SAFETY DATA SHEETS

This SDS packet was issued with item:

072343325

N/A

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Vapor Pressure mm HG: NA

Evaporation Rate (Ether = I): NA

Solubility in Water: Soluble

Vapor Density (Air = I): NA

Soluble by Volume: NA

Boiling Point: NA

Appearance: Blue Gel Odor: None

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Prolonged extreme heat

Incompatibility: (Materials to avoid) Contact with metals

Hazardous Decomposition Products: None

Hazardous Polymerization: None

SECTION XI - TOXICOLOGICAL INFORMATION

None

SECTION XII - ECOLOGICAL INFORMATION

Waste maybe considered as inert material.

SECTION XIII - DISPOSAL CONSIDERATIONS

Dispose of safely in accordance with local, state, and federal regulations

SECTION XIV - TRANSPORT INFORMATION

Stable under normal conditions of use, transportation, and storage.

SECTION XV - REGULATORY INFORMATION

510K #: K092912

SECTION XVI - OTHER INFORMATION

None

The data and information given in this MSDS are accurate on the date of preparation. It does not indicate any warranty or representation. We disclaim all liablilty relating to use of this material since this is beyond our control.



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Helmuth Mâyerm lic. oec. HSG 49, Burenweg, CH - 8053 – Zurich Switzerland Phone: 011-41-44-422-7766 Fax: 011-41-44-422-9988 393 REV F

DANVILLE

FLOWABLE COMPOSITE

StarFill 2B™



A dentin shaded, radiopaque, fluoride releasing, dual cured, strong, flowable, microhybrid composite.

INSTRUCTIONS

StarFill $2B^{TM}$ was specifically developed for the directed shrinkage technique of posterior composite placement, first described by Dr. Raymond Bertolotti. StarFill $2B^{TM}$ is also ideal for luting posts, core buildups, crowns, veneers and any application where light transmission is in question. Being a dual cure, StarFill $2B^{TM}$ can be rapidly cured with a light. Starfill $2B^{TM}$ contains 61% filler by weight (41% by volume).

MIXING INSTRUCTIONS

A. Automix Syringe (one double barrel)

- I. Remove twist off cap and attach automix tip.
- 2. Depress plunger with smooth, even pressure until no air is left in mix tip.
- 3. Syringe StarFill 2B™ directly into restoration.
- 4. Do not remove the automix tip after use. The used tip serves as a convenient seal until the next use.

B. Base & Catalyst Syringes (individual)

- I. Hand mix equal portions of the StarFill 2B™ Base and Catalyst.
- 2. Place StarFill 2B™ using a Centrix needle tip or similar syringe tip.
- 3. The tips and silicone caps are color coded. It is suggested that white caps be used on white tips and black caps be used on black tips to prevent cross-contamination of base and catalyst.

USE INSTRUCTIONS

Directed Shrinkage Technique for Posterior Composites

StarFill 2B[™] is ideal for the "Directed Shrinkage" technique^{1,2,3} for composite placement.

- Cut conservative prep. Use of Danville's CariesFinder™ or other caries detection dye as a guide is suggested.
- Etch enamel and dentin for 15 to 30 seconds with a liquid phosphoric acid etchant such as SureEtch™.
- A highly recommended optional step to reduce sensitivity is to apply Danville's MicroPrime[™] desensitising agent for 20 seconds (minimum) penetration time. (Note:

Bertolotti R.L. PP&A Aesthetic Chronicle 1991; 3, 53-58. Ferrari M. PP&A Aesthetic Chronicle 1993; 5, 29-36. Garberoglio R. et al. Am J Dent 1995; 8, 303-307.

STARFILL 2B

MATERIAL SAFETY DATA SHEET

Do not use MicroPrime™ with self etch primers.)

- 4. Apply bonding agent and cure.
- 5. Apply StarFill 2B[™] and allow to self cure for at least 2 1/2 minutes. (To achieve directed shrinkage effect, the minimum depth is a Dycal-like layer which includes the gingival margin.) (Note: StarFill 2B[™] can be light cured for faster set but that cure negates the directed shrinkage effect.)
- 6a. Place a light cure posterior composite and cure. (There is no need for bonding agent between the StarFill 2B™ and the overlying composite.

