



Product Trade Name

ORACRYL ORTHODONTIC LIQUID

Date Revised : 03/01/2000

Status : Version 2

Page : 1 of 7

## 1. Identification of the substance/preparation and of the company/undertaking

Information on the product

Trade name : Oracryl Orthodontic Liquid

Information on the supplier:

Bracon Limited  
High Street, Etchingham  
East Sussex, TN19 7AL

Tel: 01580 817000  
Fax: 01580 819455

## 2. Composition/information on ingredients

Chemical characterisation

Methyl methacrylate Liquid (>90%), containing Glycol Dimethacrylate

CAS number	80-62-6	based on Methyl Methacrylate
EC index number	607-035-00-6	
EINECS number	2012971	

## 3. Hazards identification

Highly flammable.  
Irritating to eyes, respiratory system and skin.  
May cause sensitisation by skin contact.

## 4. First aid measures

General information

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. Remove soiled, soaked clothing immediately.

After inhalation

Remove the casualty into fresh air and keep him calm. Refer for medical treatment.

After contact with skin

In case of contact with skin wash off immediately with soap and water. If skin irritation occurs, seek medical attention.

After contact with eyes

In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice

After ingestion

Summon a doctor immediately.

# E.C. SAFETY DATA SHEET

According to EC -directive 93/112/EC



Product Trade Name

ORACRYL ORTHODONTIC LIQUID

Date Revised : 03/01/2000

Status : Version 2

Page : 2 of 7

## 5. Fire-fighting measures

Suitable extinguishing media

Water spray jet

Foam

Dry powder

Carbon dioxide

Unsuitable extinguishing media for safety reasons

Full water jet

Special protective equipment for fire-fighting

Use breathing apparatus

## 6. Accidental release measures

Precautionary measures related to people

Take care for adequate ventilation. Use personal protective clothing. Keep away sources of ignition Use breathing apparatus if exposed to vapour/dust/mist or aerosol.

Environmental Protective Measures

Do not allow to get into the sewerage system, drains, surface water or ground water

Methods of Cleaning/adsorption

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.

## 7. Handling and storage

Handling

Instructions on safe handling

Ensure the area is well ventilated.

Information on fire and explosion protection

Use explosion-proof equipment only. In the event of fire, cool the endangered containers with water. Keep away from sources of ignition -no smoking. Take precautionary measures against static discharges.

Storage

Requirements for storage area and containers

Keep only in the original container at a temperature not exceeding 30°C.

Keep out 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.

# E.C. SAFETY DATA SHEET

According to EC -directive 93/112/EC

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Product Trade Name

ORACRYL ORTHODONTIC LIQUID

Date/Revised : 03/01/2000

Status : Version 2

Page : 3 of 7

## 8. Exposure controls/personal protection

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

TLV - value for

Methyl methacrylate	CAS number	80-62-6		
OES (long term)	1996	205 mg/m3	50 ppm	
OES (short term)	1996	410 mg/m3	100 ppm	

Personal protective equipment

General protective measures

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

Hygiene measures

Store work clothing separately. Remove soiled or soaked clothing immediately. Follow the usual good standards of occupational hygiene.

Respiratory Protection

Breathing apparatus in the event of high concentrations. Short term: filter appliance, filter A

Hand protection

Rubber gloves

Eye protection

Goggles

Body protection

When handling larger quantities : Face mask, rubber boots and rubber apron

Product Trade Name

ORACRYL ORTHODONTIC LIQUID

Date/Revised : 03/01/2000

Status : Version 2

Page : 4 of 7

## 9. Physical and chemical properties

### Appearance

Form: Liquid  
Colour: Colourless  
Odour: Ester-like

### Data relevant to safety

#### Changes in physical state

Melting temperature: -48°C  
Boiling temperature: 100.3°C @ 1.013 hPa

Flash point Method DIN 51755 10°C

Ignition temperature Method DIN 51794 430°C

Lower explosion limit 2.1% vol.

Upper explosion limit 12.5% vol.

Vapour pressure 40 hPa @ 20°C

Density 0.94 g/cm<sup>3</sup> @ 20°C

Relative vapour density -related to air >1 @ 20°C

Solubility in water 15.9g/l @ 20°C

Solubility/ qualitative Miscible with most organic solvents.

pH value Not applicable

n-Octanol/water partition coefficient (measured; Source literature) logPow~. 1.38

Viscosity dynamic Method Brookfield 0.6mPa.s @ 20°C

## 10. Stability and reactivity

### Thermal decomposition

No decomposition when used as directed

### Hazardous reactions

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

Hazardous decomposition products. None when used as directed.

Product Trade Name

ORACRYL ORTHODONTIC LIQUID

Date/Revised : 03/01/2000

Status : Version 2

Page : 5 of 7

**11. Toxicological information**

## Acute oral toxicity

LD50: Species: rat, OECD 401, source: Literature

&gt; 5,000 mg/kg

## Acute inhalational toxicity

LC50: Species: rat, exposure 4 h, source: Literature

29.8 mg/l

## Acute dermal toxicity

Species: rat, source: Literature

&gt;5.000 mg/kg

## Skin irritation

Species: rabbit, exposure: 24 h.

