

## SAFETY DATA SHEETS

**This SDS packet was issued with item:**

075216437

**The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).**

075216429 075216445 075216460 075216478

**The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).**

075216411 075216452

Revision Date 08/12/2016

Revision 2

## SAFETY DATA SHEET TOKUYAMA BOND FORCE

### 1. IDENTIFICATION

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Name</b>        | TOKUYAMA BOND FORCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Identified uses</b>     | Dental Adhesive. For dental professionals only.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Supplier</b>            | Tokuyama Dental America Inc.<br>Tel: (877) 378 3548 (Toll-Free)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Contact Person</b>      | <a href="http://www.tokuyama-dental.com/tdc/contact.html">http://www.tokuyama-dental.com/tdc/contact.html</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Manufacturer</b>        | Tokuyama Dental Corporation<br>38-9, Taitou 1-chome, Taitou-ku, Tokyo<br>110-0016, Japan<br>TEL: +81-3-3835-2261                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Emergency Telephone</b> | California Poison Control System - San Francisco Division<br>San Francisco General Hospital<br>Bldg 5 Rm 2A21, 1001 Potrero Ave, San Francisco<br>Emergency telephone number: +1 800 222 1222<br>E-mail address: <a href="mailto:coadmin@calpoison.org">coadmin@calpoison.org</a><br><a href="http://www.calpoison.org">http://www.calpoison.org</a><br><br>National Capital Poison Center<br>3201 New Mexico Ave, Ste 310, Washington DC<br>Emergency telephone number : + 1 800 222 1222<br>Telephone number : +1 202 362 3867<br>Facsimile number: +1 202 362 8377<br>E- mail address: <a href="mailto:pc@poison.org">pc@poison.org</a><br><a href="http://www.poison.org">http://www.poison.org</a> |

### 2. HAZARD(S) IDENTIFICATION

|                      |                        |
|----------------------|------------------------|
| <b>Appearance</b>    | Liquid                 |
| <b>Color</b>         | Light (or pale) yellow |
| <b>Odor</b>          | Characteristic         |
| <b>GHS Pictogram</b> |                        |



|                    |        |
|--------------------|--------|
| <b>Signal Word</b> | Danger |
|--------------------|--------|

|                          |                                                      |
|--------------------------|------------------------------------------------------|
| <b>Hazard Statements</b> |                                                      |
| 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.                   |
| H361fd                   | Suspected of damaging fertility or the unborn child. |
| H412                     | Harmful to aquatic life with long lasting effects.   |

|                                 |                                                                    |
|---------------------------------|--------------------------------------------------------------------|
| <b>Precautionary Statements</b> |                                                                    |
| P210                            | Keep away from heat/sparks/open flames/hot surfaces. – No smoking. |

## TOKUYAMA BOND FORCE

|              |                                                                                                                                  |
|--------------|----------------------------------------------------------------------------------------------------------------------------------|
| P271         | Use only outdoors or in a well-ventilated area.                                                                                  |
| P273         | Avoid release to the environment.                                                                                                |
| P280         | Wear protective gloves/protective clothing/eye protection/face protection.                                                       |
| P261         | Avoid breathing vapour/spray.                                                                                                    |
| P305+351+338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P312         | Call a POISON CENTER or doctor/physician if you feel unwell.                                                                     |
| P403+233     | Store in a well-ventilated place. Keep container tightly closed.                                                                 |
| P501         | Dispose of contents/container in accordance with local regulations.                                                              |

### Contains

2-HYDROXYETHYL METHACRYLATE  
 bisphenol A di(2-hydroxy propoxy) dimethacrylate  
 diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide  
 PROPAN-2-OL  
 triethylene glycol dimethacrylate

### GHS Classification

|                               |                                                                                                    |
|-------------------------------|----------------------------------------------------------------------------------------------------|
| Physical and Chemical Hazards | Flam. Liq. 2 - H225                                                                                |
| Human health                  | Skin Irrit. 2 - H315; Eye Irrit. 2 - H319; Skin Sens. 1 - H317; Repr. 2 - H361fd; STOT SE 3 - H336 |
| Environment                   | Aquatic Chronic 3 - H412                                                                           |

### Hazard Not Otherwise Classified (HNOC)

Not applicable.

### OSHA Regulatory Status

This Product is Hazardous under the OSHA Hazard Communication Standard.

