Anticoagulant Ratios & Chemical Compositions

Standard Catalog Anticoagulants: ACD/ACD-A, Alsevers, CPD, CPDA-1, Sodium Citrate, Di Potassium EDTA, Tri Potassium EDTA, Di Sodium EDTA, Sodium Heparin, Lithium Heparin, Potassium Oxalate, Sodium Fluoride, as well as the combo of Potassium Oxalate/Sodium Fluoride. Lampire can formulate anticoagulants other than the ones listed, however additional charges may apply.

SUGAR-CONTAINING ANTICOAGULANTS (FOR WHEN THE CUSTOMER WANTS TO USE THE RED BLOOD CELLS):
While these preserve the red cells better than non-sugar-containing anticoagulants below, they dilute the blood more so they are undesirable for processes that depend on the viscosity of the blood.

- **Alsevers (Most common)**:
  - Formulation: 9.5 g/L Na-Citrate, 21 g/L Dextrose, 4.25 g/L Na-Chloride, and 10 ml/L of 5.5% Citric Acid in DI Water
  - Ratio: 1 part Alsevers to 1 part blood
- **ACD (Also referred to as ACD-A):**
  - Formulation: 24.5 g/L Dextrose, 22 g/L Na-Citrate; and 7.3 g/L Citric Acid in DI water
  - Ratio: 15 parts ACD to 85 parts blood
- **CPD:**
  - Formulation: 26.3 g/L Na-Citrate, 25.2 g Dextrose, 3 g/L Citric Acid; and 2.2 g/L Na Phosphate in DI Water
  - Ratio: 14 parts CPD to 86 parts blood
- **CPDA-1:**
  - Same as above but with 0.275g/L Adenine

NON-SUGAR-CONTAINING ANTICOAGULANTS (FOR WHEN THE CUSTOMER WANTS TO USE THE PLASMA):
These anticoagulants have a lower anticoagulant ratio, meaning they won't be as dilute. However the red blood cells will be more fragile.

- **Na-Citrate (Most common):**
  - Formulation: 38 g/L Na-Citrate solution in DI water
  - Ratio: 1 part Citrate to 9 parts blood
- **EDTA (Available as K2, K3, or Na2):**
  - Formulation: 20 g/L EDTA and 6.5g Sodium Chloride in DI water
  - Ratio: 15 parts EDTA to 185 parts blood
- **Heparin:**
  - Formulation: Each ml of anticoagulant contains 1000 units of Heparin
  - Ratio: 1 part Heparin to 99 parts blood (10 units of heparin per mL of blood)

DEFIBRINATED BLOOD (NO ANTICOAGULANT):
This product is popular for making agar plates. The clotting factors have been removed so that no longer a risk of the blood clotting, however the red blood cells are more fragile because there is no preservative.

Description of process: Blood is drawn into a bag or bottle containing glass marbles and gently mixed on a rocker table for approximately 20mins. This causes the blood to clot, and the clots are removed at the lab via filtration.