Method: Occlusive, FDA Draize

not irritant

## Irritant effect on the eyes

Species: rabbit, Method: Occlusive, FDA Draize

not irritant

## Sensitisation

In sensitisation tests on guinea pigs with and without adjuvant, both positive and negative results were found.

Source: Literature

In humans, various types of allergic reactions have been observed (symptoms : headache, eye irritations, skin affectations). Source: Literature

## Toxicity on repeated administration

Species: rat, inhalation, 2 a, source: Literature

250-1000 ppm

Findings: Damage to mucous membranes in nose, throat and lungs.

Degeneration of the olfactory epithelium.

Species: mouse, inhalation, 2 a, source: Literature

500-1000 ppm

Findings: Damage to mucous membranes in nose, throat and lungs.

Degeneration of the olfactory epithelium.

## Mutagenicity

Positive as well as negative results in in-vitro mutagenicity/genotoxicity tests. No experimental information on genotoxicity in vivo available.

## Carcinogenicity

Non-carcinogenic in inhalation and feeding studies carried out on rats, mice and dogs.

Source: Literature

## Reprotoxicity / teratogenicity

No indication of toxic effects were observed in reproduction studies in animals.

Source: Literature

## Further information on toxicology

Avoid contact with the skin and eyes and inhalation of the product vapours.

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According to EC - directive 93/112/EC



Product Trade Name

ORACRYL ORTHODONTIC LIQUID

Date/Revised : 03/01/2000

Status : Version 2

Page : 6 of 7

## 12. Ecological information

Information on elimination (persistence and degradability)

Biodegradability

Readily degradable, duration of test : 28 d, method: OECD 301 C 94%

Source: Literature

The product is not readily biodegradable to OECD criteria but is inherently biodegradable.

Ecotoxicological effect

Fish toxicity

LC50 oncorhynchus mykiss, rainbow trout > 79 mg/l

duration of test: 14 d, method: OECD 301 C

Source: Literature

Daphnia toxicity

EC50 species: daphnia magna, method: OECD 202, 69 mg/l

Duration of test: 48 h. Source: Literature

Algae toxicity

EC3 Scenedesmus quadricauda, DIN 38412 part 9 37 mg/l

Duration of test: 8 d. Source: Literature

EC50 Species: Selenastrum capricornutum, method: OECD 201 70 mg/l

Duration of test: 96 h. Source: Literature

Bacteria toxicity

ECO Species: Pseudomonas putida, Source: Literature 100 mg/l

Further ecological information

Do not allow to enter soil, waterways or waste water.

## 13. Disposal considerations

Product

Waste is hazardous and therefore particularly to be kept under surveillance. It must be disposed of as a special waste in accordance with the regulations after consultation of the competent local authorities and the disposal company in a suitable and a licensed facility for special waste.

Unclean packaging

Contaminated packaging should be emptied optimally and after appropriate professional cleansing may be taken for reuse. Packaging that can not be cleaned should be disposed off professionally.

Code of waste EWC, 07 02 08

Always check the actual conditions of manufacturing, formulation or use in your facilities. Waste from the manufacture, formulation supply and use (MFSU) of plastics, synthetic rubber and man made fibres.



Product Trade Name

ORACRYL ORTHODONTIC LIQUID

Date/Revised : 03/01/2000  
Status : Version 2  
Page : 7 of 7

#### 14. Transport information

Overland transport, GGVS/ADR, GGVE/RID

Hazard No.339	Class 3, item 3b	UN No. 1247
Technical dispatch name:	Methyl methacrylate, monomer, inhibited	

Inland waterways transport, ADNR

Technical dispatch name:	Class 3, item 3b	UN No.: 1247
	Methyl methacrylate, monomer, inhibited	

Shipment by sea, IMDG/GGV

Packaging group (sea)	Class 3.2 Ems: 3-07 MFAG: 330	UN No.: 1247
Proper shipping name	II	
	Methyl methacrylate, monomer, inhibited	

Air transport ICAO/IATA

Packaging group (air)	Class 3	UN No. 1247
Proper shipping name	II	
	Methyl methacrylate, monomer, inhibited	

DOT

Methyl methacrylate, monomer, inhibited	UN No. 1247
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#### 15. Regulatory information

Labelling in accordance with GefStoffV/EC Requires labelling : Methyl methacrylate

Hazard symbols

F	Highly flammable
Xi	Irritant

R-phrases(s)

11	Highly flammable
36/37/38	Irritating to eyes, respiratory system and skin.
43	May cause sensitisation by skin contact.

S-phrases(s)

9	Keep container in a well ventilated place.
16	Keep away from sources of ignition ---No smoking.
29	Do not empty into drains.
33	Take precautionary measures against static discharges.

#### 16. Other information

The product is normally supplied in a stabilised form.

If the permissible storage period and/or storage temperature is noticeably exceeded, the product may polymerise with heat evolution.

All tests to the above mentioned data are based methods generally used in the U.K.

The instructions given here are valid only for the product as supplied, not for derivatives resulting from its use.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the product's properties.