

PTR-110

Aquarius™ Control SRX film coating systems

Reconstitution Instructions

Materials

- Aquarius Control SRX film coating systems
- Recommended hydro alcoholic solvents: ethyl alcohol: water (90:10) or isopropyl alcohol: water (90:10)
- Solids: 8–12% (10% recommended)

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 solvent 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 1 a).
4. Set the mixer to the fastest possible speed which maintains a vortex without drawing air into the solvent solution.
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 1 b).
6. Maintain the mixer speed to give gentle mixing throughout the 60-minute reconstitution period (see Figure 1 c).
7. Cover vessel tightly if solution will not be used immediately.

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

Suspension Handling

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

Coating Parameters

Laboratory-scale Coating of Multiparticulates With Aquarius™ Control SRX Film Coating Systems

Coating Parameter	GEA MP-1 Precision Coater with Wurster Insert
Pan loading (kg)	3
Process air volume ($\text{m}^3 \text{h}^{-1}$) (cfm)	45 26.5
Inlet air temperature ($^{\circ}\text{C}$)	48.3
Product temperature ($^{\circ}\text{C}$)	30.4
Exhaust air temperature ($^{\circ}\text{C}$)	32.1
Atomizing air pressure (bar)	1.2
Spray rate (g min^{-1})	15.8

Pilot-scale Coating of Multiparticulates With Aquarius Control SRX Film Coating Systems

Coating Parameter	Vector VFC with 18" Wurster Insert
Pan loading (kg)	22
Fluidizing air volume ($\text{m}^3 \text{h}^{-1}$) (cfm)	1360 800
Inlet air temperature ($^{\circ}\text{C}$)	44.2
Product temperature ($^{\circ}\text{C}$)	32.1
Exhaust air temperature ($^{\circ}\text{C}$)	31.7
Atomizing air pressure (bar)	3
Spray rate (g min^{-1})	232.1

Usage

In general, Aquarius™ film coating systems can be used at varying solids contents, depending on the particular coating formulation being used. 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.

Typical recommended weight gains are 5% to 25% depending on the shape, size and surface area of the multiparticulate or tablet.