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1. **VisiJet® Pearlstone Overview**
   Material Color: Amber
   Support Material: S300
   Material Type: Urethane Acrylate Material
   **S300 Support Structure**: Wax Material

   The labels on the part and support material cartridges identify the date that the material will expire. The shelf life for part and support material are two (2) years.
3. **Isopropyl Alcohol (IPA) Handling Guidelines**

**Isopropyl Alcohol (IPA)** (Consult the Safety Data Sheet for further information)

**Personal Protective Equipment**
Safety Goggles, Chemical Resistant Gloves, Protective Clothing

**Handling and Storage**
Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product. Small quantities of peroxides can form on prolonged storage. Exposure to light and/or air significantly increases the rate of peroxide formation. If evaporated to a residue, the mixture of peroxides and isopropanol may explode when exposed to heat or shock.

**Disposal Considerations**
Empty containers can have residues, gases and mists are subject to proper waste disposal. Dispose of all wastes in accordance with federal, state METHODS and local regulations.
4. **VisiJet® Material Handling**

**Burning finished parts**
Burning finished (cured) parts can produce carbon monoxide, oxides of nitrogen, and other potentially harmful gases/fumes. Concentrations of these products depend on burn-out temperature and conditions. Higher temperatures will assist in complete combustion of the material. Consult the Safety Data Sheet for further information.

**Exposure Control**
The ProJet 3-D modelers have a variety of built-in engineering controls designed to prevent operator exposure. Users should not try to change or disable these controls.

**General Health and Safety Information**
VisiJet® Pearlstone material is classified as combustible according to 29CFR 1910.1200. VisiJet materials is a sensitizer and an irritant. Please refer to the Safety Data Sheet for more information.

**Handling finished parts**
Finished (cured) VisiJet® parts can be handled or disposed of in the same manner as standard household plastic products. VisiJet® parts are not recyclable. VisiJet® Pearlstone plastic material is not intended for and cannot be used for medical implants or food and drink applications.

The VisiJet® S300 material does not cure. No special measures are necessary in normal use of this product. Refer to the MSDS Sheet for detail information. This product is not a hazardous waste as specified in 40CFR 261. Dispose in accordance with all Federal, State, Provincial and Local regulations.

VisiJet® Pearlstone Disposal Instructions: Avoid disposal. If possible, completely utilize product. Dispose of unused product in accordance with applicable Federal, State, Provincial and Local regulations.
4. **VisiJet® Material Handling (Cont’d)**

**Ingestion**
Uncured materials are potentially harmful if ingested. Therefore, uncured materials must not be present where food and drink are stored, prepared or consumed and should not be ingested.

As a precaution, after handling the materials, users should wash their hands with soap and water before consuming or preparing food.

**Cartridge Inspection**
Do not load expired cartridges / bottles in the modeler. If a cartridge / bottle is a year or more beyond its expiration date, the modeler will reject it. Inspect each cartridge for leakage or physical damage before you remove it from the polybag (if applicable) and load it in the modeler.

**Packaging inspection**
The cardboard material shipping carton containing one cartridge for VisiJet® Pearlstone material is wrapped in a separate, sealed polybag. On receipt of the material shipments, inspect carton for signs of physical damage and leakage. If leakage is observed, do not open carton; contact your authorized ProJet™ 3-D modeler reseller or 3D Systems’ Customer Support Hotline. Assuming no leakage is observed, store materials in their cartons until they are ready for use.

When opening the carton, inspect each cartridge for any signs of leaking or physical damage. Do not open any polybag containing a leaking material cartridge. Do not load any leaking or damaged cartridges into the printer. If you find a leaking cartridge, call your authorized ProJet™ 3-D modeler reseller or the 3D Systems Hotline, and arrange for return of the leaking cartridge and replacement with a new cartridge. If you do not return the cartridge, dispose of it in accordance with local and other regulatory disposal requirements.

**Personal Protection**
- **Eye protection**
  - In the event of a leak or spill of uncured material, wear safety glasses with side shields to provide eye protection.
- **Respiratory protection**
  - Because of the ProJet 3-D modelers built-in engineering controls, respiratory protection is not necessary during normal operation. A NIOSH-approved dust mask is recommended when sanding cured Visijet material parts.
- **Skin Protection**
  - Exposure to uncured material can occur under certain circumstances, such as when removing and disposing of the bin liner or waste bag. To prevent contact, wear chemically resistant protective gloves. Nitrile or neoprene gloves are recommended. Do NOT use latex gloves.
2. Disclaimer

Nothing contained herein is intended to be and should not be relied upon as legal or medical advice. Users of VisiJet® materials should review the Safety Data Sheets (MSDS/SDS) for these materials, and independently determine their compliance with applicable laws. The information contained in this guide is necessarily general in nature and suggestions should be implemented only after review for applicability to specific situations. Users are responsible for implementing health and safety procedures that comply with governing laws.
4. **VisiJet® Material Handling (Cont’d)**

**Sensitization**
Uncured material is a sensitizer and can cause allergic reactions. Nitrile or neoprene gloves are recommended when skin contact is possible. Do NOT use latex gloves. To avoid skin sensitization, do not allow uncured material to contact skin. In almost all cases, direct skin contact is necessary to cause skin sensitization. VisiJet materials is not known to cause sensitization by inhalation. Consult the MSDS for specific information about sensitization potential.

