### **SAFETY DATA SHEETS**

# This SDS packet was issued with item:

075890710

The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).

070447458 070447466 070447474 070447482 070447490 070447508 070451393 070451401 070451419 075890728 075890736 075890744 075890777 075890785 075890793 075890801 075890819 075890843 075890850 075890868 075890876

Trade Name: ACTIVA BioACTIVE PRODUCTS

| 1.0   | <b>Commercial Product Name and Su</b>                                                                                                                                                                                    | pplier                                                                 |                                                            |                                                 |  |  |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------|--|--|
| 1.1   | Commercial product name                                                                                                                                                                                                  | _                                                                      | ACTIVA BioACTIVE-BASE / LINER ACTIVA BioACTIVE-RESTORATIVE |                                                 |  |  |
| 1.2   | Application / Use                                                                                                                                                                                                        | Dental ma                                                              | terial for use by dental professiona                       | ıl only.                                        |  |  |
| 1.2.2 | SIC                                                                                                                                                                                                                      | 851 Huma                                                               | n health activity                                          | •                                               |  |  |
| 1.2.3 | Use Category                                                                                                                                                                                                             | 55                                                                     |                                                            |                                                 |  |  |
| 1.3   | Manufacturer, Importer                                                                                                                                                                                                   |                                                                        |                                                            |                                                 |  |  |
| 1.3.1 | Manufacturer                                                                                                                                                                                                             |                                                                        |                                                            |                                                 |  |  |
|       | Pulpdent Corporation<br>80 Oakland Street<br>P.O. Box 780<br>Watertown, MA 02472 USA                                                                                                                                     | Fax:                                                                   | e: 1 617 926-6666<br>1 617 926-6262<br>pdent@pulpdent.com  |                                                 |  |  |
| 1.4   | Emergency Telephone Number                                                                                                                                                                                               | 1-800-535                                                              | -5053 (24 Hour / USA)                                      |                                                 |  |  |
| 1.5   | Authorized European Representative                                                                                                                                                                                       |                                                                        |                                                            |                                                 |  |  |
|       | International Business Solutions Ltd.<br>54 Mayfield Ridge<br>Hatch Warren, Basingstoke, RG22 4F                                                                                                                         | Fmail: s w                                                             | 9 407479 / Fax: 01256 350330<br>illiams5@btconnect.co.uk   |                                                 |  |  |
| 2.0   | Hazards Identification                                                                                                                                                                                                   |                                                                        |                                                            |                                                 |  |  |
| 2.1   | Classification                                                                                                                                                                                                           |                                                                        |                                                            |                                                 |  |  |
| 2.1.1 | Classification according to<br>Regulation (EC)<br>No 1272/2008 [CLP]                                                                                                                                                     | Hazard Class Eye irritation STOT SE Skin irritation Skin sensitization | Hazard Category 2 3 2 1                                    | Hazard Statemen<br>H319<br>H335<br>H315<br>H317 |  |  |
| 2.1.2 | Classification according to Directive 67/548/EEC Irritant; Xi; R 36/37/38 - 43 (See SECTION 16 for full text of risk phrases)                                                                                            |                                                                        |                                                            |                                                 |  |  |
| 2.2   | GHS Label Elements                                                                                                                                                                                                       |                                                                        |                                                            |                                                 |  |  |
|       | Hazard Pictograms                                                                                                                                                                                                        |                                                                        |                                                            |                                                 |  |  |
|       | <u>(1)</u>                                                                                                                                                                                                               |                                                                        |                                                            |                                                 |  |  |
|       | Signal Word: WARNING                                                                                                                                                                                                     |                                                                        |                                                            |                                                 |  |  |
|       | Restricted to use by dental professional only.                                                                                                                                                                           |                                                                        |                                                            |                                                 |  |  |
|       | Hazard Statements                                                                                                                                                                                                        |                                                                        |                                                            |                                                 |  |  |
|       | H319: Eye irritation. 2. May cause eye irritation. H335: STOT SE. 3. May cause respiratory irritation. H315: Skin irritation. 2. May cause skin irritation. H317: Sensitization. 1. May cause an allergic skin reaction. |                                                                        |                                                            |                                                 |  |  |
|       | Precautionary Statements P261: Avoid breathing vapor. P280: Wear protective gloves and eye protection P205: P251: If in eyes, rises cautiously with water for several minutes.                                           |                                                                        |                                                            |                                                 |  |  |

P305+P351: If in eyes, rinse cautiously with water for several minutes. P337+P313: If eye irritation persists, get medical advice/attention.