OR

- 6b. A bite form technique, using a sectional matrix system such as Contact Matrix, may be used to form the composite. Place the composite, remove the Contact Ring, apply glycerine gel on the occlusal and have the patient bite into centric occlusion. Cure the composite while the patient's mouth is closed. Have the patient open and cure again.
- 7. Remove the matrix.
- 8. Finish and polish.
- 9. Avoid cross-contamination between patients by replacing mixing tip between patients. Disposable handpiece or syringe plastic barrier sleeves may provide greater prevention of cross-contamination. Insert StarFill 2B™ automix syringe with new tip into barrier sleeve, piercing only the automix tip through the plastic. If used with Centrix tip, follow Centrix directions for use.

STORAGE

Refrigerate for full shelf life. Use at room temperature.

ADDITIONAL NOTES

- Do not store the composite material in proximity to eugenol-containing products, nor let the composite come into contact with materials containing eugenol. Eugenol can impair the hardening of the composite and cause discoloration.
- Contact of resin pastes with skin should be avoided, especially by anyone having known resin allergies.

MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT IDENTIFICATION

Company: Danville Materials

3420 Fostoria Way Ste A-200

San Ramon, CA 94583

Phone: (800) 827-7940 Fax: (925) 973-0764 Prepared: January 14, 2013

SECTION II - HAZARD(S) IDENTIFICATION

Chronic, Other: None

Acute Overexposure: Irritation to eyes and skin

Medical Conditions Genereally Aggravated by Exposure: None Known

Hygienic Practices: Use good personal hygiene Primary Route(s) of Exposure: Skin, eye, ingestion

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

| Material | CAS | % WGT | OSHA PEL | ACGIH ILV |
|------------------|-----------|-------|----------|-----------|
| Barium Glasss | | 45-65 | 15 | 10 |
| BIS GMA | | 15-45 | N/L | N/L |
| Glycerin | S6-81-5 | | ND | I0mg/m3 |
| Silica/Amorphous | 7631-86-9 | | ND | 0.1 mg/m3 |
| Dive Feed Dive | NID | | | · · |

Blue Food Dye ND

(ND = Not Determined NA = Not Applicable NL = Not Listed)

SECTION IV - EMERGENCY AND FIRST AID PROCEDURES

Skin: Wash off affected area with soap and water. Ingestion: None, essentially non-toxic orally

Eyes: Rinse immediately with plenty of water and seek medical advice.

SECTION V - FIRE-FIGHTING MEASURES

Flash Point: >+104°C

Extinguishing Media: Carbon Dioxide, Foam, Dry Chemical

Special Fire Fighting Procedures: None

Flammable Limits: NA

Unusual Fire and Explosion Hazards: None

SECTION VI - ACCIDENTAL RELEASE MEASURES

None

SECTION VII - SAFE HANDLING AND USE PRECAUTIONS

Spill Management: Use absorbent to collect the material. Wash contaminated surfaces with soap and water.

SECTION VIII - PROTECTION INFORMATION/CONTROL MEASURES

Respiratory: None required Eye Protection: Safety goggles Glove: Surgical rubber/PVC gloves Other Clothing & Equipment: none

Ventilation: None required

SAFETY DATA SHEET



1. Identification

Product identifier StartFill™ 2B

Other means of identification

Document number SDS-024-ZD Rev B Recommended use Dental adhesive. **Recommended restrictions** None known.

Manufacturer/Importer/Supplier/Distributor information

Supplier

Company name **Danville Materials**

2875 Loker Avenue East **Address**

Carlsbad, CA 92010

Telephone 1-800-827-7940 Contact **Customer Service**

E-mail danvillecs@zestdent.com

Website www.zestdent.com

Emergency telephone

800-451-8346 / 760-602-8703

number

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Skin corrosion/irritation Category 2

> Serious eye damage/eye irritation Category 2 Sensitization, skin Category 1

Environmental hazards Hazardous to the aquatic environment, acute Category 2

Hazardous to the aquatic environment, Category 2

long-term hazard

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. Toxic to

aquatic life with long lasting effects.

