1. IDENTIFICATION

TOKUYAMA BOND FORCE

Product Name: TOKUYAMA BOND FORCE

Identified uses: Dental Adhesive. For dental professionals only.

Supplier: Tokuyama Dental America Inc.
Tel: (877) 378 3548 (Toll-Free)

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

Emergency Telephone:
California Poison Control System - San Francisco Division
San Francisco General Hospital
Bldg 5 Rm 2A21, 1001 Potrero Ave, San Francisco
Emergency telephone number: +1 800 222 1222
E-mail address: coadmin@calpoison.org
http://www.calpoison.org

National Capital Poison Center
3201 New Mexico Ave, Ste 310, Washington DC
Emergency telephone number: +1 800 222 1222
Telephone number: +1 202 362 3867
Facsimile number: +1 202 362 8377
E-mail address: pc@poison.org
http://www.poison.org

2. HAZARD(S) IDENTIFICATION

Appearance: Liquid
Color: Light yellow
Odor: Characteristic

GHS 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.
H361fd Suspected of damaging fertility or the unborn child.
H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements:
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 - H361f; 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

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-HYDROXYETHYL METHACRYLATE</td>
<td>10-30%</td>
</tr>
<tr>
<td>CAS No.: 868-77-9</td>
<td></td>
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<tr>
<td>GHS Classification</td>
<td></td>
</tr>
<tr>
<td>Skin Irrit. 2 - H315; Eye Irrit. 2 - H319; Skin Sens. 1 - H317</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>bisphenol A di(2-hydroxy propoxy) dimethacrylate</td>
<td>10-20%</td>
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<tr>
<td>CAS No.: 1585-94-2</td>
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<td>GHS Classification</td>
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<table>
<thead>
<tr>
<th>Ingredient</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>camphorquinone</td>
<td>&lt; 1%</td>
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<td>CAS No.: 10373-78-1</td>
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<td>Skin Irrit. 2 - H315; Eye Irrit. 2 - H319; STOT SE 3 - H335</td>
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</table>
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.
Specific end use(s)
The identified uses for this product are detailed in Section 1.2.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>STD</th>
<th>TWA (8-hrs)</th>
<th>STEL (15 min)</th>
<th>Notes</th>
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<tbody>
<tr>
<td>dibutyl hydroxy toluene</td>
<td>ACGIH</td>
<td>2 mg/m³</td>
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<tr>
<td>PROPAN-2-OL</td>
<td>ACGIH</td>
<td>200 ppm</td>
<td>400 ppm</td>
<td>A4</td>
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<tr>
<td>PROPAN-2-OL</td>
<td>PEL</td>
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<tbody>
<tr>
<td>PROPAN-2-OL</td>
<td>2000 ppm</td>
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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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
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<tr>
<td>Color</td>
<td>Light yellow</td>
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<tr>
<td>Odor</td>
<td>Characteristic</td>
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<tr>
<td>Solubility</td>
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<tr>
<td>Initial boiling point and boiling range</td>
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<td>Melting point (°C)</td>
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<td>Relative density</td>
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<tr>
<td>Vapor density (air=1)</td>
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<tr>
<td>Vapor pressure</td>
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<tr>
<td>Evaporation rate</td>
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<tr>
<td>pH-Value, Conc. Solution</td>
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<tr>
<td>pH-Value, Diluted Solution</td>
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</table>
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.
Carcinogenicity:
IARC Carcinogenicity
Butylated hydroxytoluene (BHT) , PROPA N-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

UN No. (DOT/TDG)  1133
UN No. (IMDG)  1133
UN No. (ICAO)  1133
DOT Proper Shipping Name ADHESIVES, CONTAINING A FLAMMABLE LIQUID
TDG Proper Shipping Name ADHESIVES, CONTAINING A FLAMMABLE LIQUID
DOT Hazard Class 3

DOT Hazard Label
Flammable Liquid
15. REGULATORY INFORMATION

Regulatory Status (US)
This Product is Hazardous under the OSHA Hazard Communication Standard.

Regulatory References

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.
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

<table>
<thead>
<tr>
<th>Revision Date</th>
<th>01/12/2018</th>
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<tbody>
<tr>
<td>Revision</td>
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Disclaimer
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