

PTR-108

## Aquarius™ Prime and Prime LS film coating systems

### *Reconstitution Instructions*

#### Materials

- Aquarius Prime film coating systems (12.5% solids recommended; range 10% to 15%)
- Aquarius Prime LS film coating systems (17.5% solids recommended; range 15% to 20%)
- Water, preferably deionized or distilled, ambient temperature

#### Equipment

- Mixing vessel with 25–35% greater height than the liquid level; diameter of the mixing vessel should be approximately 75–100% of the height of the liquid
- Variable speed mixer (100–2000 rpm)
- Propeller stirrer

#### Preparation Guidelines

1. Weigh the required quantity of water into the mixing vessel.
2. Weigh out the required quantity of Aquarius film coating system.
3. Center the propeller stirrer in the mixing vessel so that it is as close to the bottom as possible (see Figure 1a).
4. Set the mixer to the fastest possible speed which maintains a vortex without drawing air into the water.
5. Add the Aquarius film coating system powder to the vortex as quickly as possible, avoiding flotation of the powder and increasing the mixer speed as necessary to maintain the vortex (see Figure 1b).
6. Maintain the mixer speed to give gentle mixing throughout the 60-minute reconstitution period (see Figure 1c).

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**Figure 1. a:** Propeller stirrer properly positioned in mixing vessel. **b:** Addition of Aquarius™ film coating system powder to the water. **c:** Mixing for 60 minutes

## Suspension Handling

Coating suspensions made with Aquarius™ Prime film coating systems should be stirred throughout the coating process.

## Coating Parameters

### Coating Tablets with Aquarius Prime or Prime LS Film Coating Systems

Coating Parameter	O'Hara LabCoat IIX with 15" pan	O'Hara LabCoat IIX with 30" pan	Manesty XL-Cota 150
Spray guns	1 Schlick	3 Schlick	3 Opticoat
Pan loading (kg)	3	40	120
Weight gain (% w/w; max)	3	3	3
Inlet air temperature* (°C)	52	64.5	64.1
Product temperature (°C)	40	41.4	39.3
Exhaust temperature (°C)	41	43.6	45.1
Process air volume (m <sup>3</sup> h <sup>-1</sup> )	300	680	2250
Atomizing air pressure (bar)	1.8	1.8	2.5
Pattern air pressure (bar)	2	2	2.5
Pan speed (rpm)	18	10	6
Spray rate (g min <sup>-1</sup> )	20	101	302
Coating solids (% w/w)	17.5	17.5	17.5

\*Note: Inlet temperature was set to achieve product temperature of approximately 40°C. On the smallest scale, the greater drying efficiency allowed the inlet temperature to be set much lower than in the larger scale process.

## Usage

The maximum solids level will not only depend on the particular Aquarius film coating system selected, but also the coating equipment (such as spray gun, pump and coating machine) used.