

**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 09/16/2021

Reviewed on 12/04/2020

**1 Identification**

- **Product identifier**
- **Trade name:** *Opal™ Band™ Cement - Base*
- **Article number:** *SDS 219-001.07, 71100*
- **Application of the substance / the mixture** *Professional Orthodontic Cement*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
*Ultradent Products Inc.  
505 W. Ultradent Drive (10200 S)  
South Jordan, UT 84095-3942  
USA  
onlineordersupport@ultradent.com*
- **Information department:** *Customer Service*
- **Emergency telephone number:**  
*CHEMTREC (NORTH AMERICA) : (800) 424-9300  
(INTERNATIONAL) : +(703) 527-3887*

**2 Hazard(s) identification**

- **Classification of the substance or mixture**



*GHS08 Health hazard*

*Carc. 2 H351 Suspected of causing cancer.*



*GHS05 Corrosion*

*Skin Corr. 1A H314 Causes severe skin burns and eye damage.*



*GHS07*

*Skin Sens. 1 H317 May cause an allergic skin reaction.*

- **Label elements**
- **GHS label elements** *Void*
- **Hazard pictograms** *GHS05, GHS07, GHS08*
- **Signal word** *Danger*
- **Health Hazard-determining components of labeling:**  
*Trade Secret  
Triethylene Glycol Dimethacrylate  
Methacrylic Acid  
Diurethane Dimethacrylate*
- **Hazard statements**  
*Causes severe skin burns and eye damage.  
May cause an allergic skin reaction.*

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Suspected of causing cancer.

**Precautionary statements**

- P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P260 Do not breathe dusts or mists.  
 P264 Wash thoroughly after handling.  
 P272 Contaminated work clothing must not be allowed out of the workplace.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.  
 P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P310 Immediately call a poison center/doctor.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P321 Specific treatment (see on this label).  
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.  
 P363 Wash contaminated clothing before reuse.  
 P405 Store locked up.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Classification system:****NFPA ratings (scale 0 - 4)****HMIS-ratings (scale 0 - 4)**

### 3 Composition/information on ingredients

**Chemical characterization: Mixtures**

**Description:** Mixture of the substances listed below with nonhazardous additions.

**Dangerous components:**

20882-04-6	Mono-2-(Methacryloyloxy) Ethyl Succinate 	≥1-<10%
	Trade Secret 	≥5-≤10%
109-16-0	Triethylene Glycol Dimethacrylate 	1-10%
72869-86-4	Diurethane Dimethacrylate 	1-10%
79-41-4	Methacrylic Acid 	≥1-<3%

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64-17-5	Ethyl Alcohol	≥0- ≤10%
	 Flam. Liq. 2, H225	
68187-11-1	Co-Cr-AL Spinel Blue Green	≥0.1- <25%
	 Carc. 2, H351	

## 4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:**  
This product is a thick paste, therefore inhalation is extremely unlikely.  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**  
If skin irritation continues, consult a doctor.  
Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
Carbon dioxide  
Foam  
Water spray  
Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**  
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:**  
Wear fully protective suit.  
Mouth respiratory protective device.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Mount respiratory protective device.  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.

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See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
See product labelling.  
Keep receptacle tightly sealed.
- **Specific end use(s)** Professional Orthodontic Cement

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.  
At this time, the other constituents have no known exposure limits.

### 79-41-4 Methacrylic Acid

REL	Long-term value: 70 mg/m <sup>3</sup> , 20 ppm Skin
TLV	Long-term value: 70 mg/m <sup>3</sup> , 20 ppm

### 64-17-5 Ethyl Alcohol

PEL	Long-term value: 1900 mg/m <sup>3</sup> , 1000 ppm
REL	Long-term value: 1900 mg/m <sup>3</sup> , 1000 ppm
STEL	Short-term value: 1000 mg/m <sup>3</sup>
TLV	Short-term value: 1880 mg/m <sup>3</sup> , 1000 ppm
TWA	Short-term value: 1900 mg/m <sup>3</sup>

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Store protective clothing separately.  
Avoid contact with the eyes and skin.

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- **Breathing equipment:**

*In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.*

- **Protection of hands:**



Protective gloves

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.*

*Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.*

*Selection of the glove material is based on consideration of the penetration times, rates of diffusion and the degradation*

- **Material of gloves**

*The selection of suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.*

- **Penetration time of glove material**

*The exact breakthrough time has to be found out by the manufacturer of the protective gloves and has to be observed.*

- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Protective work clothing

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

<b>Form:</b>	Paste
<b>Color:</b>	Blue
<b>Odor:</b>	Sweetish
<b>Odor threshold:</b>	Not determined.

- **pH-value:** Not applicable (non-aqueous)

- **Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	Undetermined

- **Flash point:** >100 °C

- **Flammability (solid, gaseous):** Not applicable.

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**

<b>Lower:</b>	Not determined.
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<b>Upper:</b>	Not determined.
· <b>Vapor pressure:</b>	Not determined.
· <b>Density:</b>	Not determined
· <b>Relative density</b>	Not determined
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined
· <b>Solvent content:</b>	
<b>VOC content:</b>	2.5-3 % 30.0 g/l / 0.25 lb/gal
<b>VOC (EC)</b>	2.5-3 %
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** Polymerization occurs when exposed to amine catalysts, metal, or pressure.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** Pressure
- **Incompatible materials:**
  - Amine Catalysts
  - Metals
- **Hazardous decomposition products:** Carbon dioxide

