NFPA Code No. 30 (NFPA 1996b)

FAQ’s

Q - What are common examples of the various flammable and combustible liquids classified by NFPA 30?
   A – Class IA – Diethyl Ether, Ethylene Oxide…

Q – Are flammable liquids storage cabinets required to have exhaust ventilation?
   A – Exhaust ventilation should only be provided when warranted by the materials in the cabinet, for example for particularly toxic or noxious materials. If provided the manufacturer’s instructions should be followed. Typically, this will involve small diameter steel duct or pipe leading directly and by the shortest route to the exterior of the building. Exhaust must be taken from the bottom of the cabinet.

AAMI Storage Regulations

4.8 Storage and handling of EO gas sources

4.8.1 Storage of Unit-dose containers

“The healthcare facility should consult with the unit-dose container manufacturer to determine how many unit doses may be stored in the sterilizer area. In general, however, if each dose contains 50 or more grams of EO, only one day’s supply of cartridges, up to a maximum of 12 cartridges, should be stored in the immediate area of the sterilizer. If more than 48 cartridges are to be stored in one place in inventory, the area should be suitable for flammable liquid storage and should conform to NFPA (1996b).”

“The recommendations of NFPA Code No. 30 (NFPA 1996b), which is the applicable national code on the storage of flammable liquids, deal with the storage of Class I flammable liquids (such as 100% EO) inside office, educational, and institutional occupancies.”

OSHA 29 CFR 1910.1047

- The employer shall establish a regulated area wherever occupational exposures to airborne concentrations of EtO may exceed the TWA or wherever the EtO concentration exceeds or can reasonably be expected to exceed the excursion limit. 1910.1047(e)(1)
- Access to regulated areas shall be limited to authorized persons. 1910.1047(e)(2)
- Regulated areas shall be demarcated in any manner that minimizes the number of employees within the regulated area. 1910.1047(e)(3)

1910.1047 App B

VI. MISCELLANEOUS PRECAUTIONS

A. Store EtO in tightly closed containers in a cool, well-ventilated area and take all necessary precautions to avoid any explosion hazard.

B. EtO must be stored in tightly closed containers in a cool, well-ventilated area, away from heat, sparks, flames, strong oxidizers, alkalines, and acids, strong bases, acetylide-forming metals such as copper, silver, mercury, and their alloys.

C. Ventilation of aeration units. Existing aeration units. Existing units must be vented to a non-recirculating or dedicated system or vented to an equipment or other room where workers are not normally present and which is well ventilated. Aerator units must be positioned as close as possible to the sterilizer to minimize the exposure from the off-gassing of sterilized items.

NIOSH Publication No. 2000-119:

NIOSH Alert: Preventing Worker Injuries and Deaths From Explosions in Industrial Ethylene Oxide Sterilization Facilities – Workers should take the following steps to prevent EtO explosions:

1. Store and handle EtO properly
   - Store EtO in tightly closed cylinders or tanks in a cool, shaded, well-ventilated, explosion-proof area. Store cylinders or tanks away from heat, sparks, flames, strong oxidizers, alkalines, acids, and acetylide-forming metals such as copper, silver, mercury, and their alloys. The storage room should be explosion-proof according to the definition of the National Fire Protection Association (NFPA 560) [NFPA 1995].
   - Do not smoke, use electrical devices, or create open flames where EtO is handled, used, or stored.
   - Use nonsparking tools when opening or closing metal containers of EtO or whenever EtO might be present.
   - Keep containers individually bonded and grounded to the earth when liquid EtO is poured or transferred.