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P302+P352: If on skin, wash with plenty of soap and water.

P333+P313: If irritation or rash occurs, get medical advice/attention.

P410+P411: Protect from sunlight. Store at temperature not exceeding 27°C / 80°F.

Revision Date: November 1, 2013

| 3.0      | Composition                                    |                                                                  |                                                                                                                                                                                                                                                          |                                           |                              |                                  |                                                                                                       |
|----------|------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------|----------------------------------|-------------------------------------------------------------------------------------------------------|
| 3.1      | Chemical characterization of the pre           |                                                                  |                                                                                                                                                                                                                                                          | on: Res                                   | sin-modified glass           | ionomer dental ma                | terial                                                                                                |
| 3.2      | Hazardous ingredients                          |                                                                  |                                                                                                                                                                                                                                                          |                                           |                              |                                  |                                                                                                       |
|          | CAS Number                                     | Name of the Ingred                                               | lient                                                                                                                                                                                                                                                    | Concentration<br>BASE/LINER               | Concentration<br>RESTORATIVE | Classification per<br>67/548/EEC | Classification per Regulation (EC) No.1278/2008 (CLP).                                                |
|          | Proprietary                                    | Blend of diurethane a other methacrylates modified polyacrylic a | with                                                                                                                                                                                                                                                     | 53.2%                                     | 44.6%                        | Irritant; Xi<br>R 3637//38 - 43  | Eye irritation, 2, H319<br>STOT SE 3, H335<br>Skin irritation, 2, H315<br>Skin sensitization, 1, H317 |
|          | 112945-52-5                                    | Silica, amorphous                                                |                                                                                                                                                                                                                                                          | 3.0%                                      | 6.7%                         | Irritant; Xi,<br>R 36/37/38      | Eye irritation, 2, H319<br>STOT SE 3, H335<br>Skin irritation, 2, H315                                |
|          | 7681-49-4                                      | Sodium fluoride                                                  |                                                                                                                                                                                                                                                          | 0.90%                                     | 0.75%                        | Harmful (Xn);<br>R22-36/38       | Acute toxicity, 4, H302<br>Skin irritation, 2, H315<br>Eye irritation, 2, H319                        |
| 4.0      | First Aid Measures                             |                                                                  |                                                                                                                                                                                                                                                          |                                           |                              |                                  |                                                                                                       |
| 4.1      | General Information                            |                                                                  | May be irritating to eyes, respiratory system and skin. Avoid contact with eyes and skin. Do not inhale vapors. May cause sensitization by skin contact. Show this safety data sheet to medical personnel. Get medical attention in case of uncertainty. |                                           |                              |                                  |                                                                                                       |
| 4.2      | Inhalation                                     |                                                                  | Move to fresh air. Administer oxygen/CPR as needed. Seek medical attention.                                                                                                                                                                              |                                           |                              |                                  |                                                                                                       |
| 4.3      | Skin Contact                                   |                                                                  | Take off contaminated clothing. Wash skin thoroughly with soap and water.                                                                                                                                                                                |                                           |                              |                                  |                                                                                                       |
| 4.4      | Eye Contact                                    |                                                                  | Keep eyelids apart; flush with running water for 15+ minutes. Get medical attention.                                                                                                                                                                     |                                           |                              |                                  |                                                                                                       |
| 4.5      | Ingestion                                      |                                                                  | Rinse mouth with water. Do not induce vomiting. Get immediate medical attention. May be irritating to mucous membranes. Never give anything by mouth to an unconscious person.                                                                           |                                           |                              |                                  |                                                                                                       |
| 4.6      | Precautions for first responders               |                                                                  | Ventilate the area. Wear eye and skin protection.                                                                                                                                                                                                        |                                           |                              |                                  |                                                                                                       |
| 4.7      | Information fo                                 | r physicians                                                     |                                                                                                                                                                                                                                                          |                                           |                              |                                  |                                                                                                       |
|          | Symptoms                                       |                                                                  | Irritation or redness in eyes, throat or on skin.                                                                                                                                                                                                        |                                           |                              |                                  |                                                                                                       |
|          | Hazards                                        |                                                                  | May be irritating to eyes, respiratory system, skin. May be sensitizing by skin contact.                                                                                                                                                                 |                                           |                              |                                  |                                                                                                       |
| <b>.</b> | Treatment                                      |                                                                  | As ab                                                                                                                                                                                                                                                    | ove under First                           | Aid.                         |                                  |                                                                                                       |
| 5.0      | Fire Fighting Measures                         |                                                                  |                                                                                                                                                                                                                                                          |                                           |                              |                                  |                                                                                                       |
| 5.1      | Suitable extinguishing media                   |                                                                  | Carbon dioxide, dry chemical, alcohol foam, or water fog. Water spray may be used to keep fire exposed containers cool.                                                                                                                                  |                                           |                              |                                  |                                                                                                       |
| 5.2      | Extinguishing media to avoid                   |                                                                  | Do not use direct water stream                                                                                                                                                                                                                           |                                           |                              |                                  |                                                                                                       |
| 5.3      | Special exposure hazards in a fire             |                                                                  | Heat may cause polymerization with rapid release of energy.                                                                                                                                                                                              |                                           |                              |                                  |                                                                                                       |
| 5.4      | Special protective equipment for fire-fighters |                                                                  | A self-contained breathing apparatus should be worn by firefighting personnel. Cool exposed containers with water spray to prevent polymerization under fire conditions.                                                                                 |                                           |                              |                                  |                                                                                                       |
| 6.0      | Accidental R                                   | Accidental Release Measures                                      |                                                                                                                                                                                                                                                          |                                           |                              |                                  |                                                                                                       |
| 6.1      | Personal precautions.                          |                                                                  |                                                                                                                                                                                                                                                          | Wear safety glasses, gloves and lab coat. |                              |                                  |                                                                                                       |