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

### ATE (Acute Toxicity Estimate)

Oral	LD50	53,000 mg/kg
Dermal	LD50	25,000 mg/kg
Inhalative	LC50/4 h	355 mg/l

### 109-16-0 Triethylene Glycol Dimethacrylate

Oral	LD50	>5,000 mg/kg (rat)
	LC50 Fish	16.4 mg/l (Fish) (Toxicity to fish)
Dermal	LD50	>2,000 mg/kg (mouse)

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**72869-86-4 Diurethane Dimethacrylate**

Oral	LD50	>5,000 mg/kg (rat)
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**79-41-4 Methacrylic Acid**

Oral	LD50	1,250 mg/kg (mouse)
		1,060 mg/kg (rat)
		1,200 mg/kg (rabbit)
Dermal	LC50 Fish	86 mg/l (Fish)
	LD50	1,000 mg/kg (Guinea pig) 500 mg/kg (rabbit)
Inhalative	LC50/4 h	7.1 mg/l (rat)

**64-17-5 Ethyl Alcohol**

Oral	LD50	5,600 mg/kg (Guinea pig)
		3,400 mg/kg (mouse)
		7,060 mg/kg (rat)
Inhalative	LC50 Fish	>10,000 mg/l (Fish)
	LC50/4 h	39 mg/l (mouse) 20,000 mg/l (rat)

· **Primary irritant effect:**· **on the skin:** Strong caustic effect on skin and mucous membranes.· **on the eye:** Strong caustic effect.· **Sensitization:** Sensitization possible through skin contact.· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· **Carcinogenic categories**· **IARC (International Agency for Research on Cancer)**

64-17-5	Ethyl Alcohol	1
68187-11-1	Co-Cr-AL Spinel Blue Green	2B
14808-60-7	Silica Glass	1
128-37-0	Butylated Hydroxytoluene	3

· **NTP (National Toxicology Program)**

14808-60-7	Silica Glass	K
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· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

· **Carcinogenicity** Ethyl Alcohol, Silica Glass, Co-Cr-AL Spinel Blue Green are on the IARC list of carcinogens.· **Reproductive toxicity** Does not meet the classification criteria for this hazard class.· **Specific target organ toxicity - single exposure** Does not meet the classification criteria for this hazard class.· **Specific target organ toxicity - repeated exposure** Does not meet the classification criteria for this hazard class.· **Aspiration hazard** Does not meet the classification criteria for this hazard class.

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## 12 Ecological information

- **Toxicity**

· <b>Aquatic toxicity:</b>	
<b>109-16-0 Triethylene Glycol Dimethacrylate</b>	
EC50	>100 mg/kg (Algae)
Biodegradability	28 days (Aerobic) (Biodegradability testing)
Aqua toxicity	32 mg/l (daphnia) (No Observed Effect Concentration)
<b>72869-86-4 Diurethane Dimethacrylate</b>	
EC50	>0.6 mg/kg (Algae)
Biodegradability	28 days (Aerobic) (Biodegradability testing)
<b>79-41-4 Methacrylic Acid</b>	
EC50	17,000 mg/kg (Algae)
	<180 mg/kg (daphnia) (Toxicity to aquatic invertebrates)
<b>64-17-5 Ethyl Alcohol</b>	
Algae Toxicity	1,000 mg/l (Algae)

- **Persistence and degradability** No further relevant information available.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

· <b>UN-Number</b>	
· <b>DOT, ADN, IMDG, IATA</b>	Not Regulated
· <b>UN proper shipping name</b>	
· <b>DOT, ADN, IMDG, IATA</b>	Not Regulated

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· <b>Transport hazard class(es)</b>	
· <b>DOT, ADN, IMDG, IATA</b>	
· <b>Class</b>	Not Regulated
· <b>Packing group</b>	
· <b>DOT, IMDG, IATA</b>	Not Regulated
· <b>Environmental hazards:</b>	Not Applicable.
· <b>Special precautions for user</b>	Not Applicable
· <b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not Applicable.
· <b>UN "Model Regulation":</b>	Not Regulated

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**  
No further relevant information available.
- **Sara**

### · **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

### · **Section 313 (Specific toxic chemical listings):**

1344-28-1 Aluminium Oxide

68187-11-1 Co-Cr-AL Spinel Blue Green

### · **TSCA (Toxic Substances Control Act):**

20882-04-6 Mono-2-(Methacryloyloxy) Ethyl Succinate

ACTIVE

109-16-0 Triethylene Glycol Dimethacrylate

ACTIVE

72869-86-4 Diurethane Dimethacrylate

ACTIVE

79-41-4 Methacrylic Acid

ACTIVE

64-17-5 Ethyl Alcohol

ACTIVE

68187-11-1 Co-Cr-AL Spinel Blue Green

ACTIVE

### · **Hazardous Air Pollutants**

68187-11-1 Co-Cr-AL Spinel Blue Green

### · **Proposition 65**

#### · **Chemicals known to cause cancer:**

14808-60-7 Silica Glass

#### · **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

#### · **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

#### · **Chemicals known to cause developmental toxicity:**

64-17-5 Ethyl Alcohol

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· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **ACGIH Carcinogenicity (American Conference of Governmental Industrial Hygienists)**

1344-28-1	Aluminium Oxide	A4
64-17-5	Ethyl Alcohol	A3
14808-60-7	Silica Glass	A2
128-37-0	Butylated Hydroxytoluene	A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

14808-60-7	Silica Glass
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· **Chemical safety assessment:**

Device is biocompatible when used as directed by dental professionals per ISO 10993-1

## 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Department issuing SDS:** Environmental, Health, and Safety

· **Contact:** Customer Service

· **Date of preparation / last revision** 09/16/2021 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 4: Flammable liquids – Category 4

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 3: Acute toxicity – Category 3

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Skin Sens. 1: Skin sensitisation – Category 1

Carc. 2: Carcinogenicity – Category 2