### General Information

May cause irritation to the respiratory system. Solvent vapors are hazardous and may cause nausea, sickness and headaches. Vapors may cause drowsiness and dizziness. IF SWALLOWED: Slightly irritating. ( DIGESTIVE SYSTEM. ) The liquid is irritating to eyes and skin. Product has a defatting effect on skin. May cause sensitization by skin contact.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

|                                                                                          |                |
|------------------------------------------------------------------------------------------|----------------|
| <b>2-HYDROXYETHYL METHACRYLATE</b><br><br><b>CAS No.: 868-77-9</b>                       | <b>10-30%</b>  |
| GHS Classification<br>Skin Irrit. 2 - H315; Eye Irrit. 2 - H319; Skin Sens. 1 - H317     |                |
| <b>bisphenol A di(2-hydroxy propoxy) dimethacrylate</b><br><br><b>CAS No.: 1565-94-2</b> | <b>10-20%</b>  |
| GHS Classification<br>Skin Sens. 1 - H317; Aquatic Chronic 3 - H412                      |                |
| <b>camphorquinone</b><br><br><b>CAS No.: 10373-78-1</b>                                  | <b>&lt; 1%</b> |
| GHS Classification<br>Not classified.                                                    |                |

## TOKUYAMA BOND FORCE

|                                                                                                     |                |
|-----------------------------------------------------------------------------------------------------|----------------|
| <b>dibutyl hydroxy toluene</b><br><br><b>CAS No.: 128-37-0</b>                                      | <b>&lt; 1%</b> |
| GHS Classification<br>Aquatic Chronic 1 - H410                                                      |                |
| <b>diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide</b><br><br><b>CAS No.: 75980-60-8</b>            | <b>&lt; 1%</b> |
| GHS Classification<br>Repr. 2 - H361f                                                               |                |
| <b>MEQUINOL</b><br><br><b>CAS No.: 150-76-5</b>                                                     | <b>&lt; 1%</b> |
| GHS Classification<br>Acute Tox. 4 - H302; Eye Irrit. 2 - H319; Skin Sens. 1 - H317                 |                |
| <b>methacryloxyalkyl acid phosphate (phosphoric acid monomer)</b><br><br><b>CAS No.: 52628-03-2</b> | <b>10-30%</b>  |
| GHS Classification<br>Skin Irrit. 2 - H315; Eye Irrit. 2 - H319                                     |                |
| <b>PROPAN-2-OL</b><br><br><b>CAS No.: 67-63-0</b>                                                   | <b>30-60%</b>  |
| GHS Classification<br>Flam. Liq. 2 - H225; Eye Irrit. 2 - H319; STOT SE 3 - H336                    |                |
| <b>triethylene glycol dimethacrylate</b><br><br><b>CAS No.: 109-16-0</b>                            | <b>5-10%</b>   |
| GHS Classification<br>Skin Irrit. 2 - H315; Eye Irrit. 2 - H319; Skin Sens. 1 - H317                |                |

### 4. FIRST-AID MEASURES

#### Description of first aid measures

##### General Information

Move the exposed person to fresh air at once. Get medical attention if any discomfort continues.

##### Inhalation

Move the exposed person to fresh air at once.

## TOKUYAMA BOND FORCE

### Ingestion

Immediately rinse mouth and drink plenty of water (200-300 ml). Get medical attention if any discomfort continues.

### Skin Contact

Wash the skin immediately with soap and water.

### Eye Contact

Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Contact physician if irritation persists.

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

#### Inhalation

Irritating to respiratory system. Vapors may cause drowsiness and dizziness.

#### Ingestion

Slightly irritating. ( DIGESTIVE SYSTEM. )

#### Skin Contact

Irritating to skin. Product has a defatting effect on skin. May cause sensitization by skin contact.

#### Eye Contact

Irritating and may cause redness and pain.

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

#### Notes To The Physician

CAUTION! First aid personnel must be aware of own risk during rescue! Wear suitable protective clothing.

## 5. FIRE-FIGHTING MEASURES

#### Auto Ignition Temperature (°C)

Not available.

#### Flammability Limit - Lower(%)

Not available.

#### Flammability Limit - Upper(%)

Not available.

**Flash point (°C)** 20.0 °C

#### Extinguishing Media

Fire can be extinguished using: Foam. Carbon dioxide or dry powder.

#### Specific Hazards

When heated and in case of fire, irritating vapors/gases may be formed.

#### Special Fire Fighting Procedures

Avoid breathing fire vapors.

#### Protective Equipment For Fire-Fighters

Wear full protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

#### Personal Precautions

Wear protective clothing as described in Section 8 of this material safety data sheet.

#### Environmental Precautions

Do not discharge into drains, water courses or onto the ground.

