

# SAFETY DATA SHEET

## TOKUYAMA BOND FORCE II

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

**Product name** TOKUYAMA BOND FORCE II

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

**Identified uses** 【Medical device】 Dental adhesive. For dental professionals only.

**Uses Not Recommended** Use only for intended applications.

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

**Supplier** Tokuyama Dental Italy S.r.l.  
Via Chizzalunga, 1,  
36066 Sandrigo, Vicenza, Italy  
TEL: +39-0444-659650  
FAX: +39-0444-750345

**Contact person** <http://www.tokuyama-dental.com/tdc/contact.html>

**Manufacturer** Tokuyama Dental Corporation  
38-9, Taitou 1-chome, Taitou-ku, Tokyo  
110-0016, Japan  
TEL: +81-3-3835-2261  
FAX: +81-3-3835-2265

#### 1.4. Emergency telephone number

**Emergency telephone** Regional Medicines and Poisons Information Centre NI,  
Pharmacy Department  
Royal Hospital Suite, Grosvenor Road, Belfast  
Emergency telephone: 844 892 0111  
Telephone: +44 28 90 63 2032  
Fax: +44 28 90 24 8030  
E-mail address: [nirdic.nirdic@belfasttrust.hscni.net](mailto:nirdic.nirdic@belfasttrust.hscni.net)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (EC 1272/2008)

**Physical hazards** Flam. Liq. 2 - H225

**Health hazards** Skin Irrit. 2 - H315; Eye Irrit. 2 - H319; Skin Sens. 1 - H317; STOT SE 3 - H336

**Environmental hazards** Aquatic Chronic 3 - H412

#### 2.2. Label elements

##### Pictogram



**Signal word** Danger

**Hazard statements** H225 Highly flammable liquid and vapour.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.  
H412 Harmful to aquatic life with long lasting effects.

# TOKUYAMA BOND FORCE II

<b>Precautionary statements</b>	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P501 Dispose of contents/ container in accordance with local regulations.
<b>Contains</b>	PROPAN-2-OL, (1-METHYLETHYLIDENE)BIS[4,1-PHENYLENEOXY(2-HYDROXY-3,1-PROPANEDIYL)] BISMETHACRYLATE, 2-HYDROXYETHYL METHACRYLATE, 2,2'-ETHYLENEDIOXYDIETHYL DIMETHACRYLATE
<b>Supplementary precautionary statements</b>	P240 Ground/ bond container and receiving equipment. P241 Use explosion-proof electrical equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P261 Avoid breathing vapour/ spray. P264 Wash contaminated skin thoroughly after handling. P272 Contaminated work clothing should not be allowed out of the workplace. P273 Avoid release to the environment. P302+P352 IF ON SKIN: Wash with plenty of water. 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. P312 Call a POISON CENTER/ doctor if you feel unwell. P321 Specific treatment (see medical advice on this label). P332+P313 If skin irritation occurs: Get medical advice/ attention. P333+P313 If skin irritation or rash occurs: Get medical advice/ attention. P337+P313 If eye irritation persists: Get medical advice/ attention. P362+P364 Take off contaminated clothing and wash it before reuse. P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish. P403+P235 Store in a well-ventilated place. Keep cool. P405 Store locked up.
<b><u>2.3. Other hazards</u></b>	This product does not contain any substances classified as PBT or vPvB. Endocrine disrupting properties: Not known.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

<b>PROPAN-2-OL</b>	<b>30-60%</b>
CAS number: 67-63-0	EC number: 200-661-7
<b>Classification</b> Flam. Liq. 2 - H225 Eye Irrit. 2 - H319 STOT SE 3 - H336	

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<b>(1-METHYLETHYLIDENE)BIS[4,1-PHENYLENEOXY(2-HYDROXY-3,1-PROPANEDIYL)] BISMETHACRYLATE</b> <span style="float: right;"><b>5-15%</b></span>
CAS number: 1565-94-2                      EC number: 216-367-7
<b>Classification</b> Skin Sens. 1 - H317 Aquatic Chronic 3 - H412
<b>2-PROPENOIC ACID, 2-METHYL-, 2-HYDROXYETHYL ESTER, PHOSPHATE</b> <span style="float: right;"><b>10-30%</b></span>
CAS number: 52628-03-2                      EC number: 258-053-2
<b>Classification</b> Skin Irrit. 2 - H315 Eye Irrit. 2 - H319
<b>2-HYDROXYETHYL METHACRYLATE</b> <span style="float: right;"><b>5-10%</b></span>
CAS number: 868-77-9                      EC number: 212-782-2
<b>Classification</b> Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1 - H317
<b>2,2'-ETHYLENEDIOXYDIETHYL DIMETHACRYLATE</b> <span style="float: right;"><b>5-10%</b></span>
CAS number: 109-16-0                      EC number: 203-652-6
<b>Classification</b> Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1 - H317
<b>N-METHYLDIETHANOLAMINE</b> <span style="float: right;"><b>1-5%</b></span>
CAS number: 105-59-9                      EC number: 203-312-7
<b>Classification</b> Eye Irrit. 2 - H319
<b>2,6-DI-tert-BUTYL-p-CRESOL</b> <span style="float: right;"><b>1-5%</b></span>
CAS number: 128-37-0                      EC number: 204-881-4 M factor (Chronic) = 1
<b>Classification</b> Aquatic Chronic 1 - H410

