldschlägerei  
Wilh. Herbst GmbH & Co. KG  
Wilhelm-Herbst-Str. 1  
28359 Bremen

Telephone no. +49/ 421/ 2028 – 0

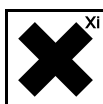
Fax no. +49/ 421/ 2028 – 115

**Information provided by / telephone**

Research &amp; Development Department - Materials, alloys and ceramics; +49/ 421/ 2028 – 130 (Chief Development Officer alloys)

**Advice on Safety Data Sheet**

msds@bego.com

**1.4 Emergency telephone number**For medical advice (in German and English):  
+49/ 551/ 192 40 (Giftinformationszentrum Nord)**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification in accordance with Directive 67/548/EEC or 1999/45/EC**R10  
R66  
R67  
Xi; R41**2.2 Label elements****Labelling according to Directive 1999/45/EC****Hazard symbols**

Irritant

**R phrases**10 Flammable.  
41 Risk of serious damage to eyes.  
66 Repeated exposure may cause skin dryness or cracking.  
67 Vapours may cause drowsiness and dizziness.**S phrases**7/9 Keep container tightly closed and in a well-ventilated place.  
16 Keep away from sources of ignition --- No smoking.  
23 Do not breathe vapour.  
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
51 Use only in well-ventilated areas.

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**2.3 Other hazards**PBT assessment  
No data available.vPvB assessment  
No data available.**SECTION 3: Composition/information on ingredients****3.1 Substances**

Not applicable. The product is not a substance.

**3.2 Mixtures****Chemical characterization**

Mixture (preparation)

**Hazardous ingredients**

No	Substance name	Additional information	
	CAS / EC / Index / REACH no	Classification 67/548/EEC	Concentration
			%-b.w.
1	<b>n-propanol, propan-1-ol</b>		
	71-23-8 200-746-9 603-003-00-0 -	F; R11 Xi; R41 R67	> 50,00 - < 70,00 %-b.w.
2	<b>n-butyl acetate</b>		
	123-86-4 204-658-1 607-025-00-1 -	R10 R66 R67	> 30,00 - < 50,00 %-b.w.
3	<b>butan-1-ol</b>		
	71-36-3 200-751-6 603-004-00-6 -	R10 Xn; R22 Xi; R41 Xi; R37/38 R67	> 5,00 - < 10,00 %-b.w.

Full Text for all R-phrases: pls. see section 16

**SECTION 4: First aid measures****4.1 Description of first aid measures****General information**

In case of persisting adverse effects, consult a physician. Remove contaminated clothing and shoes immediately, and launder thoroughly before reusing. If the patient is likely to become unconscious, place and transport in stable sideways position.

**After inhalation**

Remove affected person from the immediate area. Ensure supply of fresh air. Irregular breathing/no breathing: artificial respiration. Summon a doctor immediately.

**After skin contact**

Wash off immediately with soap and water.

**After eye contact**

Remove contact lenses, irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart and seek medical advice.

**After ingestion**

Do not induce vomiting. Summon a doctor immediately. Never give anything by mouth to an unconscious person.

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

No data available.

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

No data available.

### **SECTION 5: Firefighting measures**

#### **5.1 Extinguishing media**

##### **Suitable extinguishing media**

Carbon dioxide; extinguishing powder; Water spray jet; Alcohol-resistant foam

##### **Unsuitable extinguishing media**

Full water jet

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

In the event of fire, the following can be released: Carbon monoxide and carbon dioxide

#### **5.3 Advice for firefighters**

Use self-contained breathing apparatus. Suppress gases/vapours/mists with water spray jet. Wear protective clothing. Cool endangered containers with water spray jet.

### **SECTION 6: Accidental release measures**

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

##### **For non-emergency personnel**

Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Keep away sources of ignition. Refer to protective measures listed in sections 7 and 8.

##### **For emergency responders**

No data available. Personal protective equipment (PPE) - see Section 8.

#### **6.2 Environmental precautions**

Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

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

Ensure adequate ventilation. Pick up rest with absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr). When picked up, treat material as prescribed under heading "Disposal considerations".

#### **6.4 Reference to other sections**

No data available.

### **SECTION 7: Handling and storage**

#### **7.1 Precautions for safe handling**

##### **Advice on safe handling**

Provide good ventilation of working area (local exhaust ventilation, if necessary). If workplace exposure limits are exceeded, respiratory protection approved for this particular job must be worn. Product inherent handling risks must be minimised taking the appropriate measures for protection and preventive actions. The working process should be designed to rule out the release of hazardous substances or skin contact as far as possible by the state of the art.

