

# SAFETY DATA SHEET

## TOKUYAMA SHIELD FORCE PLUS

### 1. Identification

#### Product identifier

**Product name** TOKUYAMA SHIELD FORCE PLUS

#### Recommended use of the chemical and restrictions on use

**Restriction on use** Protective sealant. 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 SHIELD FORCE PLUS

### Precautionary statements

P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P240 Ground and bond container and receiving equipment.  
 P241 Use explosion-proof electrical equipment.  
 P242 Use non-sparking tools.  
 P243 Take action to prevent static discharges.  
 P261 Avoid breathing vapour/ spray.  
 P264 Wash contaminated skin thoroughly after handling.  
 P271 Use only outdoors or in a well-ventilated area.  
 P272 Contaminated work clothing should not be allowed out of the workplace.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
 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 [or 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.  
 P308+P313 IF exposed or concerned: Get medical advice/ attention.  
 P312 Call a POISON CENTRE/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+P233 Store in a well-ventilated place. Keep container tightly closed.  
 P403+P235 Store in a well-ventilated place. Keep cool.  
 P405 Store locked up.  
 P501 Dispose of contents/ container in accordance with local regulations.

### 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%

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

### 4. First-aid measures

#### Description of first aid measures

<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 at once.
<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. Take off contaminated clothing and wash it before reuse.
<b>Eye contact</b>	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

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

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

<b>Notes for the doctor</b>	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.

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**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/m<sup>3</sup>

Short-term exposure limit (15-minute): ACGIH 400 ppm 984 mg/m<sup>3</sup>

A4

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

Long-term exposure limit (8-hour TWA): ACGIH 2 mg/m<sup>3</sup> inhalable fraction and vapor

A4

#### PHENOL, 4-METHOXY-

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Long-term exposure limit (8-hour TWA): ACGIH 5 mg/m<sup>3</sup>

ACGIH = American Conference of Governmental Industrial Hygienists.

A4 = Not Classifiable as a Human Carcinogen.

### Exposure controls

<b>Appropriate engineering controls</b>	Provide adequate general and local exhaust ventilation. Use explosion-proof electrical, ventilating and lighting equipment.
<b>Eye/face protection</b>	The following protection should be worn: Chemical splash goggles.
<b>Hand protection</b>	Wear protective gloves.
<b>Other skin and body protection</b>	Wear appropriate clothing to prevent any possibility of skin contact.
<b>Hygiene measures</b>	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.
<b>Respiratory protection</b>	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

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

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<b>Viscosity</b>	Not available.
<b>Explosive properties</b>	Not explosive.
<b>Oxidising properties</b>	Not available.
<b>Other information</b>	Not available.

### 10. Stability and reactivity

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

### 11. Toxicological information

#### Information on toxicological effects

<b>Routes of exposure</b>	Skin , Eyes , Ingestion , Inhalation , Health effects: See section 4.
<b><u>Acute toxicity - oral</u></b>	
<b>Notes (oral LD<sub>50</sub>)</b>	Not available.
<b><u>Acute toxicity - dermal</u></b>	
<b>Notes (dermal LD<sub>50</sub>)</b>	Not available.
<b><u>Acute toxicity - inhalation</u></b>	
<b>Notes (inhalation LC<sub>50</sub>)</b>	Not available.
<b><u>Skin corrosion/irritation</u></b>	
<b>Skin corrosion/irritation</b>	Not available.
<b>Animal data</b>	Not available.
<b><u>Serious eye damage/irritation</u></b>	
<b>Serious eye damage/irritation</b>	Not available.
<b><u>Respiratory sensitization</u></b>	
<b>Respiratory sensitization</b>	Not available.
<b><u>Skin sensitization</u></b>	
<b>Skin sensitization</b>	Not available.
<b><u>Germ cell mutagenicity</u></b>	
<b>Genotoxicity - in vitro</b>	Not available.
<b>Genotoxicity - in vivo</b>	Not available.
<b><u>Carcinogenicity</u></b>	

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

### Reproductive toxicity

<b>Reproductive toxicity - fertility</b>	Not available.
<b>Reproductive toxicity - development</b>	Not available.

### Specific target organ toxicity - single exposure

<b>STOT - single exposure</b>	Not available.
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### Specific target organ toxicity - repeated exposure

<b>STOT - repeated exposure</b>	Not available.
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### Aspiration hazard

<b>Aspiration hazard</b>	Not available.
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### Toxicological information on ingredients

#### ISOPROPYL ALCOHOL

##### Carcinogenicity

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

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

##### Carcinogenicity

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

## 12. Ecological Information

<b>Toxicity</b>	Not available.
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### Ecological information on ingredients

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

##### Chronic aquatic toxicity

<b>M factor (chronic)</b>	1
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##### Persistence and degradability

<b>Persistence and degradability</b>	No data available.
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##### Bioaccumulative potential

<b>Bioaccumulative potential</b>	No data available on bioaccumulation.
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<b>Partition coefficient</b>	Not available.
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## TOKUYAMA SHIELD FORCE PLUS

### 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



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**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.