The full text for all hazard statements is displayed in Section 16.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

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<b>General information</b>	Move affected person to fresh air at once. Get medical attention if any discomfort continues.
<b>Inhalation</b>	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.
<b>Ingestion</b>	Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention if any discomfort continues.
<b>Skin contact</b>	Wash skin thoroughly with soap and water. Get medical attention if any discomfort continues. Take off contaminated clothing and wash it before reuse.
<b>Eye contact</b>	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing.

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

<b>Inhalation</b>	May cause drowsiness or dizziness.
<b>Skin contact</b>	Causes skin irritation. May cause an allergic skin reaction.
<b>Eye contact</b>	Causes serious eye irritation.

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

<b>Notes for the doctor</b>	No specific recommendations.
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## **SECTION 5: Firefighting measures**

### 5.1. Extinguishing media

**Suitable extinguishing media** Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

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

<b>Specific hazards</b>	In case of fire, toxic gases may be formed. The product is highly flammable.
<b>Hazardous combustion products</b>	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

### 5.3. Advice for firefighters

<b>Protective actions during firefighting</b>	Avoid breathing fire gases or vapours. Keep up-wind to avoid fumes. Move containers from fire area if it can be done without risk. Containers close to fire should be removed or cooled with water. No smoking, sparks, flames or other sources of ignition near spillage.
<b>Special protective equipment for firefighters</b>	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

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

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

<b>Personal precautions</b>	Wear protective clothing as described in Section 8 of this safety data sheet. No smoking, sparks, flames or other sources of ignition near spillage.
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### 6.2. Environmental precautions

<b>Environmental precautions</b>	Do not discharge into drains or watercourses or onto the ground.
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### 6.3. Methods and material for containment and cleaning up

<b>Methods for cleaning up</b>	Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Absorb in vermiculite, dry sand or earth and place into containers. Avoid the spillage or runoff entering drains, sewers or watercourses. Use only non-sparking tools.
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## 6.4. Reference to other sections

**Reference to other sections** For waste disposal, see Section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Usage precautions** All handling should only take place in well-ventilated areas. Storage tanks and other containers must be earthed. Take precautionary measures against static discharges. Keep away from heat, sparks and open flame. Use non sparking handtools and explosion-proof electric equipment. Good personal hygiene procedures should be implemented. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site.

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

**Storage precautions** Store in a cool, dark place (0-25°C, 32-77°F). Keep away from heat, direct sunlight, sparks and open flames.

**Storage class** Flammable liquid storage.

### 7.3. Specific end use(s)

**Specific end use(s)** The identified uses for this product are detailed in Section 1.2.

## SECTION 8: Exposure Controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

##### PROPAN-2-OL

Long-term exposure limit (8-hour TWA): WEL 400 ppm 999 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): WEL 500 ppm 1250 mg/m<sup>3</sup>

##### 2,6-DI-tert-BUTYL-p-CRESOL

Long-term exposure limit (8-hour TWA): WEL 10 mg/m<sup>3</sup>

WEL = Workplace Exposure Limit

### 8.2. Exposure controls

**Appropriate engineering controls** Use explosion-proof general and local exhaust ventilation.

**Eye/face protection** Wear approved safety goggles.

**Hand protection** Wear protective gloves.

**Other skin and body protection** Wear appropriate clothing to prevent any possibility of skin contact.

**Hygiene measures** Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station and safety shower. Do not smoke in work area. Promptly remove any clothing that becomes contaminated. Wash promptly with soap and water if skin becomes contaminated. Wash hands at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke.

**Respiratory protection** Wear suitable respiratory protection.

## SECTION 9: Physical and Chemical Properties

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

**Appearance** Liquid

**Colour** Light (or pale) yellow

## TOKUYAMA BOND FORCE II

Odour	Characteristic
Odour threshold	Not available.
pH	pH (concentrated solution): 2.8
Melting point	Not available.
Initial boiling point and range	Not available.
Flash point	17°C
Evaporation rate	Not available.
Evaporation factor	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Not available.
Other flammability	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	0.986
Solubility(ies)	Not available.
Partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Not available.
<b><u>9.2. Other information</u></b>	
Other information	Not available.

