



Material Safety Data Sheet

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M™ ESPE™ ADPER™ SINGLE BOND PLUS
MANUFACTURER: 3M
DIVISION: 3M ESPE Dental Products

ADDRESS: 3M Center, St. Paul, MN 55144-1000

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

Issue Date: 08/12/13
Supersedes Date: 05/29/08

Document Group: 18-9025-0

Product Use:

Intended Use: Dental Product
 Limitations on Use: For use only by dental professionals
 Specific Use: Dental adhesive

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
ETHYL ALCOHOL	64-17-5	25 - 35
BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA)	1565-94-2	10 - 20
SILANE TREATED SILICA (NANOFILLER)	None	10 - 20
2-HYDROXYETHYL METHACRYLATE (HEMA)	868-77-9	5 - 15
COPOLYMER OF ACRYLIC AND ITACONIC ACIDS	25948-33-8	5 - 10
GLYCEROL 1,3-DIMETHACRYLATE	1830-78-0	5 - 10
WATER	7732-18-5	< 5
DIURETHANE DIMETHACRYLATE (UDMA)	72869-86-4	1 - 5
DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE	58109-40-3	< 0.5
ETHYL 4-DIMETHYL AMINOBENZOATE (EDMAB)	10287-53-3	< 0.5

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Liquid

Odor, Color, Grade: Slight acrylate odor, white to clear

General Physical Form: Liquid

Immediate health, physical, and environmental hazards: Flammable liquid and vapor. Closed containers exposed to heat from fire may build pressure and explode. Vapors may travel long distances along the ground or floor to an ignition source and flash back. May cause allergic skin reaction. May cause target organ effects. 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.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin Contact:

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

Moderate Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May be absorbed following inhalation and cause target organ effects.

Ingestion:

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

May be absorbed following ingestion and cause target organ effects.

Target Organ Effects:

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Prolonged or repeated exposure may cause:

Liver Effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice.

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

NOTE: This product contains ethanol. There are data associating human consumption of alcoholic beverages (ethanol) with developmental toxicity. This is not an expected effect during the foreseeable use of this product.

NOTE: This product contains ethanol. Alcoholic beverages and ethanol in alcoholic beverages have been classified as human carcinogens by the International Agency for Research on Cancer, the U.S. National Toxicology Program, and the California Environmental Protection Agency (for purposes of Proposition 65). Exposure to ethanol during the foreseeable use of this product is not expected to cause cancer.

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

Inhalation: Remove person to fresh air. If signs/symptoms develop, get medical attention.

If Swallowed: Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature	410 °C
Flash Point	18.5 °C [<i>Test Method:</i> Closed Cup]
Flammable Limits(LEL)	<i>No Data Available</i>
Flammable Limits(UEL)	<i>No Data Available</i>

5.2 EXTINGUISHING MEDIA

Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: Flammable liquid and vapor. Closed containers exposed to heat from fire may build pressure and explode. Vapors may travel long distances along the ground or floor to an ignition source and flash back.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Ventilate the area with fresh air.

6.2. Environmental precautions

Collect the resulting residue containing solution. Dispose of collected material as soon as possible.

Clean-up methods

Refer to other sections of this MSDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. Call 3M-HELPS line (1-800-364-3577) for more information on handling and managing the spill. Contain spill. Cover with absorbent material. Collect as much of the spilled material as possible. Clean up residue. Seal the container.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Keep away from heat, sparks, open flame, pilot lights and other sources of ignition. Avoid breathing of vapors, mists or spray. Avoid eye contact. Avoid

skin contact. 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. Wash hands after handling and before eating.

7.2 STORAGE

Store away from heat. Store out of direct sunlight. Keep container tightly closed. Store away from areas where product may come into contact with food or pharmaceuticals.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Use with appropriate local exhaust ventilation. Use in an enclosed process area is recommended.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact.

The following eye protection(s) are recommended: Safety Glasses with side shields

8.2.2 Skin Protection

Avoid skin contact. See Section 7.1 for additional information on skin protection.

8.2.3 Respiratory Protection

Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection. Avoid breathing of vapors, mists or spray.

8.2.4 Prevention of Swallowing

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Do not ingest. Wash hands after handling and before eating.

