



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M Unitek Sondhi Indirect Bonding Adhesive Resin B (712-073)

Product Identification Numbers

70-2020-9777-3

1.2. Recommended use and restrictions on use

Recommended use

Orthodontic use, Orthodontic use

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Oral Care Solutions Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.

2.1. Hazard classification

Serious Eye Damage/Irritation: Category 2A.

Skin Sensitizer: Category 1.

2.2. Label elements

Signal word

Warning

Symbols

Exclamation mark |

Pictograms**Hazard Statements**

Causes serious eye irritation.
May cause an allergic skin reaction.

Precautionary Statements**Prevention:**

Wear eye/face protection.
Wear protective gloves.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Hazards not otherwise classified

None.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA)	1565-94-2	40 - 50 Trade Secret *
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	109-16-0	40 - 50 Trade Secret *
DIMETHYL SILOXANE, REACTION	67762-90-7	1 - 10 Trade Secret *
BENZOYL PEROXIDE	94-36-0	< 2 Trade Secret *
TRIPHENYLANTIMONY	603-36-1	< 1 Trade Secret *
HYDROQUINONE	123-31-9	< 0.03 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures**Inhalation:**

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products**Substance**

Carbon monoxide
Carbon dioxide

Condition

During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

A no-touch technique is recommended. If skin contact occurs, wash skin with soap and water. Acrylates may penetrate commonly-used gloves. If product contacts glove, remove and discard glove, wash hands immediately with soap and water and then re-glove. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Do not get in eyes.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational exposure limits**

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
HYDROQUINONE	123-31-9	ACGIH	TWA:1 mg/m ³	A3: Confirmed animal carcin., Dermal Sensitizer
HYDROQUINONE	123-31-9	CMRG	STEL:4 mg/m ³	
HYDROQUINONE	123-31-9	OSHA	TWA:2 mg/m ³	
ANTIMONY COMPOUNDS	603-36-1	ACGIH	TWA(as Sb):0.5 mg/m ³	
ANTIMONY COMPOUNDS	603-36-1	OSHA	TWA(as Sb):0.5 mg/m ³	
DIMETHYL SILOXANE, REACTION	67762-90-7	CMRG	CEIL:5 mg/m ³	
BENZOYL PEROXIDE	94-36-0	OSHA	TWA:5 mg/m ³	
BENZOYL PEROXIDE	94-36-0	ACGIH	TWA:5 mg/m ³	A4: Not class. as human carcin

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls**8.2.1. Engineering controls**

Use in a well-ventilated area.

8.2.2. Personal protective equipment (PPE)**Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Safety Glasses with side shields

Skin/hand protection

See Section 7.1 for additional information on skin protection.

Respiratory protection

None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Specific Physical Form:	Gel
Odor, Color, Grade:	Off-White Color, Slight Acrylic Odor
Odor threshold	No Data Available
pH	Not Applicable
Melting point	Not Applicable
Boiling Point	>=200 °C [@ 6 mmHg] [Test Method: Tested per ASTM protocol] [Details: Polymerizes]
Flash Point	> 200 °F [Test Method: Closed Cup] [Details: Polymerizes]
Evaporation rate	No Data Available
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	No Data Available
Flammable Limits(UEL)	No Data Available
Vapor Pressure	No Data Available
Vapor Density	No Data Available
Density	Approximately 0.996 g/ml
Specific Gravity	0.996 [Test Method: ISO METHOD]
Solubility in Water	Negligible
Solubility- non-water	No Data Available
Autoignition temperature	No Data Available
Decomposition temperature	No Data Available
Viscosity	5,500 - 7,500 centipoise
Volatile Organic Compounds	No Data Available
Percent volatile	No Data Available
VOC Less H2O & Exempt Solvents	No Data Available

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat

Light

10.5. Incompatible materials

Not determined

10.6. Hazardous decomposition products

Substance

None known.

Condition

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure. The information below represents toxicological information associated with the individual components of the uncured product. Once properly mixed and/or cured, the product is safe for its intended use.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

This product may have a characteristic odor; however, no adverse health effects are anticipated.

Skin Contact:

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE > 5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Dermal	Professional judgment	LD50 estimated to be > 5,000 mg/kg
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Ingestion	Rat	LD50 10,837 mg/kg
BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA)	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA)	Dermal	Professional judgment	LD50 estimated to be 2,000 - 5,000 mg/kg
DIMETHYL SILOXANE, REACTION	Dermal	Rabbit	LD50 > 5,000 mg/kg
DIMETHYL SILOXANE, REACTION	Inhalation-Dust/Mist	Rat	LC50 > 0.691 mg/l