##### **General protective and hygiene measures**

Wash hands before breaks and after work. Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Avoid contact with eyes and skin. Remove soiled or soaked clothing immediately. Do not inhale vapours. Provide eye wash fountain in work area. Have emergency shower available.

##### **Advice on protection against fire and explosion**

Take precautionary measures against electrostatic loading (earthing necessary during loading operations). Vapours can form an explosive mixture with air. Keep away from sources of heat and ignition.

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

##### **Technical measures and storage conditions**

Keep container tightly closed and dry in a cool, well-ventilated place. Protect from heat and direct sunlight.

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**Requirements for storage rooms and vessels**

Keep only in the original container. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

**Advice on storage assembly**

Do not store together with: oxidizing substances; explosive substances; spontaneously combusting substances; flammable toxic substances; inflammatory substances; Oxidizing agents

**7.3 Specific end use(s)**

No data available.

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Occupational exposure limit values**

No	Substance name	CAS no.	EC no.
1	n-propanol, propan-1-ol	71-23-8	200-746-9
<b>List of approved workplace exposure limits (WELs) / EH40</b>			
Propan-1-ol			
	STEL	625	mg/m <sup>3</sup> 250 ml/m <sup>3</sup>
	TWA	500	mg/m <sup>3</sup> 200 ml/m <sup>3</sup>
	Skin resorption / sensibilisation	Sk	
2	n-butyl acetate	123-86-4	204-658-1
<b>List of approved workplace exposure limits (WELs) / EH40</b>			
Butyl acetate			
	STEL	966	mg/m <sup>3</sup> 200 ml/m <sup>3</sup>
	TWA	724	mg/m <sup>3</sup> 150 ml/m <sup>3</sup>
3	butan-1-ol	71-36-3	200-751-6
<b>List of approved workplace exposure limits (WELs) / EH40</b>			
Butan-1-ol			
	STEL	154	mg/m <sup>3</sup> 50 ml/m <sup>3</sup>
	Skin resorption / sensibilisation	Sk	

**8.2 Exposure controls****Appropriate engineering controls**

No data available.

**Personal protective equipment****Respiratory protection**

If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of aerosol and mist formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified.

**Eye / face protection**

Safety glasses with side protection shield (EN 166)

**Hand protection**

Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product. Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

**Other**

Normal chemical work clothing.

**Environmental exposure controls**

No data available.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

<b>Form/Colour</b>	
liquid	
colourless to yellowish	
<b>Odour</b>	
characteristic; ester-like	
<b>Odour threshold</b>	
No data available	
<b>pH value</b>	
No data available	
<b>Boiling point / boiling range</b>	
Value	119 °C
<b>Melting point / melting range</b>	
No data available	
<b>Decomposition point / decomposition range</b>	
No data available	
<b>Flash point</b>	
Value	31 °C
<b>Auto-ignition temperature</b>	
No data available	
<b>Oxidising properties</b>	
No data available	
<b>Explosive properties</b>	
No data available	
<b>Flammability (solid, gas)</b>	
No data available	
<b>Lower flammability or explosive limits</b>	
No data available	
<b>Upper flammability or explosive limits</b>	
No data available	
<b>Vapour pressure</b>	
No data available	
<b>Vapour density</b>	
No data available	
<b>Evaporation rate</b>	
No data available	
<b>Relative density</b>	
No data available	
<b>Density</b>	
Value	0,871 g/cm <sup>3</sup>

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**Solubility in water**

No data available

**Solubility(ies)**

No data available

**Partition coefficient: n-octanol/water**

No data available

**Viscosity**

No data available

**9.2 Other information****Other information**

No data available.

**SECTION 10: Stability and reactivity****10.1 Reactivity**

No data available.

**10.2 Chemical stability**

No data available.

**10.3 Possibility of hazardous reactions**

No data available.

**10.4 Conditions to avoid**

Heat, naked flames and other ignition sources. Protect from sun.