**Storage**
The shelf life of VisiJet® part and support materials are two years from date of manufacture. Use the oldest inventory first. VisiJet® material should be kept indoors in a cool, dry area with adequate ventilation at temperatures between 16 °C (60 °F) and 27 °C (80 °F). DO NOT EXCEED A MAXIMUM STORAGE TEMPERATURE OF 35 °C (95 °F). Keep away from direct sunlight, heat, flames and other direct light or UV energy sources. For optimal results, keep stored cartons closed and sealed. If the material is sealed in a polybag, do not open the bag until the material is ready for use.

**Training**
Employees should be trained in the hazards and management of VisiJet materials. Such training should be provided to new employees before they begin working with the modeler, or disposing of material waste.
5. HDP Mode For Model and Die Post Processing

**Required Supplies and Equipment**
- 5-in-1 Paint Scraper
- ProJet Finisher
- Paper Towels
- TransTint® Dye Solution
- Isopropyl Alcohol
- EZRinse-C or Vegetable Oil
- Three Glass Containers for Parts

Note: Order number 24115-901, EZRinse–C

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**Removing Parts From Platform**
- Place platform on a firm surface.
- Gently scrap parts off platform with a scraper; A 5-in-1 paint scraper works well
Finishing Oven Support Wax Removal

- Place a tub of EZRinse-C or vegetable oil in the oven to bring to temperature.
- Place models on the finishing oven rack.
- Place dies on a paper towel so they don’t fall through the rack.
- Heat in finishing oven for one hour at 75°C.
**Residual Support Wax Removal**

- Vegetable oil / EZRinse-C acts as a mild solvent that will remove residual wax from the part.
- After one (1) hour, place the models and dies in EZRinse-C that has been heated to 75°C.
- Agitate for approximately one (1) minutes until all wax residue is removed.
- A stainless sieve is helpful.
**Cold Alcohol Rinse**

- Once you have determined all wax residue has been removed, immediately place models and dies in a cold alcohol rinse.
- Gently agitate/stir for one (1) minutes or until the oil/EZRinse-C is removed. The Models will turn white simulating the look of a dental stone model.
- If you are only finishing a couple of models, room temperature IPA is sufficient.
- If finishing an entire platform it may be necessary to place the IPA container in an ice bath to keep it cool.
Dry

- Once the models and dies have turned white place them onto paper towels and pat dry to remove surface alcohol.
- Note: On full arches do not allow solution to pool on the palate area.
- The models will turn a matte bright white when dry in 10-15 minutes.
- If colored models are preferred proceed to the next step.
Dying Desired Color

- In a clean container mix IPA with dye. Dip the part in colored solution for two (5) minutes.
- Place on bench to air dry.

- **NOTE:** TransTint dye from Homestead Finishing Products works well as a dye (http://www.homesteadfinishingproducts.com/htdocs/TransTint.htm)
- There are 19 colors available but these three colors correspond to the most popular stone colors. Two drops per 200ml provides a good starting point.
  - “Dark Vintage Maple” = Tan
  - Green = Green
  - Blue = Blue
- It is not necessary to wait for the models and dies to dry completely after the alcohol bath before putting in the dye solution.
Final Drying Time

- Let models and dies sit for at room temperature to dry
- **Note**: On full arches do not allow solution to pool on the palate area this will result in spotting.
6. Disposal for VisiJet® Part Material

User Management
Users of the 3-D modelers should be informed about the potential hazards of VisiJet® part material prior to working with the 3-D modelers, or performing other duties which can result in exposure to uncured material, such as removal and disposal of bin liners and empty cartridges or waste bags.

Material Leaks and Spills
Leakage of material is HIGHLY UNLIKELY, and should NOT occur in the normal operation of the modeler. If a leak does occur, it is an indication of a serious printer malfunction. Spills of material are also unlikely, but could occur.

• In the event of a spill or a leak, the first priority is to protect users from inadvertently touching the material.
• In the event of a spill or leak support material, it may be cleaned up without the use of protective gear and disposed of as ordinary office trash.
• In the event of a spill or leak of VisiJet® part material, the use of gloves and other protective equipment is required, to ensure that no direct contact with uncured plastic material is possible. If you are uncertain which material has spilled, assume it is uncured material, and handle accordingly with the recommended protective gloves and other safety gear.
• In the event of a spill or leak, keep unnecessary personnel away. Refer appropriate personnel to the Safety Data Sheet for proper cleanup procedure.
• In the event of a leak within the modeler, discontinue use of the modeler, and contact 3D Systems or your authorized 3-D modeler reseller to arrange for a service visit to determine and repair the source of leakage.