Precautionary statement

Prevention Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the

workplace. Wear protective gloves/eye protection/face protection. Avoid release to the

environment.

If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Response

Take off contaminated clothing and wash it before reuse. 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. Collect spillage.

Store away from incompatible materials. Storage

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

Hazard(s) not otherwise

943701 Version #: 02

classified (HNOC)

None known.

Revision date: 03-December-2018

Supplemental information None.

StartFill™ 2B SDS US Issue date: 03-May-2018

3. Composition/information on ingredients

Mixtures

| Chemical name | CAS number | % |
|--|------------|---------|
| Barium glass | Unknown | 50 - 70 |
| Ethoxylated bisphenol A dimethacrylate | 41637-38-1 | 5 - 30 |
| Bisphenol A glycidyl methacrylate | 1565-94-2 | 1 - 15 |
| Diurethane dimethacrylate | 72869-86-4 | 1 - 15 |
| Triethylene glycol dimethacrylate | 109-16-0 | 1 - 15 |

Composition comments

All concentrations are in percent by weight. Components not listed are either non-hazardous or are below reportable limits.

The manufacturer has claimed one or more hazardous ingredients as trade secret under the OSHA Hazard Communication Standard. The hazards of this (these) ingredient(s) are given on this SDS.

4. First-aid measures

Inhalation Skin contact Move to fresh air. Call a physician if symptoms develop or persist.

Remove contaminated clothing immediately and wash skin with soap and water. In case of

eczema or other skin disorders: Seek medical attention and take along these instructions. Wash

contaminated clothing before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion

Rinse mouth. Get medical attention if symptoms occur.

Most important

symptoms/effects, acute and

delayed

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Indication of immediate medical attention and special

treatment needed

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media

Unsuitable extinguishing

media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from

the chemical

During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting

equipment/instructions

Move containers from fire area if you can do so without risk. Cool containers exposed to flames with water until well after the fire is out.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards Will burn if involved in a fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

StartFill™ 2B SDS US

Methods and materials for containment and cleaning up

Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Persons susceptible to allergic reactions should not handle this product. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

| US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.100) |
|--|
|--|

| Components | Туре | Value | |
|--------------------------------|----------------|---------|--|
| Peroxide (CAS 94-36-0) | PEL | 5 mg/m3 | |
| US. ACGIH Threshold Limit Valu | es | | |
| Components | Туре | Value | |
| Peroxide (CAS 94-36-0) | TWA | 5 mg/m3 | |
| US. NIOSH: Pocket Guide to Che | emical Hazards | | |
| Components | Туре | Value | |
| Peroxide (CAS 94-36-0) | TWA | 5 mg/m3 | |

Biological limit values

Appropriate engineering controls

No biological exposure limits noted for the ingredient(s).

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide easy access to water supply and eye wash facilities.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Face shield is recommended.

Skin protection

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove Hand protection

supplier.

Skin protection

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

None required where adequate ventilation conditions exist. In case of insufficient ventilation, wear Respiratory protection

suitable respiratory equipment.

Wear appropriate thermal protective clothing, when necessary. Thermal hazards

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the

workplace.

Revision date: 03-December-2018

9. Physical and chemical properties

Appearance

943701 Version #: 02

Physical state Paste.

StartFill™ 2B SDS US Issue date: 03-May-2018

Form Paste.

Color Not available.

Odor threshold Not available.

PH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling Not available.

range

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Not available.

Vapor density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Not available.

Partition coefficient Not available.

(n-octanol/water)

Auto-ignition temperatureNot available.Decomposition temperatureNot available.Viscosity> 20.5 mm²/sViscosity temperature104 °F (40 °C)

Other information

Explosive properties Not explosive. **Oxidizing properties** Not oxidizing.

10. Stability and reactivity

ReactivityThe product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous

reactions

No dangerous reaction known under conditions of normal use.

Conditions to avoidContact with incompatible materials.

Incompatible materials Strong oxidizing agents.

Hazardous decomposition Thermal decompo

products

Thermal decomposition may produce smoke, oxides of carbon and lower molecular weight organic

compounds whose composition have not been characterized.

