

Hospital Sterilizers

Small amounts of Ethylene Oxide (EO) are used in sterilization of hospital surgical equipment and plastic devices which may be damaged by steam sterilization. EO is used as a sterilizer because of its potency and effectiveness in destroying pathogens without damaging the integrity of the medical devices.

The methodology used to calculate EO emissions in Ohio called for the number of beds in each hospital size to use the appropriate EF as shown below:

Hospital Size	# Beds	Emission Factors (kg EO/yr/bed)
Large	>500	1.05
Medium	200-500	0.63
Small	<200	0.82

The number of hospitals and beds per county for Ohio are obtained from the Ohio Hospital Association which provided hospital information via the AHA Guide published by Health Forum. Based on national sales of EO in 2002, Ohio's EO emissions are calculated to be 7.3 tons (based on Ohio's share of hospital beds of 3.5 percent).

References:

Documentation for the Draft 1999 National Emissions Inventory (Version 3.0) for Criteria Air Pollutants and Ammonia. Area Sources. E. H. Pechan & Associates, Inc. March 3, 2003

Advancing Health in America Guide. Health Forum. AmericanHospital Association. 2003-2004