	(4 hours)		
DIMETHYL SILOXANE, REACTION	Ingestion	Rat	LD50 > 5,110 mg/kg
BENZOYL PEROXIDE	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
BENZOYL PEROXIDE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 24.3 mg/l
BENZOYL PEROXIDE	Ingestion	Rat	LD50 > 5,000 mg/kg
TRIPHENYLANTIMONY	Inhalation-Dust/Mist		LC50 estimated to be 1 - 5 mg/l
TRIPHENYLANTIMONY	Dermal	Rat	LD50 > 2,000 mg/kg
TRIPHENYLANTIMONY	Ingestion	Rat	LD50 82.5 mg/kg
HYDROQUINONE	Dermal	Rat	LD50 > 4,800 mg/kg
HYDROQUINONE	Ingestion	Rat	LD50 302 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Guinea pig	Mild irritant
BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA)	Not available	Minimal irritation
DIMETHYL SILOXANE, REACTION	Rabbit	No significant irritation
BENZOYL PEROXIDE	Rabbit	Minimal irritation
HYDROQUINONE	Human and animal	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Professional judgement	Moderate irritant
BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA)	Not available	Moderate irritant
DIMETHYL SILOXANE, REACTION	Rabbit	No significant irritation
BENZOYL PEROXIDE	Rabbit	Severe irritant
HYDROQUINONE	Human	Corrosive

Skin Sensitization

Name	Species	Value
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Human and animal	Sensitizing
BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA)	Guinea pig	Sensitizing
DIMETHYL SILOXANE, REACTION	Human and animal	Not sensitizing
BENZOYL PEROXIDE	Human and animal	Sensitizing
HYDROQUINONE	Guinea pig	Sensitizing

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
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TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	In Vitro	Some positive data exist, but the data are not sufficient for classification
BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA)	In Vitro	Some positive data exist, but the data are not sufficient for classification
DIMETHYL SILOXANE, REACTION	In Vitro	Not mutagenic
BENZOYL PEROXIDE	In Vitro	Not mutagenic
BENZOYL PEROXIDE	In vivo	Not mutagenic
HYDROQUINONE	In Vitro	Some positive data exist, but the data are not sufficient for classification
HYDROQUINONE	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Dermal	Mouse	Not carcinogenic
DIMETHYL SILOXANE, REACTION	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
BENZOYL PEROXIDE	Ingestion	Multiple animal species	Not carcinogenic
BENZOYL PEROXIDE	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
HYDROQUINONE	Dermal	Mouse	Not carcinogenic
HYDROQUINONE	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Ingestion	Not toxic to female reproduction	Mouse	NOAEL 1 mg/kg/day	1 generation
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Ingestion	Not toxic to male reproduction	Mouse	NOAEL 1 mg/kg/day	1 generation
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Ingestion	Not toxic to development	Mouse	NOAEL 1 mg/kg/day	1 generation
BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA)	Ingestion	Not toxic to female reproduction	Mouse	NOAEL 0.8 mg/kg/day	premating & during gestation
BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA)	Ingestion	Not toxic to male reproduction	Mouse	NOAEL 0.8 mg/kg/day	premating & during gestation
BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA)	Ingestion	Not toxic to development	Mouse	NOAEL 0.8 mg/kg/day	premating & during gestation
DIMETHYL SILOXANE, REACTION	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
DIMETHYL SILOXANE, REACTION	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
DIMETHYL SILOXANE, REACTION	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
BENZOYL PEROXIDE	Ingestion	Not toxic to female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
BENZOYL PEROXIDE	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 500 mg/kg/day	premating & during gestation
BENZOYL PEROXIDE	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 500 mg/kg/day	premating & during gestation
HYDROQUINONE	Ingestion	Not toxic to female reproduction	Rat	NOAEL 150 mg/kg/day	2 generation
HYDROQUINONE	Ingestion	Not toxic to male reproduction	Rat	NOAEL 150	2 generation

				mg/kg/day	
HYDROQUINONE	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 100 mg/kg/day	during organogenesis

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
HYDROQUINONE	Ingestion	nervous system	May cause damage to organs	Rat	NOAEL Not available	not applicable
HYDROQUINONE	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 400 mg/kg	not applicable

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Dermal	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 833 mg/kg/day	78 weeks
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Dermal	blood	All data are negative	Mouse	NOAEL 833 mg/kg/day	78 weeks
BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA)	Ingestion	endocrine system liver nervous system kidney and/or bladder	All data are negative	Mouse	NOAEL 0.8 mg/kg/day	premating & during gestation
DIMETHYL SILOXANE, REACTION	Inhalation	respiratory system silicosis	All data are negative	Human	NOAEL Not available	occupational exposure
HYDROQUINONE	Ingestion	blood	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	40 days
HYDROQUINONE	Ingestion	bone marrow liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	9 weeks
HYDROQUINONE	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 50 mg/kg/day	15 months
HYDROQUINONE	Ocular	eyes	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
BENZOYL PEROXIDE	94-36-0	Trade Secret < 2

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the new substance notification requirements of CEPA.

This material contains one or more substances not listed on the TSCA Inventory. Commercial use of this material is regulated by the FDA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 2 **Flammability:** 1 **Instability:** 1 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address

the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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