

To determine the chemical stability of ceftolozane/tazobactam when reconstituted and stored over an extended time in the AccuFlo (EMED Technologies, El Dorado Hills, California) and I-Flow Homepump Eclipse (Halyard, Alpharetta, Georgia) elastomeric pumps compared with the results of the label-supporting studies in polyvinylchloride (PVC) bags” Terracciano et al (2017).

Abstract:

BACKGROUND: Elastomeric pumps are often used to administer intravenous antibiotics in the outpatient setting, but effective infusion requires that the drug remain stable in solution throughout the procedure.

OBJECTIVE: To determine the chemical stability of ceftolozane/tazobactam when reconstituted and stored over an extended time in the AccuFlo (EMED Technologies, El Dorado Hills, California) and I-Flow Homepump Eclipse (Halyard, Alpharetta, Georgia) elastomeric pumps compared with the results of the label-supporting studies in polyvinylchloride (PVC) bags.

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METHODS: Two ceftolozane/tazobactam dosages were tested for the elastomeric pump studies: 1500 mg (1 g ceftolozane/0.5 g tazobactam) and 150 mg (100 mg ceftolozane/50 mg tazobactam). The solution hold time was evaluated for 10 days at 5°C ($\pm 3^\circ\text{C}$) (tolerance ± 3 hours) and for 1 day (24 hours) at ambient room temperature (tolerance ± 3 hours). Results of a previously conducted label-supporting PVC intravenous bag study were used as a comparator.

RESULTS: At each time point, the visual appearance of all pump and PVC bag solutions

remained clear and free of visible particulates, and subvisible particulate matter did not differ significantly between the initial time point and at 10 days. No notable changes in pH in any of the pump or PVC solutions occurred throughout the study. Recovery of ceftolozane and tazobactam was greater than 93% and 94%, respectively, for all samples (elastomeric pump and PVC bag) at 10 days.

CONCLUSIONS: Ceftolozane/tazobactam remains physically and chemically stable for at least 7 days, as indicated on the US label, when reconstituted, diluted, and stored in the AccuFlo and I-Flow Homepump Eclipse elastomeric pumps and in PVC intravenous bags.

Full Text

Reference:

Terracciano, J., Rhee, E.G. and Walsh, J. (2017) Chemical Stability of Ceftolozane/Tazobactam in Polyvinylchloride Bags and Elastomeric Pumps. *Current Therapeutic Research, Clinical and Experimental*. 84, p.22-25. eCollection 2017.

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