#### Spill Clean Up Methods

Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Absorb in vermiculite, dry sand or earth and place into containers. Do not contaminate water sources or sewer.

#### Reference to other sections

For personal protection, see section 8.

## 7. HANDLING AND STORAGE

#### Handling

Do not handle until all safety precautions have been read and understood. All handling to take place in well-ventilated area.

#### Storage

Store under refrigerated conditions at temperatures between 0 to 10°C (32 to 50°F). Keep away from heat, direct sunlight, sparks and open flames.

#### Storage Class

Flammable liquid storage.

## TOKUYAMA BOND FORCE

### Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

| COMPONENT               | STD   | TWA (8-hrs) |                       | STEL (15 min) |  | Notes    |
|-------------------------|-------|-------------|-----------------------|---------------|--|----------|
| dibutyl hydroxy toluene | ACGIH |             | 2 mg/m <sup>3</sup>   |               |  | A4       |
| PROPAN-2-OL             | ACGIH | 200 ppm     |                       | 400 ppm       |  | A4       |
| PROPAN-2-OL             | PEL   | 400 ppm     | 980 mg/m <sup>3</sup> |               |  |          |
| COMPONENT               |       |             |                       |               |  | IDLH     |
| PROPAN-2-OL             |       |             |                       |               |  | 2000 ppm |

ACGIH=American Conference of Governmental Industrial Hygienists.

A4: Not Classifiable as a Human Carcinogen.

### Protective Equipment



### Engineering Measures

Provide adequate general and local exhaust ventilation.

### Respiratory Equipment

In case of inadequate ventilation use suitable respirator.

### Hand Protection

Wear protective gloves.

### Eye Protection

Wear approved safety goggles.

### Other Protection

Wear appropriate clothing to prevent any possibility of skin contact.

### Hygiene Measures

DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash promptly with soap & water if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

|                                                |                           |
|------------------------------------------------|---------------------------|
| <b>Appearance</b>                              | Liquid                    |
| <b>Color</b>                                   | Light (or pale) yellow    |
| <b>Odor</b>                                    | Characteristic            |
| <b>Solubility</b>                              | No information available. |
| <b>Initial boiling point and boiling range</b> |                           |
| Not available.                                 |                           |
| <b>Melting point (°C)</b>                      |                           |
| Not available.                                 |                           |
| <b>Relative density</b>                        | 1.00                      |
| <b>Vapor density (air=1)</b>                   |                           |
| Not available.                                 |                           |
| <b>Vapor pressure</b>                          |                           |
| Not available.                                 |                           |
| <b>Evaporation rate</b>                        |                           |
| Not available.                                 |                           |
| <b>pH-Value, Conc. Solution</b>                |                           |
| Not available.                                 |                           |
| <b>pH-Value, Diluted Solution</b>              | 2.3                       |

## TOKUYAMA BOND FORCE

### Viscosity

Not available.

### Decomposition temperature (°C)

Not available.

### Odour Threshold, Lower

Not available.

### Odour Threshold, Upper

Not available.

**Flash point** 20.0 °C

### Auto Ignition Temperature (°C)

Not available.

### Flammability Limit - Lower(%)

Not available.

### Flammability Limit - Upper(%)

Not available.

### Partition Coefficient

(N-Octanol/Water)

Not available.

### Explosive properties

Not available.

### Other Flammability

Not available.

### Oxidising properties

Not available.

## 10. STABILITY AND REACTIVITY

### Reactivity

No information available.

### Stability

HIGHLY FLAMMABLE!

Hazardous reactions:

Not available.

### Conditions To Avoid

Keep away from heat, sparks and open flame. Protect against direct sunlight.

### Materials To Avoid

Strong oxidizing agents.

### Hazardous Decomposition Products

Toxic gases are generated when heated.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity:

Not available.

### Skin Corrosion/Irritation:

Irritating to skin. Product has a defatting effect on skin.

### Serious eye damage/irritation:

Irritating and may cause redness and pain.

### Respiratory or skin sensitisation:

#### Respiratory sensitisation

Not available.

#### Skin sensitisation

May cause sensitization by skin contact.

### Germ cell mutagenicity:

Not available.

## TOKUYAMA BOND FORCE

### Carcinogenicity:

#### **IARC Carcinogenicity**

Butylated hydroxytoluene (BHT) , PROPAN-2-OL : IARC Group 3 Not classifiable as to its carcinogenicity to humans.

#### **NTP - Carcinogenicity**

Not listed.

#### **OSHA - Carcinogenicity**

Not listed.

### Reproductive Toxicity:

No information available.