**10.5 Incompatible materials**

Earth alkali metals; Alkali metals; Alcohols; Oxidizing agents; Peroxides

**10.6 Hazardous decomposition products**

No hazardous decomposition products known.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute oral toxicity**

LD50	1870	mg/kg
Species	rat	
Reference substance	CAS 71-23-8	
LD50	6800	mg/kg
Species	mouse	
Reference substance	CAS 71-23-8	
LD50	2825	mg/kg
Species	rabbit	
Reference substance	CAS 71-23-8	

**Acute dermal toxicity**

LD50	4000	mg/kg
Species	rabbit	
Reference substance	CAS 71-23-8	

**Acute inhalational toxicity**

LC50	9,8	mg/l
Duration of exposure	4	h
Species	rat	
Reference substance	CAS 71-23-8	

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<b>Skin corrosion/irritation</b>	
Species	rabbit
Reference substance	CAS 71-23-8
Evaluation	irritant
<b>Serious eye damage/irritation</b>	
Duration of exposure	24 h
Species	rabbit
Reference substance	CAS 71-23-8
Evaluation	irritant
<b>Respiratory or skin sensitisation</b>	
No data available	
<b>Germ cell mutagenicity</b>	
No data available	
<b>Reproduction toxicity</b>	
No data available	
<b>Carcinogenicity</b>	
No data available	
<b>STOT-single exposure</b>	
No data available	
<b>STOT-repeated exposure</b>	
No data available	
<b>Aspiration hazard</b>	
No data available	
<b>Delayed and immediate effects as well as chronic effects from short and long-term exposure</b>	
<p>Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. Inhalation of vapours may lead to headache, drowsiness and dizziness. Inhalation of vapours in higher concentration may lead to irritation of eyes, nose and respiratory tract. Danger of acute eye damage.</p>	

## SECTION 12: Ecological information

### 12.1 Toxicity

<b>Fish toxicity</b>	
LC50	4480 mg/l
Duration of exposure	96 h
Reference substance	CAS 71-23-8
LC50	62 mg/l
Duration of exposure	96 h
Species	Leuciscus idus
Reference substance	CAS 123-86-4
<b>Daphnia toxicity</b>	
EC50	3642 mg/l
Duration of exposure	48 h
Species	Daphnia magna
Reference substance	CAS 71-23-8
EC50	73 mg/l
Duration of exposure	24 h
Species	Daphnia magna
Reference substance	CAS 123-86-4
<b>Algae toxicity</b>	
IC50	1150 mg/l
Duration of exposure	48 h
Species	Selenastrum capricornutum
Reference substance	CAS 71-23-8

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Bacteria toxicity	
EC50	959 mg/l
Duration of exposure	18 h
Species	Pseudomonas putida
Reference substance	CAS 123-86-4

## 12.2 Persistence and degradability

Biodegradability	
Reference substance	CAS 71-23-8
Evaluation	readily biodegradable
Reference substance	CAS 123-86-4
Evaluation	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

Results of PBT and vPvB assessment	
PBT assessment	No data available.
vPvB assessment	No data available.

## 12.6 Other adverse effects

No data available.

## 12.7 Other information

Other information
Do not discharge product unmonitored into the environment.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

#### Packaging

Residuals must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

## SECTION 14: Transport information

### 14.1 Transport ADR/RID/ADN

Class	3
Classification code	F1
Packing group	III
Hazard identification no.	30
UN number	UN1866
Technical name	RESIN SOLUTION
Special Provision 640	640E
Tunnel restriction code	D/E
Label	3

### 14.2 Transport IMDG

Class	3
Packing group	III
UN number	UN1866
Proper shipping name	RESIN SOLUTION
EmS	F-E+S-E
Label	3



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### 14.3 Transport ICAO-TI / IATA

Class	3
Packing group	III
UN number	UN1866
Proper shipping name	Resin solution
Label	3

### 14.4 Other information

No data available.

### 14.6 Special precautions for user

No data available.

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

Not relevant

## SECTION 15: Regulatory information

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

#### EU regulations

##### Restriction of occupation

Adhere to the national sanitary and occupational safety regulations when using this product.

##### Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances

Remarks Annex I, part 2, category 6

### 15.2 Chemical safety assessment

No data available.

## SECTION 16: Other information

#### Sources of key data used to compile the data sheet:

EC Directive 67/548/EC resp. 99/45/EC as amended in each case.

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

EC Directives 2000/39/EC, 2006/15/EC, 2009/161/EC

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding chapter.

#### Full text of the R-, H- and EUH- phrases drawn up in sections 2 and 3 (provided not already drawn up in these sections)

R11	Highly flammable.
R22	Harmful if swallowed.
R37/38	Irritating to respiratory system and skin.

#### Department issuing safety data sheet

UMCO Umwelt Consult GmbH - D-21107 Hamburg, Georg-Wilhelm-Strasse 183, Tel.: +49(40)79 02 36 300, Fax: +49(40)79 02 36 357, e-mail: umco@umco.de

This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.