11. Toxicological information

Information on likely routes of exposure

Inhalation Prolonged inhalation may be harmful.

Skin contact Causes skin irritation. May cause an allergic skin reaction.

Eye contact Causes serious eye irritation.

Ingestion May cause discomfort if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction.

Dermatitis. Rash.

Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye Causes serious eye irritation.

irritation

StartFill™ 2B SDS US

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicityNo data available to indicate product or any components present at greater than 0.1% are

mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Peroxide (CAS 94-36-0) 3 Not classifiable as to carcinogenicity to humans.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Reproductive toxicityThis product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity -

single exposure

Not classified.

Specific target organ toxicity -

repeated exposure

Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

Components Species Test Results

Peroxide (CAS 94-36-0)

Aquatic

Acute

Algae LC50 Pseudokirchnerella subcapitata 0.0711 mg/l, 72 hours Fish EC50 Oncorhynchus mykiss 0.0602 mg/l, 96 hours

Persistence and degradability The major component of the product consists of an inorganic compound which is not

biodegradable. For other components of the product no data are available.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Ethoxylated bisphenol A dimethacrylate (CAS 41637-38-1) 5.3 - 5.62 Peroxide (CAS 94-36-0) 3.46 Triethylene glycol dimethacrylate (CAS 109-16-0) 1.88

Mobility in soil No data available for this product.

Other adverse effects None known.

13. Disposal considerations

Disposal instructionsCollect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow

this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches

with chemical or used container. Dispose of contents/container in accordance with

local/regional/national/international regulations.

Local disposal regulations

Dispose in accordance with all applicable regulations.

Hazardous waste code

The waste code should be assigned in discussion between the user, the producer and the waste

disposal company.

Waste from residues / unused

products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see:

Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is

emptied. Empty containers should be taken to an approved waste handling site for recycling or

SDS US

disposal.

14. Transport information

DOT

StartFill™ 2B

UN number UN3082

UN proper shipping name Environmentally hazardous substances, liquid, n.o.s. (Diurethane dimethacrylate; Peroxide)

943701 Version #: 02 Revision date: 03-December-2018 Issue date: 03-May-2018 5 / 7

Transport hazard class(es)

Class 9 Subsidiary risk 9 Label(s) Packing group Ш

Environmental hazards

Marine pollutant Yes

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

8, 146, 335, IB3, T4, TP1, TP29 Special provisions

155 Packaging exceptions Packaging non bulk 203 Packaging bulk 241

IATA

UN number UN3082

UN proper shipping name Environmentally hazardous substance, liquid, n.o.s. (Diurethane dimethacrylate; Peroxide)

Transport hazard class(es)

Class 9 Subsidiary risk 9 Label(s) Ш Packing group **Environmental hazards** Yes **ERG Code**

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN3082

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIURETHANE **UN proper shipping name**

DIMETHACRYLATE; PEROXIDE)

Transport hazard class(es)

Class 9 Subsidiary risk Ш Packing group **Environmental hazards**

Marine pollutant Yes F-A. S-F **EmS**

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to

Annex II of MARPOL 73/78 and

the IBC Code

15. Regulatory information

US federal regulations This mixture is a product regulated by the FDA. Within the meaning of the OSHA Hazard

Communication Standard [29 CFR 1910.1200]: this mixture is considered hazardous.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not established.

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

Yes

chemical

Classified hazard Skin corrosion or irritation

Serious eye damage or eye irritation categories Respiratory or skin sensitization

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SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act

Not regulated.

(SDWA)

US state regulations

US. Massachusetts RTK - Substance List

Peroxide (CAS 94-36-0)

US. New Jersey Worker and Community Right-to-Know Act

Peroxide (CAS 94-36-0)

US. Pennsylvania Worker and Community Right-to-Know Law

Peroxide (CAS 94-36-0)

US. Rhode Island RTK

Peroxide (CAS 94-36-0)

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

16. Other information, including date of preparation or last revision

Issue date 03-May-2018

Revision date 03-December-2018

Version # 02

NFPA ratings



Disclaimer

Danville Materials cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

StartFill™ 2B SDS US