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| 6.2            | Environmental precautions             |                                                                                                                                                                                                                                                              | ge amounts of unculur knowledge, inert. | red material into the | environment. Cured / set-                                |
|----------------|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|-----------------------|----------------------------------------------------------|
| 6.3            | Method for clean up                   |                                                                                                                                                                                                                                                              |                                         |                       | able material (e.g. pape<br>rea of spill with alcohol or |
| 7.0            | Handling and Storage                  |                                                                                                                                                                                                                                                              |                                         |                       |                                                          |
| 7.1            | Handling                              | For use only by dental professionals. Practice good hygiene. Avoid direct/strong ligh sources, extremes of temperature (>27°C/80°F, <5°C/40°F), contamination, cros contamination of two-part materials. Recap immediately after use.                        |                                         |                       |                                                          |
| 7.2            | Storage                               | Keep container tightly closed. Store in original container at cool room temperature (<25°C). Avoid direct/strong light, sources of ignition, extremes of temperature. Shel life for properly stored, unopened product is two years from date of manufacture. |                                         |                       |                                                          |
| 7.3            | Specific uses                         | Dental base/liner,                                                                                                                                                                                                                                           | cement or restorative                   | e                     |                                                          |
| 8.0            | Exposure Controls / Personal Pro      | tection                                                                                                                                                                                                                                                      |                                         |                       |                                                          |
| 8.1            | Exposure limit values                 | PEL: Not establis                                                                                                                                                                                                                                            | hed. TLV: Not estal                     | blished.              |                                                          |
| 8.2            | Exposure controls                     |                                                                                                                                                                                                                                                              |                                         |                       |                                                          |
| 8.2.1          | Occupational exposure controls        |                                                                                                                                                                                                                                                              | •                                       | normal conditions of  |                                                          |
| 8.2.1.1        | Respiratory protection                | None required. Good general ventilation is sufficient to control any airborne vapors.                                                                                                                                                                        |                                         |                       |                                                          |
| 8.2.1.2        | Hand protection                       |                                                                                                                                                                                                                                                              |                                         | e usual surgical glov |                                                          |
| 8.2.1.3        | Eye protection                        | No special requirements other than the usual safety glasses worn by dental staff.                                                                                                                                                                            |                                         |                       |                                                          |
| 8.2.1.4        | Skin protection                       | No special requirements. Good personal hygiene, safety practices and wearing lab coat should protect dental staff from unnecessary exposure to uncured material                                                                                              |                                         |                       |                                                          |
| 8.2.1.5        | Other controls                        | Emergency eye v                                                                                                                                                                                                                                              | vash fountain should                    | be available. Wash    | hands after use.                                         |
| 8.2.2          | Environmental exposure controls       | Cure material bef                                                                                                                                                                                                                                            | ore disposing.                          |                       |                                                          |
| 9.0            | Physical and Chemical Properties      |                                                                                                                                                                                                                                                              |                                         |                       |                                                          |
| 9.1            | Appearance / Color                    |                                                                                                                                                                                                                                                              |                                         | Part A                | Part B                                                   |
| 9.1.1          | Physical state / Color                | Base / Liner                                                                                                                                                                                                                                                 | Two pastes:                             | Yellowish             | Off-white                                                |
|                |                                       | Restorative                                                                                                                                                                                                                                                  | Two thick pastes                        | Tooth-colored         | Off-white                                                |
| 9.1.2          | Odor                                  | Faint, characteris                                                                                                                                                                                                                                           | tic                                     |                       |                                                          |
| 9.2            | Important health, safety and environi | mental information                                                                                                                                                                                                                                           |                                         |                       |                                                          |
| 9.2.1          | рН                                    | Not determined                                                                                                                                                                                                                                               |                                         |                       |                                                          |
| 9.2.2          | Boiling point                         | Not determined                                                                                                                                                                                                                                               |                                         |                       |                                                          |
| 9.2.3          | Flash point                           | Not determined                                                                                                                                                                                                                                               |                                         |                       |                                                          |
| 9.2.4          | Flammability (solid, gas)             | Not applicable                                                                                                                                                                                                                                               |                                         |                       |                                                          |
| 9.2.5          | Explosive properties                  | Not applicable                                                                                                                                                                                                                                               |                                         |                       |                                                          |
|                | Oxidizing properties                  | Not determined                                                                                                                                                                                                                                               |                                         |                       |                                                          |
| 9.2.6          | Oxidizing properties                  |                                                                                                                                                                                                                                                              |                                         |                       |                                                          |
| 9.2.6<br>9.2.7 | Vapor pressure                        | < 1 mm Hg                                                                                                                                                                                                                                                    |                                         |                       |                                                          |
|                |                                       | < 1 mm Hg                                                                                                                                                                                                                                                    | Part A                                  | Part B                |                                                          |

