

SAFETY DATA SHEET

TOKUYAMA BOND FORCE

1. Identification

Product identifier

Product name TOKUYAMA BOND FORCE

Recommended use of the chemical and restrictions on use

Restriction on use Dental Adhesive. For dental professionals only.

Details of the supplier of the safety data sheet

Supplier Tokuyama Dental America, Inc.
740 Garden View CT., Suite 200 Encinitas, CA 92024 U.S.A.
Tel: +1-760-942-7211
Fax: +1-760-942-7212

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

Emergency telephone number

Emergency telephone Tokuyama Dental America, Inc. Tel: +1-760-942-7211
Days and hours of operation : 9:00-17:00(PST/PDT), Weekdays, except national holidays in US.
Language: English only.

2. Hazard identification

Classification of the substance or mixture

WHMIS Regulatory Status This product has been classified according to the hazard criteria of the Hazardous Product Regulations and the SDS contains all required information.

Physical hazards Flam. Liq. 2 - H225

Health hazards Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1 - H317 Repr. 2 - H361f STOT SE 3 - H336

Environmental hazards Not Classified

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.
H361f Suspected of damaging fertility.

TOKUYAMA BOND FORCE

Precautionary statements	<p>P201 Obtain special instructions before use.</p> <p>P202 Do not handle until all safety precautions have been read and understood.</p> <p>P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</p> <p>P240 Ground and bond container and receiving equipment.</p> <p>P241 Use explosion-proof electrical equipment.</p> <p>P242 Use non-sparking tools.</p> <p>P243 Take action to prevent static discharges.</p> <p>P261 Avoid breathing vapour/ spray.</p> <p>P264 Wash contaminated skin thoroughly after handling.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P272 Contaminated work clothing should not be allowed out of the workplace.</p> <p>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>P302+P352 IF ON SKIN: Wash with plenty of water.</p> <p>P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].</p> <p>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P308+P313 IF exposed or concerned: Get medical advice/ attention.</p> <p>P312 Call a POISON CENTRE/doctor if you feel unwell.</p> <p>P321 Specific treatment (see medical advice on this label).</p> <p>P332+P313 If skin irritation occurs: Get medical advice/ attention.</p> <p>P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.</p> <p>P337+P313 If eye irritation persists: Get medical advice/ attention.</p> <p>P362+P364 Take off contaminated clothing and wash it before reuse.</p> <p>P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.</p> <p>P403+P233 Store in a well-ventilated place. Keep container tightly closed.</p> <p>P403+P235 Store in a well-ventilated place. Keep cool.</p> <p>P405 Store locked up.</p> <p>P501 Dispose of contents/ container in accordance with local regulations.</p>
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3. Composition/information on ingredients

Mixtures

ISOPROPYL ALCOHOL CAS number: 67-63-0	30-60%
2-PROPENOIC ACID, 2-METHYL-, (1-METHYLETHYLIDENE)BIS[4,1-PHENYLENEOXY(2-HYDROXY-3,1-PROPANEDIYL)] ESTER CAS number: 1565-94-2	10-20%
2-PROPENOIC ACID, 2-METHYL-, 2-HYDROXYETHYL ESTER CAS number: 868-77-9	10-30%
2-PROPENOIC ACID, 2-METHYL-, 2-HYDROXYETHYL ESTER, PHOSPHATE CAS number: 52628-03-2	10-30%

TOKUYAMA BOND FORCE

2-PROPENOIC ACID, 2-METHYL-, 1,2-ETHANEDIYLBIS(OXY-2,1-ETHANEDIYL) ESTER CAS number: 109-16-0	5-10%
BICYCLO[2.2.1]HEPTANE-2,3-DIONE, 1,7,7-TRIMETHYL-, (±)- CAS number: 10373-78-1	1-5%
PHOSPHINE OXIDE, DIPHENYL(2,4,6-TRIMETHYLBENZOYL)- CAS number: 75980-60-8	<1%
2,6-DI-t-BUTYL-4-METHYLPHENOL CAS number: 128-37-0 M factor (chronic) = 1	<1%
PHENOL, 4-METHOXY- CAS number: 150-76-5	<1%

4. First-aid measures

Description of first aid measures

General information	Move affected person to fresh air at once. Get medical attention if any discomfort continues.
Inhalation	Move affected person to fresh air at once.
Ingestion	Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention if any discomfort continues.
Skin contact	Wash skin thoroughly with soap and water. Take off contaminated clothing and wash it before reuse.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation persists after washing.

