

Trade name: Durol**Product no.:** 52111**Current version :** 1.0.2, issued: 22.11.2012**Replaced version:** 1.0.1, issued: 08.05.2012**Region:** GB**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Trade name

Durol**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 & 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)

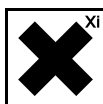
SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification in accordance with Directive 67/548/EEC or 1999/45/EC**

R10

R66

R67

Xi; R36

2.2 Label elements**Labelling according to Directive 1999/45/EC****Hazard symbols**

Irritant

R phrases

10

Flammable.

36

Irritating 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.

26

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

51

Use only in well-ventilated areas.

Trade name: Durol

Product no.: 52111

Current version : 1.0.2, issued: 22.11.2012

Replaced version: 1.0.1, issued: 08.05.2012

Region: GB

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 | n-butyl acetate | | | |
| | 123-86-4 204-658-1 607-025-00-1 - | R10 R66 R67 | > 90.00 | %-b.w. |
| 2 | butan-1-ol | | | |
| | 71-36-3 200-751-6 603-004-00-6 - | R10 Xn; R22 Xi; R41 Xi; R37/38 R67 | < 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. Don't use solvents.

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.

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.

Trade name: Durol

Product no.: 52111

Current version : 1.0.2, issued: 22.11.2012

Replaced version: 1.0.1, issued: 08.05.2012

Region: GB

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. Cool endangered containers with water spray jet. Wear protective clothing.

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 it is 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

Vapours can form an explosive mixture with air. Take precautionary measures against static charges. 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.

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

Trade name: Durol

Product no.: 52111

Current version : 1.0.2, issued: 22.11.2012

Replaced version: 1.0.1, issued: 08.05.2012

Region: GB

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-butyl acetate | 123-86-4 | 204-658-1 |
| List of approved workplace exposure limits (WELs) / EH40 | | | |
| Butyl acetate | | | |
| | STEL | 966 | mg/m ³ 200 ml/m ³ |
| | TWA | 724 | mg/m ³ 150 ml/m ³ |
| 2 | butan-1-ol | 71-36-3 | 200-751-6 |
| List of approved workplace exposure limits (WELs) / EH40 | | | |
| Butan-1-ol | | | |
| | STEL | 154 | mg/m ³ 50 ml/m ³ |
| | 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.

Appropriate Material butyl rubber

Other

Normal chemical work clothing.

Environmental exposure controls

No data available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| |
|----------------------------|
| Form/Colour |
| liquid |
| colourless to yellowish |
| Odour |
| characteristic; ester-like |

Trade name: Durol

Product no.: 52111

Current version : 1.0.2, issued: 22.11.2012

Replaced version: 1.0.1, issued: 08.05.2012

Region: GB

| | |
|--|------------------------|
| Odour threshold | |
| No data available | |
| pH value | |
| No data available | |
| Boiling point / boiling range | |
| Value | 132 °C |
| Melting point / melting range | |
| No data available | |
| Decomposition point / decomposition range | |
| No data available | |
| Flash point | |
| Value | 26 °C |
| Auto-ignition temperature | |
| No data available | |
| Oxidising properties | |
| No data available | |
| Explosive properties | |
| No data available | |
| Flammability (solid, gas) | |
| No data available | |
| Lower flammability or explosive limits | |
| No data available | |
| Upper flammability or explosive limits | |
| No data available | |
| Vapour pressure | |
| No data available | |
| Vapour density | |
| No data available | |
| Evaporation rate | |
| No data available | |
| Relative density | |
| No data available | |
| Density | |
| Value | 0.96 g/cm ³ |
| Solubility in water | |
| Reference temperature | 20 °C |
| Remarks | partially miscible |
| 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. |

Trade name: Durol

Product no.: 52111

Current version : 1.0.2, issued: 22.11.2012

Replaced version: 1.0.1, issued: 08.05.2012

Region: GB

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 | 10768 mg/kg |
| Species | rat |
| Reference substance | CAS 123-86-4 |
| LD50 | 6000 mg/kg |
| Species | mouse |
| Reference substance | CAS 123-86-4 |
| LD50 | 3200 mg/kg |
| Species | rabbit |
| Reference substance | CAS 123-86-4 |

| Acute dermal toxicity | |
|-----------------------|---------------|
| LD50 | > 17600 mg/kg |
| Species | rabbit |
| Reference substance | CAS 123-86-4 |
| LD50 | 4700 mg/kg |
| Species | guinea pig |
| Reference substance | CAS 123-86-4 |

| Acute inhalational toxicity | |
|-----------------------------|--------------|
| LC50 | 390 mg/l |
| Duration of exposure | 4 h |
| Species | rat |
| Reference substance | CAS 123-86-4 |
| LC50 | 6 mg/l |
| Duration of exposure | 2 h |
| Species | mouse |
| Reference substance | CAS 123-86-4 |

| Skin corrosion/irritation | |
|---------------------------|--------------|
| Duration of exposure | 24 h |
| Species | rabbit |
| Reference substance | CAS 123-86-4 |
| Evaluation | irritant |

| Serious eye damage/irritation | |
|-------------------------------|--------------|
| Duration of exposure | 24 h |
| Species | rabbit |
| Reference substance | CAS 123-86-4 |
| Evaluation | irritant |

Trade name: Durol

Product no.: 52111

Current version : 1.0.2, issued: 22.11.2012

Replaced version: 1.0.1, issued: 08.05.2012

Region: GB

| |
|--|
| Respiratory or skin sensitisation |
| No data available |
| Germ cell mutagenicity |
| No data available |
| Reproduction toxicity |
| No data available |
| Carcinogenicity |
| No data available |
| STOT-single exposure |
| No data available |
| STOT-repeated exposure |
| No data available |
| Aspiration hazard |
| No data available |
| Delayed and immediate effects as well as chronic effects from short and long-term exposure |
| 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. Eye contact with the product may lead to irritation. Inhalation of vapours in higher concentration may lead to irritation of eyes, nose and respiratory tract. |

SECTION 12: Ecological information

12.1 Toxicity

| | | | |
|--------------------------|--------------------|------|--|
| Fish toxicity | | | |
| LC50 | 62 | mg/l | |
| Duration of exposure | 96 | h | |
| Species | Leuciscus idus | | |
| Reference substance | CAS 123-86-4 | | |
| Daphnia toxicity | | | |
| EC50 | 73 | mg/l | |
| Duration of exposure | 24 | h | |
| Species | Daphnia magna | | |
| Reference substance | CAS 123-86-4 | | |
| Algae toxicity | | | |
| No data available | | | |
| 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 123-86-4 |
| Evaluation | readily biodegradable |

Trade name: Durol

Product no.: 52111

Current version : 1.0.2, issued: 22.11.2012

Replaced version: 1.0.1, issued: 08.05.2012

Region: GB

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 |

14.3 Transport ICAO-TI / IATA

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

Trade name: Durol

Product no.: 52111

Current version : 1.0.2, issued: 22.11.2012

Replaced version: 1.0.1, issued: 08.05.2012

Region: GB

14.4 Other information

No data available.

14.5 Environmental hazards

Information on environmental hazards, if relevant, pls. see 14.1 - 14.3.

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. 1999/45/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)

| | |
|--------|--|
| R22 | Harmful if swallowed. |
| R37/38 | Irritating to respiratory system and skin. |
| R41 | Risk of serious damage to eyes. |

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 and experience.

The security data sheet describes products with a view to the security requirements.

However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.