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|        |                                                         | Restorative 1.580 g/mL 1.620 g/mL                                                                                                                                                                                                                          |  |  |
|--------|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| 9.2.9  | Solubility in water                                     | Nil                                                                                                                                                                                                                                                        |  |  |
| 9.2.10 | Partition coefficient                                   | Not determined                                                                                                                                                                                                                                             |  |  |
| 9.2.11 | Viscosity                                               | Not determined                                                                                                                                                                                                                                             |  |  |
| 9.2.12 | Vapor density                                           | Not determined                                                                                                                                                                                                                                             |  |  |
| 9.2.13 | Evaporation rate                                        | Not determined                                                                                                                                                                                                                                             |  |  |
| 10.0   | Stability and reactivity                                |                                                                                                                                                                                                                                                            |  |  |
| 10.1   | Conditions to avoid                                     | Temperature > 38°C, intense light, cross-contamination.                                                                                                                                                                                                    |  |  |
| 10.2   | Materials to avoid                                      | Reducing and oxidizing agents, peroxides, amines.                                                                                                                                                                                                          |  |  |
| 10.3   | Hazardous decomposition products                        | Under fire conditions, amounts greater than that supplied in this product may polymerize with heat build-up, release of oxides of carbon and nitrogen.                                                                                                     |  |  |
| 10.4   | Further information                                     | Stable material if stored and used as directed. Polymerization will occur when light-cured material is exposed to direct light.                                                                                                                            |  |  |
| 11.0   | Toxicological information                               |                                                                                                                                                                                                                                                            |  |  |
| 11.1   | Acute toxicity                                          | Finished products in paste form present a minimal health hazard under normal conditions of use and in the quantities necessary for dental procedures. Sodium fluoride: Oral rat LD $_{50}$ : 180 mg/kg Silica, amorphous: Oral rat LD $_{50}$ : 3160 mg/kg |  |  |
| 11.2   | Irritation and corrosiveness                            | May be irritating to eyes, respiratory tract, mucous membranes or skin or contact or with prolonged exposure.                                                                                                                                              |  |  |
| 11.3   | Sensitization                                           | May be sensitizing. Prolonged or frequent skin contact may cause allergic skin reactions in some susceptible individuals.                                                                                                                                  |  |  |
| 11.4   | Sub-acute, sub-chronic and prolonged toxicity           | Prolonged and/or frequent skin contact may cause allergic skin reactions in susceptible individuals. Prolonged exposure to large amounts (more than in this product) may cause eye and respiratory irritation.                                             |  |  |
| 11.5   | Carcinogenicity, Mutagenicity,<br>Reproductive Toxicity | None known                                                                                                                                                                                                                                                 |  |  |
| 11.6   | Empirical data                                          | Biocompatibility has been tested and found to be acceptable.                                                                                                                                                                                               |  |  |
| 11.7   | Clinical experience                                     | ACTIVA BioACTIVE PRODUCTS are new products that have been evaluated by dentist consultants. There have been no reports of adverse events.                                                                                                                  |  |  |
| 12.0   | <b>Ecological Information</b>                           |                                                                                                                                                                                                                                                            |  |  |
| 12.1   | Ecotoxicity                                             | Avoid release of uncured material into the environment. To the best of our knowledge, polymerized material is inert. No other information is available. Follow all government regulations.                                                                 |  |  |
| 13.0   | Disposal Considerations                                 |                                                                                                                                                                                                                                                            |  |  |
| 13.1   | Regulations                                             | Follow all local and national government regulations in disposing material or contaminated packaging.                                                                                                                                                      |  |  |
| 14.0   | Transport Information                                   |                                                                                                                                                                                                                                                            |  |  |
| 14.1   | Restrictions                                            | None. Not regulated.                                                                                                                                                                                                                                       |  |  |
|        |                                                         |                                                                                                                                                                                                                                                            |  |  |

