

## Liquid Blending System

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### Application / Equipment Details:

- Material: Sodium Bicarbonate, Sodium Formate, Citric Acid
  - Bulk Density: 52 – 58 PCF
  - Particle Size: fine powder to 1/8”
  - Flowability: free flowing to semi-free flowing
  - Area Classification: General Area
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### Application Overview:

The customer needed a solution to convey multiple powders from three bulk bags unloaders and two small bag stations into a final mixing tank for liquid detergents. A powder induction system was chosen to allow precise batch control of various dry additions. The dry additions flow through bulk bag unloaders equipped with E<sup>2</sup>, dust collection, lump breaker, and flexible screw conveyor into powder induction valves. A liquid pumping system carries the dry additions along with water to the final mix tank. High accuracy of additions is achieved with load cells on the dry additions and magnetic flowmeters on the water side, with the ability to dose a wide range of additions. The small bag stations are set up similarly and are used as a backup to the bulk bag unloaders. NBE provided a full control package including PLC and HMI set up for automatic additions based on customer flow rates and recipes. The system also includes custom NBE platforms for operator and maintenance access.