### Specific target organ toxicity - single exposure:

May cause irritation to the respiratory system. Vapors may cause drowsiness and dizziness.

### Specific target organ toxicity - repeated exposure:

#### **STOT - Repeated exposure**

Not available.

### Aspiration hazard:

#### **Viscosity**

Not available.

## 12. ECOLOGICAL INFORMATION

### **Ecotoxicity**

The product contains a substance which is harmful to aquatic organisms and which may cause long term adverse effects in the aquatic environment.

### **Toxicity**

No data available.

### **Degradability**

No data available.

### **Bioaccumulative potential**

No data available on bioaccumulation.

### **Partition coefficient**

Not available.

### **Mobility:**

No information available.

### **Results of PBT and vPvB assessment**

This product does not contain any PBT or vPvB Substances.

### **Other adverse effects**

Not known.

## 13. DISPOSAL CONSIDERATIONS

### **Disposal Methods**

Dispose of waste and residues in accordance with local authority requirements.

## 14. TRANSPORT INFORMATION

|                                 |                                          |
|---------------------------------|------------------------------------------|
| <b>UN No. (DOT/TDG)</b>         | 1133                                     |
| <b>UN No. (IMDG)</b>            | 1133                                     |
| <b>UN No. (ICAO)</b>            | 1133                                     |
| <b>DOT Proper Shipping Name</b> | ADHESIVES, CONTAINING A FLAMMABLE LIQUID |
| <b>TDG Proper Shipping Name</b> | ADHESIVES, CONTAINING A FLAMMABLE LIQUID |
| <b>DOT Hazard Class</b>         | 3                                        |
| <b>DOT Hazard Label</b>         | Flammable Liquid                         |

## TOKUYAMA BOND FORCE

|                  |   |
|------------------|---|
| TDG Class        | 3 |
| TDG Label(s)     | 3 |
| IMDG Class       | 3 |
| ICAO Class       | 3 |
| Transport Labels |   |



|                 |    |
|-----------------|----|
| DOT Pack Group  | II |
| IMDG Pack Group | II |
| Air Pack Group  | II |

Environmentally Hazardous Substance/Marine Pollutant  
No.

|                              |                |
|------------------------------|----------------|
| EMS                          | F-E, S-D       |
| Special precautions for user | Not available. |

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

### 15. REGULATORY INFORMATION

#### Regulatory Status (US)

This Product is Hazardous under the OSHA Hazard Communication Standard.

#### Regulatory References

29 CFR 1910. 1200(g) Federal Regulations (OSHA Standard).

#### US Federal Regulations

##### SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities

None of the ingredients are listed.

##### CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

None of the ingredients are listed.

##### SARA Extremely Hazardous Substances EPCRA Reportable Quantities

None of the ingredients are listed.

##### SARA 313 Emission Reporting

The following ingredients are listed.

PROPAN-2-OL

##### CAA Accidental Release Prevention

None of the ingredients are listed.

##### SARA (311/312) Hazard Categories

Fire Acute Chronic

##### OSHA Highly Hazardous Chemicals

None of the ingredients are listed.

#### US State Regulations

##### California Proposition 65 Carcinogens and Reproductive Toxins

None of the ingredients are listed.

##### California Air Toxics "Hot Spots" (A-I)

The following ingredients are listed.

PROPAN-2-OL

##### California Air Toxics "Hot Spots" (A-II)

None of the ingredients are listed.

## TOKUYAMA BOND FORCE

### Massachusetts "Right To Know" List

The following ingredients are listed.

dibutyl hydroxy toluene

MEQUINOL

PROPAN-2-OL

### Rhode Island "Right To Know" List

The following ingredients are listed.

dibutyl hydroxy toluene

MEQUINOL

PROPAN-2-OL

### Minnesota "Right To Know" List

The following ingredients are listed.

dibutyl hydroxy toluene

MEQUINOL

PROPAN-2-OL

### New Jersey "Right To Know" List

The following ingredients are listed.

dibutyl hydroxy toluene

MEQUINOL

PROPAN-2-OL

### Pennsylvania "Right To Know" List

The following ingredients are listed.

dibutyl hydroxy toluene

MEQUINOL

PROPAN-2-OL

### International Inventories

#### EU - EINECS/ELINCS

All ingredients are listed or exempt.

#### Canada – DSL/NDSL

All ingredients are listed or exempt.

#### US - TSCA

All ingredients are listed or exempt.

#### US – TSCA 12(b) Export Notification

None of the ingredients are listed.

## 16. OTHER INFORMATION

### Revision Comments

Revision Date 08/12/2016

Revision 2

### Disclaimer

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.