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| 15.0 | Regulatory Information                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  |
|------|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| 15.1 | EU                                                    | Class IIA medical devices under MDD 93/42/EEC.                                                                                                                                                                                                                                                                                                                                                                                                          |  |  |  |
| 15.2 | US FDA                                                | Class II medical devices.                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |
| 15.3 | Health Canada                                         | Class III medical devices                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |
| 16.0 | Other information                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  |
| 16.1 | List of relevant R phrases                            | R36/37/38: Irritating to eyes, respiratory system and skin. R43: Sensitizing by skin contact.                                                                                                                                                                                                                                                                                                                                                           |  |  |  |
| 16.2 | Hazard Statements                                     | H319: Eye irritation. Hazard category 2.                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
|      |                                                       | H335: Specific Target Organ Toxicity - Single exposure; hazard category. 3. Respiratory tract irritation.                                                                                                                                                                                                                                                                                                                                               |  |  |  |
|      |                                                       | H315: Skin irritation. Hazard category 2. H317: Skin Sensitization. Hazard category 1.                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| 16.3 | Precautionary Statements                              | P261: Avoid breathing vapor. P280: Wear protective gloves and eye protection P305 + P351: If in eyes, rinse cautiously with water for several minutes. P337 + P313: If eye irritation persists, get medical advice/attention. P302 + P352: If on skin, wash with plenty of soap and water. P333 + P313: If irritation or rash occurs, get medical advice / attention. P410 + P411: Protect from sunlight. Store at temperature not exceeding 27°C 80°F. |  |  |  |
| 16.4 | Restrictions on use                                   | ACTIVA BioACTIVE PRODUCTS are to be sold to and used by dental professionals only.                                                                                                                                                                                                                                                                                                                                                                      |  |  |  |
| 16.5 | Further information                                   | The information presented herein is believed to be factual as it has been derived from the works of persons believed to be qualified experts. However, nothing contained in this information is to be taken as a warranty or representation for which Pulpdent Corporation bears legal responsibility. The user should review any recommendations in the specific context of the intended use to determine whether they are appropriate.                |  |  |  |
| 16.6 | Sources of key data                                   | National Institute for Occupational Safety (NIOSH)                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |  |
|      | -                                                     | US Occupational Safety and Health Administration (OSHA)                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |  |
|      |                                                       | Eur-Lex European Union Law: Regulation (EC) No. 1272/2008 (CLP) and Regulation (EC) No. 1907/2006 (REACH).                                                                                                                                                                                                                                                                                                                                              |  |  |  |
|      |                                                       | Guidance on the compilation of safety data sheets. Version 1.1; December 2011. European Chemicals Agency                                                                                                                                                                                                                                                                                                                                                |  |  |  |
| 16.7 | Information which has been added, deleted or revised. | This Safety Data Sheet has been revised to meet the requirements of the GHS SDS format, Regulations (EC) No. 1272/2008 (CLP) and (EC) No. 1907/2006 (REACH). Specifically, Sections 2.1, 2.2, 3.2, 16.2, 16.3 have been modified.                                                                                                                                                                                                                       |  |  |  |