**PBS with 0.1% Sodium Azide**

1. **Scope and Applicability:** This SOP describes the method for preparing PBS with 0.1% Sodium Azide for storage and/or processing of fixed tissue.
2. **Materials:** 
   1. PBS (-) (RP0001)
   2. Sodium Azide (NaN3); 5% NaN3 (VWR BDH7465-2 or equivalent)
3. **Equipment:**
   1. Stir plate
   2. Stir bar
   3. Magnetic stir bar remover
   4. Calibrated pH meter
   5. Pipettor
   6. 50 mL Serological Pipette
   7. Weigh boat
   8. Balance
4. **Safety**
   1. Gloves
   2. Lab coat
   3. Eye protection
   4. Fume hood
   5. **Sodium Azide is toxic and carcinogenic. It should be handled and prepared with care. Do not breathe dust, do not use metal utensils.**
5. **Output:** 
   1. A stock solution of 5% Sodium Azide and a working solution of PBS with 0.1% Sodium Azide.
6. **Reference Documents:** 
   1. MSDS for Sodium Azide
   2. EQ0006 pH Meter Calibration and Usage
      1. To be Published
   3. EQ0020 Balance Calibration and Validation
      1. To be Published
   4. RP0001 Phosphate Buffered Saline (PBS)
      1. <https://www.protocols.io/view/phosphate-buffered-saline-pbs-be2hjgb6>

**Warning: Sodium Azide is toxic and carcinogenic. Personal Protective Equipment (PPE) should be used at all times while operating this protocol. If you are unsure what PPE you should be using, see your immediate supervisor.**

1. **Methodology** (record all lot numbers in either lab notebook or electronic tracking sheet):
   1. **Prepare 2 L of PBS with 0.1% Sodium Azide:**
      1. Measure 1960 mL of 1x PBS (-) into a clean container.
      2. Using a serological pipette, add 40 mL of 5% Sodium Azide Stock Solution. *See Table 2 below if preparing a larger volume.*
      3. Manually swirl the bottle to mix solution.
      4. If using a large container, add a stir bar to the container and stir on a stir plate set at a high speed (300 RPM or higher) for 1-2 minutes, until solution is mixed.
      5. Remove the stir bar from the container using a magnetic stir bar remover.
      6. Label container with date, preparer’s initials, solution concentration and content.
      7. Solution can be stored at 4°C or room temperature until use (up to 1 year).

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| **Reagent** | **Final Vol.**  **1 Liter** | **Final Vol.**  **4 Liters** | **Final Vol.**  **8 Liters** |
| 5% Sodium Azide | 20 mL | 80 mL | 160 mL |
| PBS (-) | 980 mL | 3920 mL | 1. mL |

**Table 1:** PBS with 0.1% Sodium Azide

1. **Technical Information:**
   1. **Storage:** Store PBS with 0.1% Sodium Azide at room temperature or 4°C for up to one year.
   2. Sodium Azide is extremely toxic. Ingestion of dust or solutions can induce the following symptoms within minutes: rapid breathing, restlessness, dizziness, weakness, headache, nausea and vomiting, rapid heart rate, red eyes (gas or dust exposure), clear drainage from the nose (gas or dust exposure), cough (gas or dust exposure), skin burns and blisters (explosion or direct skin contact). Exposure to a large amount of Sodium Azide may cause these other health effects as well: convulsions, low blood pressure, low heart rate, loss of consciousness, and lung injury, respiratory failure leading to death.
2. **Take Down / Waste Disposal:** 
   1. Dispose of stock Sodium Azide waste appropriately, in a segregated waste stream. Sodium Azide cannot be disposed of down municipal sewer. All Sodium Azide containing waste must be disposed of in the Sodium Azide waste container.