### SECTION 10: Stability and reactivity

#### **10.1. Reactivity**

**Reactivity** The following materials may react with the product: Alkalis. Strong oxidising agents.

#### **10.2. Chemical stability**

**Stability** The product is highly flammable. Stable at normal ambient temperatures and when used as recommended.

#### **10.3. Possibility of hazardous reactions**

**Possibility of hazardous reactions** Not known.

#### **10.4. Conditions to avoid**

**Conditions to avoid** Keep away from heat, sparks and open flame. Protect against direct sunlight.

#### **10.5. Incompatible materials**

**Materials to avoid** Strong oxidising agents. Alkalis.

## TOKUYAMA BOND FORCE II

### 10.6. Hazardous decomposition products

**Hazardous decomposition products** Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### **Acute toxicity - Ingestion**

Calculation method : Not classified.

#### **Acute toxicity - Skin Contact**

Calculation method : Not classified. No data.

#### **Acute toxicity - Inhalation**

Calculation method : Not classified. No data.

#### **Skin corrosion/irritation**

Calculation method : Causes skin irritation.

#### **Serious eye damage/irritation**

Calculation method : Causes serious eye irritation.

#### **Skin sensitization**

Calculation method : May cause an allergic skin reaction.

#### **Respiratory sensitization**

Calculation method : Not classified.

#### **Germ cell mutagenicity**

Calculation method : Not classified.

#### **Carcinogenicity**

Calculation method : Not classified.

#### **Reproductive toxicity**

Calculation method : Not classified.

#### **Lactation**

Calculation method : Not classified.

#### **STOT - single exposure**

Calculation method : May cause drowsiness or dizziness.

#### **STOT - repeated exposure**

Calculation method : Not classified.

#### **Aspiration hazard**

Calculation method : Not classified. Not applicable.

### 11.2 Other information

Route(s) of entry Skin, Eyes, Ingestion, Inhalation, Health effects: See section 4.2.

Endocrine disrupting properties: Not known.

## SECTION 12: Ecological Information

### 12.1 Toxicity

**Toxicity - Aquatic invertebrates** Not classified.

**Toxicity - Fish** Not classified.

**Toxicity - Algae** Not classified.

**Toxicity - Sediment Compartment** Not classified.

**Toxicity - Terrestrial Compartment** Not classified.

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### 12.2 Persistence and degradability

Not known.

### 12.3 Bioaccumulative potential

Not known.

### 12.4 Mobility in soil

Not known.

### 12.5 Results of PBT and vPvB assessment

This product does not contain any substances classified as PBT or vPvB.

### 12.6 Endocrine disrupting properties

Not known.

### 12.7 Other adverse effects

Not known.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Dispose of contents/ container in accordance with the local/ regional/ national/ international regulations.

Must not be disposed of together with household garbage. Dispose at suitable refuse site. Do not allow to enter drains, sewers or watercourses. Empty containers may retain some product residues and hence be potentially hazardous.

### 13.2 Additional Information

Disposal should be in accordance with local, state or national legislation.

## SECTION 14: Transport information

### 14.1. UN number

UN No. (ADR/RID) 1133

UN No. (IMDG) 1133

UN No. (ICAO) 1133

### 14.2. UN proper shipping name

Proper shipping name (ADR/RID) ADHESIVES

Proper shipping name (IMDG) ADHESIVES

Proper shipping name (ICAO) ADHESIVES

Proper shipping name (ADN) ADHESIVES

### 14.3. Transport hazard class(es)

ADR/RID class 3

ADR/RID label 3

IMDG class 3

ICAO class/division 3



## TOKUYAMA BOND FORCE II

### Transport labels



#### 14.4. Packing group

ADR/RID packing group II

IMDG packing group II

ICAO packing group II

#### 14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

#### 14.6. Special precautions for user

EmS F-E, S-D

Emergency Action Code •3YE

Hazard Identification Number 33  
(ADR/RID)

Tunnel restriction code (D/E)

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

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

### SECTION 15: Regulatory information

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

EU legislation (EC) No 1907/2006 (REACH).  
(EC) No 1272/2008 (CLP).  
(EU) No 2015/830.

#### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

### SECTION 16: Other information

Classification procedures according to Regulation (EC) 1272/2008 Flam. Liq. 2 - H225: On basis of test data. Skin Irrit. 2 - H315: Calculation method. Eye Irrit. 2 - H319: Calculation method. Skin Sens. 1 - H317: Calculation method. STOT SE 3 - H336: Calculation method. Aquatic Chronic 3 - H412: Calculation method.

Training advice Ensure operatives are trained to minimise exposure. Only trained personnel should use this material.

#### Revision comments

Revision date 15/12/2022

Revision 6

## TOKUYAMA BOND FORCE II

### Hazard statements in full

H225 Highly flammable liquid and vapour.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.  
H410 Very toxic to aquatic life with long lasting effects.  
H412 Harmful to aquatic life with long lasting effects.

The information which is contained in this document is based on available data. However, as such has been obtained from various sources, including independent laboratories, it is given without warranty or representation that is complete, accurate and can be relied upon. Tokuyama Dental Corp. has not attempted to conceal in any way the deleterious aspects of the product listed herein, but makes no warranty as to such information.