PROCESS ROOM L09 CLEANING VALIDATION

BATCH 1 SUMMARY

The Urea 6M Solution (manufactured in the L09 Process Suite) Cleaning Validation Protocol, DCN: BSI-PRL-0460 was approved on February 2, 2022 to allow the first and subsequent product change over from Urea 6M Solution to Guanidine HCl 6M Solution in accordance with the Process Cleaning Validation Master Plan. Cleaning was executed and approved for release to further manufacturing on February 9, 2022. The Process Cleaning Validation Master Plan references the Cleaning Worksheet Procedure, which provides guidelines for issuing and reconciling all Cleaning Worksheets issued at BioSpectra's Bangor, PA and Stroudsburg, PA Facilities. The Cleaning Worksheet is issued as part of the Cleaning Validation in order to document which required Cleaning Procedure is to be utilized and which detergents are required. The Cleaning Worksheet also details the applicable samples that are required to be taken and analyzed, such as Rinse Samples and Swab Samples. Lastly, the Cleaning Worksheet also requires the establishment of the associated Product and Detergent Limits and refers to the Cleaning Reference Sheet, which includes the Equipment Name, Equipment ID, Final Rinse Volumes Required, Rinse sample Collection Location, Equipment Surface Area, Swab Surface Area, Swabbing Area, and Swabbing Area Rationale.

Once the issuance of the Cleaning Worksheet is complete, the manufacturing department must complete the built-in training verification form prior to proceeding with the execution of the cleaning. This includes the Room Specific Cleaning Procedure, Room Specific Cleaning Reference Sheet, Cleaning Worksheet Procedure, Equipment Cleaning and Maintenance Procedure, Production Area Cleaning, Rinse Water – Visual Inspection, Personal Protective Equipment SOP, Product Care, and an entry to document any other required training to be entered by the Quality Unit personnel issuing the Cleaning Worksheet. Upon completion of cleaning and sample submission, the Quality Control Department analyzes the samples in accordance with their respective analytical methods and reports the results in the Analytical Cleaning Summary in accordance with the Cleaning Worksheet Procedure. There was one cleaning worksheet involved with the Analytical Cleaning Summary BSI-RPT-0928; BCW22-08. Residual Detergent was analyzed by Quality Control in accordance with CIP100/200 Analytical Method Validation Report DCN: BSI-RPT-0531 and Residual Urea was assessed by Quality Control in accordance with Analytical Method Validation Report: Total Carbon Analysis – UREA Cleaning Detection Method DCN: BSI-RPT-0087.

Table 1: Results for Urea 6M Change Over to Guanidine HCl 6M

Required Cleaning Validation Activity	Acceptance Criteria	Results
Cleaning Validation Protocol	Approved and First Batch Change Over Executed	Approved and First Batch Change Over Executed
Cleaning Work Sheet Issuance	Cleaning worksheet issued with all equipment cleaning requirements	Cleaning worksheet issued with all equipment cleaning requirements
Cleaning Reference Sheet Issuance	Cleaning Reference Sheet issued for rinse and swabbing requirements. This includes the applicable limits reference	Cleaning Reference Sheet issued for rinse and swabbing requirements. This includes the applicable limits reference
Training	Training Verification for all staff involved in cleaning is performed for all related documents	Training verification for all staff involved in cleaning is performed for all related documents. Reference BSI-RPT-0928 and BCW22-08
Urea 6M Cleaning Requirements	Meets Specification established for general limit for Urea Carry Over	Results met specification for general limit calculated for Urea Carry Over
CIP 100 Cleaning Requirements	Meets Specification established for general limit for CIP 100 Carry Over	Results met Specification established for general limit for CIP 100 Carry Over
CIP 200 Cleaning Requirements	Meets Specification established for general limit for CIP 200 Carry Over	Results met Specification established for general limit for CIP 200 Carry Over

Approvals:

Prepared By:	Ron McMaster	Date:	2/24/22
Quality Approval By:		Date:	2/24/22