

GUIDELINES ON HEATING, VENTILATION AND AIR-CONDITIONING SYSTEMS FOR NON-STERILE PHARMACEUTICAL PRODUCTS (TRS 1010 - Annex 8)

Publisher: WHO

Overview

This document provides guidance on the role of Heating, Ventilation, and Air Conditioning (HVAC) systems in pharmaceutical manufacturing. A well-designed HVAC system is essential for preventing contamination and cross-contamination while also ensuring environmental and worker protection. These guidelines primarily focus on non-sterile dosage forms such as tablets, capsules, powders, liquids, creams, and ointments, though the principles may be applied to other dosage forms as well.

HVAC design significantly impacts facility layout, influencing elements like airlocks, doorways, and pressure differentials, all of which affect contamination control. Proper temperature, humidity, and ventilation must be maintained to protect product quality and equipment performance. A science- and risk-based approach should be applied throughout the HVAC system's life cycle, from design to qualification and maintenance, while ensuring compliance with GMP principles.

Link to Document

[TRS 1010 - ANNEX 8: GUIDELINES ON HEATING, VENTILATION AND AIR-CONDITIONING SYSTEMS FOR NON-STERILE PHARMACEUTICAL PRODUCTS](#)

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