Most important symptoms and effects, both acute and delayed

Inhalation	Vapours may cause drowsiness and dizziness.
Ingestion	Suspected of damaging fertility.
Skin contact	Skin irritation. Allergic rash.
Eye contact	May cause severe eye irritation.

Indication of any immediate medical attention and special treatment needed

Notes for the doctor	No specific recommendations.
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5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media Extinguish with the following media: Foam. Carbon dioxide or dry powder.

Specific hazards arising from the hazardous product

Specific hazards Irritating gases or vapours. The product is highly flammable.

TOKUYAMA BOND FORCE

Hazardous combustion products No known hazardous decomposition products.

Advice for firefighters

Protective actions during firefighting Avoid breathing fire gases or vapours.

Special protective equipment for firefighters Wear chemical protective suit.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. No smoking, sparks, flames or other sources of ignition near spillage.

Environmental precautions

Environmental precautions Do not discharge into drains or watercourses or onto the ground.

Methods and material for containment and cleaning up

Methods for cleaning up 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. Use non-sparking tools. Ground/bond container and receiving equipment. Avoid the spillage or runoff entering drains, sewers or watercourses.

Reference to other sections

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

7. Handling and storage

Precautions for safe handling

Usage precautions Wear protective clothing as described in Section 8 of this safety data sheet. All handling should only take place in well-ventilated areas. Avoid inhalation of vapours/spray and contact with skin and eyes. Take precautionary measures against static discharges. Use explosion-proof electrical, ventilating and lighting equipment.

Conditions for safe storage, including any incompatibilities

Storage precautions Store in a cool and well-ventilated place. Protect from sunlight. Store at temperatures between 0°C/10°F and 32°C/50°F.

Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.

8. Exposure Controls/personal protection

Control parameters

Occupational exposure limits

ISOPROPYL ALCOHOL

Long-term exposure limit (8-hour TWA): ACGIH 200 ppm 492 mg/m³

Short-term exposure limit (15-minute): ACGIH 400 ppm 984 mg/m³

A4

2,6-DI-t-BUTYL-4-METHYLPHENOL

Long-term exposure limit (8-hour TWA): ACGIH 2 mg/m³ inhalable fraction and vapor

A4

PHENOL, 4-METHOXY-

TOKUYAMA BOND FORCE

Long-term exposure limit (8-hour TWA): ACGIH 5 mg/m³

ACGIH = American Conference of Governmental Industrial Hygienists.

A4 = Not Classifiable as a Human Carcinogen.

Exposure controls

Appropriate engineering controls	Provide adequate general and local exhaust ventilation. Use explosion-proof electrical, ventilating and lighting equipment.
Eye/face protection	The following protection should be worn: Chemical splash goggles.
Hand protection	Wear protective gloves.
Other skin and body protection	Wear appropriate clothing to prevent any possibility of skin contact.
Hygiene measures	Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly with soap and water if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. Wash contaminated clothing before reuse. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke.
Respiratory protection	No specific recommendations. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance	Liquid
Colour	Light yellow
Odour	Characteristic
Odour threshold	Not available.
pH	pH (diluted solution): 2.3
Melting point	Not available.
Initial boiling point and range	Not available.
Flash point	20.0°C
Evaporation rate	Not available.
Evaporation factor	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Not applicable.
Other flammability	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	1.00
Solubility(ies)	Not available.
Partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.

TOKUYAMA BOND FORCE

Viscosity	Not available.
Explosive properties	Not explosive.
Oxidising properties	Not available.
Other information	Not available.

10. Stability and reactivity

Reactivity	There are no known reactivity hazards associated with this product. See the other subsections of this section for further details.
Stability	The product is highly flammable.
Possibility of hazardous reactions	Not known.
Conditions to avoid	Keep away from heat, sparks and open flame. Protect against direct sunlight.
Materials to avoid	Strong oxidizing agents.
Hazardous decomposition products	Heating may generate the following products: Toxic gases or vapours.

