

Material Safety Data Sheet (Perfect Fit™)

INTENDED FOR PROFESSIONAL MEDICAL USE ONLY

Date Prepared: 02/14/2023

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SECTION 1 - PRODUCT and COMPANY INFORMATION

PRODUCT NAME: Perfect Fit™

SYNONYM: Functional Dental Impression Material that Flows.

CHEMICAL FORMULA: Not Established

CHEMICAL ABSTRACT NUMBER: Not Established

MANUFACTURER: Advanced Materials Engineering, Inc.

SECTION 2 - COMPOSITION / INFORMATION on IDENTIFICATION

Perfect Fit™ CONTAINS NO PHTHALATES and is FDA COMPLIANT. PRODUCED with ONLY PHARMACEUTICAL and USDA FOOD GRADE CHEMICALS by ADVANCED MATERIALS ENGINEERING, INC. in the UNITED STATES in SMALL BATCHES.

Structure and Reactivity: Perfect Fit™ solution is a diester, which contains two ester bonds, that can react in a variety of chemical pathways. In addition, Perfect Fit™ solution contains two carbonyl groups in which the carbon atoms of each group are weakly electrophilic, and therefore are targets for attack by strong nucleophilic compounds. Perfect Fit™ also contains a C-H bond, in which the hydrogen atom is weakly acidic. This makes Perfect Fit™ solution susceptible to deprotonation by a strong base. Hydrolyzation can occur under either acidic or basic conditions. Hydrolysis under acidic conditions is the reverse reaction of the Fisher-Speier esterification. Under basic conditions, hydrolysis is caused by saponification. The saponification number for Perfect Fit™ solution is approximately 360 mg KOH/g, which due to the relatively high carboxylic functional groups per molecule, makes Perfect Fit™ unsaponifiable.

SECTION 3 - SYNTHESIS

Perfect Fit™ solution and polymer powder are a proprietary products of Advanced Materials Engineering, Inc. When reacted they produce Perfect Fit™ which is intended for professional medical use only. Any other application other than professional medical use is a violation of the intended use of Perfect Fit™.

SECTION 4 - HAZARDS IDENTIFICATION

Perfect Fit™ Solution:

HIMS RATING:

Health: 1 Flammability: 1 Reactivity: 0

NFPA RATING:

Health: 1 Flammability: 1 Reactivity: 0

Perfect Fit™ is stable under standard atmospheric pressures and temperatures.

Once Perfect Fit™ Solution is Fully Reacted with Perfect Fit™ Polymer Powder:

HIMS RATING:

Health: 0 Flammability: 0 Reactivity: 0
NFPA RATING:
Health: 0 Flammability: 0 Reactivity: 0

SECTION 5 - FIRST AID MEASURES

Oral Exposure:

If Perfect Fit™ solution is swallowed, provided the person is conscious, wash mouth with water. Monitor person for any symptoms and dial 911.

Inhalation Exposure:

If Perfect Fit™ solution is inhaled, remove person to a location with fresh air. If the person is not breathing, provide artificial respiration. If breathing is labored, administer oxygen. In both cases dial 911.

Dermal Exposure:

In case of skin contact with Perfect Fit™ solution, wash exposed area with warm water and soap, at least twice. Remove contaminated clothing and shoes and launder the clothing. If the shoes cannot be laundered, clean them with soap and water, rinse with clean water and dry them. It is recommended that disposable nitrile gloves be worn when working with Perfect Fit™ solution for long periods of time.

Eye Exposure:

In case of contact with Perfect Fit™ solution eyes, flush with copious amounts of clean lukewarm water, several times. Assure adequate flushing by separating the eyelids with clean fingers. It is recommended that chemical splash goggles be worn when working with Perfect Fit™ solution or any other chemicals.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Spills of Perfect Fit™ solution in amounts less than one liter can be wiped up with paper towels and disposed of. The affected area should be thoroughly cleaned with a pH neutral surfactant.

SECTION 7 - FIRE FIGHTING MEASURES

Perfect Fit™ solution and polymer powder are stable compounds at STP.

Flash Point: 235° F (113° C) Based on the closed cup method. Autoignition Temperature:

449.6° F (232° C)

Flammability: N/A

Suitable Extinguishing Media: Water spray, Carbon dioxide, Dry chemical powder, or Foam.

SECTION 8 - HANDLING and STORAGE

Perfect Fit™ solution and polymer powder should be stored in a cool dry place away from direct sunlight.

Do not get Perfect Fit™ solution or polymer powder in one's eyes, skin or on clothing. Perfect Fit™ is safe when fully reacted. If Perfect Fit™ solution or polymer powder gets in one's eyes, gets on one's skin, or gets on clothing follow the directions in Section 5 above. Avoid inhalation of Perfect Fit™ polymer powder. An N-95 face mask is recommended when working with Perfect Fit™ polymer powder.

Use Perfect Fit™ solution in a well-ventilated area. Thoroughly wash the area in which Perfect Fit™ solution and polymer powder have been used with a pH neutral surfactant.

SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

Perfect Fit™ Solution's Active Chemical Compound: Diester
Appearance and Physical State: Clear liquid at STP Molecular Weight: Not Established
Vapor Pressure at 302o F (150o C): Approx. 0.16 mmHg Vapor Density: Approx. 10.8 g/L
Specific Gravity/Density: Approx. 1.1 g/cm³
Flash Point: 235o F (113o C) Based on the closed cup method. Autoignition Temperature:
449.6o F (232o C)
Flammability: N/A

SECTION 10 - STABILITY and REACTIVITY

Stability: Stable
Materials to Avoid: Strong oxidizing agents, and strong bases. Hazardous Decomposition
Products: Carbon Monoxide and Carbon Dioxide
Hazardous Polymerization: Will not occur with Perfect Fit™.

SECTION 11 - TOXICOLOGICAL INFORMATION

Not Established
Perfect Fit™ is Non-Toxic when Perfect Fit™ solution is fully reacted with Perfect Fit™
polymer powder.

SECTION 12 - ECOLOGICAL INFORMATION

Not Established. Avoid release into the environment. Do not dump Perfect Fit™ solution down
the drain.

Biodegradable:

Method: Biotic/Aerobic
Elimination Percent: 88%
Classification: Substantially biodegradable

SECTION 13 - DISPOSAL CONSIDERATION

Appropriate Method of Disposal of Substance or Preparation: Contact a licensed professional
waste disposal service to dispose of this material. Dispose or mix the material with a
combustible solvent and burn in a chemical incinerator equipped with an afterburner and
scrubber. Always observe all federal, state and local environmental rules and regulations.

SECTION 14 - OTHER INFORMATION

DISCLAIMER: The aforementioned information is believed to be correct, but does not purport
to be exhaustive, and should be used only as a guide. The information contained in this
document is based on the present state of our technical knowledge and is applicable to the
product with regard to appropriate safety precautions. It does not represent any guarantee of
the properties of the product.

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