8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
ETHYL ALCOHOL	ACGIH	STEL	1000 ppm	
ETHYL ALCOHOL	OSHA	TWA	1900 mg/m ³	

SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer Recommended Guideline

OSHA: Occupational Safety and Health Administration

AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form:	Liquid
Odor, Color, Grade:	Slight acrylate odor, white to clear
General Physical Form:	Liquid
Autoignition temperature	410 °C
Flash Point	18.5 °C [<i>Test Method:</i> Closed Cup]

Flammable Limits(LEL)	No Data Available
Flammable Limits(UEL)	No Data Available
Boiling Point	78 °C
Density	1.075 g/ml
Vapor Density	No Data Available
Vapor Pressure	No Data Available
Specific Gravity	1.075 [Ref Std: WATER=1]
pH	No Data Available
Melting point	Not Applicable
Solubility in Water	Negligible
Evaporation rate	No Data Available
Kow - Oct/Water partition coef	Not Applicable
Percent volatile	No Data Available
Viscosity	No Data Available

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid:

10.1 Conditions to avoid

Heat
Sparks and/or flames

10.2 Materials to avoid

None known

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance
Carbon monoxide
Carbon dioxide

Condition
During Combustion
During Combustion

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

CHEMICAL FATE INFORMATION

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Incinerate in a permitted hazardous waste incinerator. As a disposal alternative, dispose of waste product in a permitted hazardous waste facility.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14: TRANSPORT INFORMATION

ID Number(s):

LE-F100-0114-1, 70-2010-3673-1

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

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

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

STATE REGULATIONS

Contact 3M for more information.

CHEMICAL INVENTORIES

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.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS 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: 2 Reactivity: 0 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.

Revision Changes:

Section 1: Product name information was modified.
Section 1: Product use information information was modified.
Section 16: Disclaimer (second paragraph) information was modified.
Section 3: Potential effects from skin contact information information was modified.
Section 3: Potential effects from inhalation information information was modified.
Section 3: Potential effects from ingestion information information was modified.
Section 7: Handling information information was modified.
Section 7: Storage information information was modified.
Section 8: Engineering controls information information was modified.
Section 8: Respiratory protection information information was modified.
Section 8: Prevention of swallowing information information was modified.
Section 10: Hazardous decomposition or by-products table information was modified.
Section 8: Eye/face protection information information was modified.
Section 4: First aid for ingestion (swallowing) - decontamination - information was modified.
Section 4: First aid for ingestion (swallowing) - medical assistance - information was modified.
Section 3: Carcinogenicity phrase information was modified.
Section 3: Immediate other hazard(s) information was modified.
Section 14: Transportation legal text information was modified.
Section 3: Other health effects information information was modified.
Page Heading: Product name information was modified.
Section 15: 311/312 Delayed Hazard score information was modified.
Section 15: Inventories information information was modified.
Section 9: Density information information was modified.
Section 9: Vapor density value information was modified.
Section 9: Vapor pressure value information was modified.
Section 9: Boiling point information information was modified.
Section 5: Flammable limits (UE) information information was modified.
Section 5: Flammable limits (LEL) information information was modified.
Section 5: Autoignition temperature information information was modified.
Section 5: Flash point information information was modified.
Sections 3 and 9: Odor, color, grade information information was modified.
Section 9: Specific gravity information information was modified.
Section 9: pH information information was modified.
Section 9: Melting point information information was modified.
Section 9: Solubility in water text information was modified.
Section 9: Flash point information information was modified.
Section 9: Flammable limits (LEL) information information was modified.
Section 9: Flammable limits (UEL) information information was modified.
Section 9: Autoignition temperature information information was modified.
Section 2: Ingredient table information was modified.
Section 8: Exposure guidelines ingredient information information was modified.
Section 3: Other potential health effects comment for reproduction information was added.
Section 8: Other skin protection comment information was added.
Section 9: Property description for optional properties information was added.
Section 3: Other health effects information (reproductive hazards) information was added.
Section 6: 6.2. Environmental precautions heading information was added.
Section 6: 6.1. Personal precautions, protective equipment and emergency procedures heading information was added.
Section 10.1 Conditions to avoid heading information was added.
Section 10.2 Materials to avoid heading information was added.
Section 16: Web address information was added.
Section 6: Personal precautions information information was added.
Section 6: Environmental procedures information information was added.
Section 6: Methods for cleaning up information information was added.
Section 10: Materials to avoid physical property information was added.
Section 10: Conditions to avoid physical property information was added.
Section 1: Address information was added.

Copyright information was added.
Company logo information was added.
Section 6: Clean-up methods heading information was added.
Telephone header information was added.
Company Telephone information was added.
Section 1: Emergency phone information information was added.
Section 1: Emergency phone information information was deleted.
Company Logo information was deleted.
Copyright information was deleted.
Section 16: Web address heading information was deleted.
Section 6: Release measures information information was deleted.
Section 6: Release measures heading information was deleted.
Section 10: Materials and conditions to avoid physical property information was deleted.
Section 1: Address line 1 information was deleted.
Section 1: Address line 2 information was deleted.
Section 12: Ecotoxicological phrase information was deleted.
Section 12: Chemical Fate phrase information was deleted.

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