SAFETY DATA SHEET
ONE-UP BOND F Plus Bonding Agent A

1. IDENTIFICATION

Product Name
ONE-UP BOND F Plus Bonding Agent A

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
Warning

Hazard Statements
H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Precautionary Statements
P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P271 Use only outdoors or in a well-ventilated area.
ONE-UP BOND F Plus Bonding Agent A

P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403+233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with local regulations.

**Contains**
- 11-methacryloxy-1,1-undecanedicarboxylic acid
- bisphenol A polyethoxy dimethacrylate
- METHYL METHACRYLATE

**GHS Classification**
- Physical and Chemical Hazards: Flam. Liq. 3 - H226
- Human health: Skin Irrit. 2 - H315; Eye Irrit. 2 - H319; Skin Sens. 1 - H317; STOT SE 3 - H335
- Environment: Not classified.

**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. IF SWALLOWED: Slightly irritating. (DIGESTIVE SYSTEM.) This chemical may cause skin/eye irritation. 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>CAS No.</th>
<th>EC No.</th>
<th>GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-methacryloxy-1,1-undecanedicarboxylic acid</td>
<td>108362-85-2</td>
<td></td>
<td>Skin Irrit. 2 - H315; Eye Irrit. 2 - H319; STOT SE 3 - H335</td>
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<tr>
<td>bisphenol A polyethoxy dimethacrylate</td>
<td>41637-38-1</td>
<td>609-946-4</td>
<td>Skin Irrit. 2 - H315; Eye Irrit. 2 - H319; STOT SE 3 - H335</td>
</tr>
<tr>
<td>dibutyl hydroxy toluene</td>
<td>128-37-0</td>
<td>204-881-4</td>
<td>Aquatic Chronic 1 - H410</td>
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<tr>
<td>methacryloxyalkyl acid phosphate</td>
<td>52628-03-2</td>
<td>258-053-2</td>
<td></td>
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</table>
ONE-UP BOND F Plus Bonding Agent A

METHYL METHACRYLATE

CAS No.: 80-62-6
EC No.: 201-297-1

GHS Classification
Flam. Liq. 2 - H225; Skin Irrit. 2 - H315; Skin Sens. 1 - H317; STOT SE 3 - H335

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.

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.

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)
33.0°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
ONE-UP BOND F Plus Bonding Agent A

**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**
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>
</tr>
</thead>
<tbody>
<tr>
<td>dibutyl hydroxy toluene</td>
<td>ACGIH</td>
<td>2 mg/m3</td>
<td></td>
<td>A4</td>
</tr>
<tr>
<td>METHYL METHACRYLATE</td>
<td>PEL</td>
<td>100 ppm</td>
<td>410 mg/m3</td>
<td></td>
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<tr>
<td>METHYL METHACRYLATE</td>
<td>ACGIH</td>
<td>50 ppm</td>
<td>100 ppm</td>
<td>A4, Sen</td>
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</table>

**COMPONENT**

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHYL METHACRYLATE</td>
<td>1000 ppm</td>
</tr>
</tbody>
</table>

ACGIH=American Conference of Governmental Industrial Hygienists.
A4: Not Classifiable as a Human Carcinogen.
SEN: Sensitizer.

**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
ONE-UP BOND F Plus Bonding Agent A

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Light yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Solubility</td>
<td>No information available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>Not available.</td>
</tr>
<tr>
<td>Melting point (°C)</td>
<td>Not available.</td>
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<tr>
<td>Relative density</td>
<td>1.17</td>
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<tr>
<td>Vapor density (air=1)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH-Value, Conc. Solution</td>
<td>&lt; 7</td>
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<tr>
<td>pH-Value, Diluted Solution</td>
<td>Not available.</td>
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<tr>
<td>Viscosity</td>
<td>Not available.</td>
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<tr>
<td>Decomposition temperature (°C)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odour Threshold, Lower</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odour Threshold, Upper</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>33.0°C</td>
</tr>
<tr>
<td>Auto Ignition Temperature (°C)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability Limit - Lower(%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability Limit - Upper(%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Partition Coefficient (N-Octanol/Water)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not available.</td>
</tr>
<tr>
<td>Other Flammability</td>
<td>Not available.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Reactivity
May polymerise.

Stability
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
ONE-UP BOND F Plus Bonding Agent A

**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:**
METHYL METHACRYLATE
EPA: Not likely to be carcinogenic to humans
IARC Carcinogenicity
Butylated hydroxytoluene (BHT) , METHYL METHACRYLATE : IARC Group 3 Not classifiable as to its carcinogenicity to humans.
NTP - Carcinogenicity
Not listed.
OSHA - Carcinogenicity
Not listed.

**Reproductive Toxicity:**
Not available.

**Specific target organ toxicity - single exposure:**
Irritating to respiratory system.

**Specific target organ toxicity - repeated exposure:**
STOT - Repeated exposure
Not available.

**Aspiration hazard:**
Viscosity
Not available.

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### 12. ECOLOGICAL INFORMATION

**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
TDG Class 3
DOT Hazard Label Flammable Liquid
IMDG Class 3
ICAO Class 3
Transport Labels

DOT Pack Group III
IMDG Pack Group III
Air Pack Group III
Environmentally Hazardous Substance/Marine Pollutant No.
EMS F-E, S-D
Special precautions for use 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

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)
The following ingredients are listed.
METHYL METHACRYLATE; 1, 000 lbs (454 Kg)
SARA Extremely Hazardous Substances EPCRA Reportable Quantities
None of the ingredients are listed.
ONE-UP BOND F Plus Bonding Agent A

SARA 313 Emission Reporting
The following ingredients are listed.
METHYL METHACRYLATE

CAA Accidental Release Prevention
None of the ingredients are listed.

SARA (311/312) Hazard Categories
Fire Acute
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.
METHYL METHACRYLATE

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
METHYL METHACRYLATE

Rhode Island "Right To Know" List
The following ingredients are listed.
dibutyl hydroxy toluene
METHYL METHACRYLATE

Minnesota "Right To Know" List
The following ingredients are listed.
dibutyl hydroxy toluene
METHYL METHACRYLATE

New Jersey "Right To Know" List
The following ingredients are listed.
dibutyl hydroxy toluene
METHYL METHACRYLATE

Pennsylvania "Right To Know" List
The following ingredients are listed.
dibutyl hydroxy toluene
METHYL METHACRYLATE

International Inventories

EU - EINECS/ELINCS
The following ingredients are listed.
dibutyl hydroxy toluene
methacryloxyalkyl acid phosphate
METHYL METHACRYLATE

Canada – DSL/NDSL
The following ingredients are listed.
bisphenol A polyethoxy dimethacrylate
dibutyl hydroxy toluene
methacryloxyalkyl acid phosphate
METHYL METHACRYLATE

US - TSCA
The following ingredients are listed.
bisphenol A polyethoxy dimethacrylate
dibutyl hydroxy toluene
methacryloxyalkyl acid phosphate
METHYL METHACRYLATE

US – TSCA 12(b) Export Notification
None of the ingredients are listed.
ONE-UP BOND F Plus Bonding Agent A

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>Revision Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revision Date</td>
</tr>
<tr>
<td>Revision</td>
</tr>
</tbody>
</table>

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.