11. Toxicological information

Information on toxicological effects

Routes of exposure	Skin , Eyes , Ingestion , Inhalation , Health effects: See section 4.
<u>Acute toxicity - oral</u>	
Notes (oral LD₅₀)	Not available.
<u>Acute toxicity - dermal</u>	
Notes (dermal LD₅₀)	Not available.
<u>Acute toxicity - inhalation</u>	
Notes (inhalation LC₅₀)	Not available.
<u>Skin corrosion/irritation</u>	
Skin corrosion/irritation	Not available.
Animal data	Not available.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Not available.
<u>Respiratory sensitization</u>	
Respiratory sensitization	Not available.
<u>Skin sensitization</u>	
Skin sensitization	Not available.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Not available.
Genotoxicity - in vivo	Not available.
<u>Carcinogenicity</u>	

TOKUYAMA BOND FORCE

Carcinogenicity	Not available.
IARC carcinogenicity	Some of the ingredients are listed or exempt.
NTP carcinogenicity	Some of the ingredients are listed or exempt.
OSHA Carcinogenicity	None of the ingredients are listed.

Reproductive toxicity

Reproductive toxicity - fertility	Not available.
Reproductive toxicity - development	Not available.

Specific target organ toxicity - single exposure

STOT - single exposure	Not available.
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Specific target organ toxicity - repeated exposure

STOT - repeated exposure	Not available.
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Aspiration hazard

Aspiration hazard	Not available.
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Toxicological information on ingredients

ISOPROPYL ALCOHOL

Carcinogenicity

IARC carcinogenicity	IARC Group 3 Not classifiable as to its carcinogenicity to humans.
NTP carcinogenicity	Reasonably anticipated to be a human carcinogen.
OSHA Carcinogenicity	Not listed.

2,6-DI-t-BUTYL-4-METHYLPHENOL

Carcinogenicity

IARC carcinogenicity	IARC Group 3 Not classifiable as to its carcinogenicity to humans.
NTP carcinogenicity	Reasonably anticipated to be a human carcinogen.
OSHA Carcinogenicity	Not listed.

12. Ecological Information

Toxicity	Not available.
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Ecological information on ingredients

2,6-DI-t-BUTYL-4-METHYLPHENOL

Chronic aquatic toxicity

M factor (chronic)	1
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Persistence and degradability

Persistence and degradability	No data available.
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Bioaccumulative potential

Bioaccumulative potential	No data available on bioaccumulation.
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Partition coefficient	Not available.
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TOKUYAMA BOND FORCE

Mobility in soil

Mobility No information available.

Other adverse effects

Other adverse effects Not known.

13. Disposal considerations

Waste treatment methods

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

14. Transport information

UN number

UN No. (TDG) 1133

UN No. (IMDG) 1133

UN No. (ICAO) 1133

UN No. (DOT) UN1133

UN proper shipping name

Proper shipping name (TDG) ADHESIVES, containing flammable liquid

Proper shipping name (IMDG) ADHESIVES, containing flammable liquid

Proper shipping name (ICAO) ADHESIVES, containing flammable liquid

Proper shipping name (DOT) Adhesives, a containing flammable liquid

Transport hazard class(es)

DOT class 3

DOT hazard label 3

TDG class 3

TDG label(s) 3

IMDG class 3

ICAO class/division 3

DOT transport label



Transport labels



Packing group

TDG packing group II

IMDG packing group II

ICAO packing group II

TOKUYAMA BOND FORCE

DOT packing group II

Special precautions for user

EmS F-E, S-D

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

15. Regulatory information

Regulatory References According to WHMIS 2015, in compliance with the Hazardous Product Act (HPA, as amended) and the requirements of the Hazardous Product Regulations (HPR) Hazardous Products Regulations - SOR/2015-17. Transportation of Dangerous Goods Regulations - SOR/2015-100.

16. Other information

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

Revision comments This is first issue.

Revision date 20/03/2018

Revision 1

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.
H361f Suspected of damaging fertility.

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.