

Ethylene Oxide from
Commercial Sterilizers
and Community Risk





Why is EPA concerned about ethylene oxide?

Ethylene oxide causes cancer in humans*

- Scientific evidence in humans indicates that exposure to EtO for many years increases the risk of cancers of the white blood cells. Includes non-Hodgkin lymphoma, myeloma and lymphocytic leukemia
- Studies also show that long-term exposure to EtO increases the risk of breast cancer in women.

Ethylene oxide damages DNA

- Children are particularly susceptible to this type of carcinogen.
- Childhood exposure to EtO accounts for about half of a person's lifetime risk.



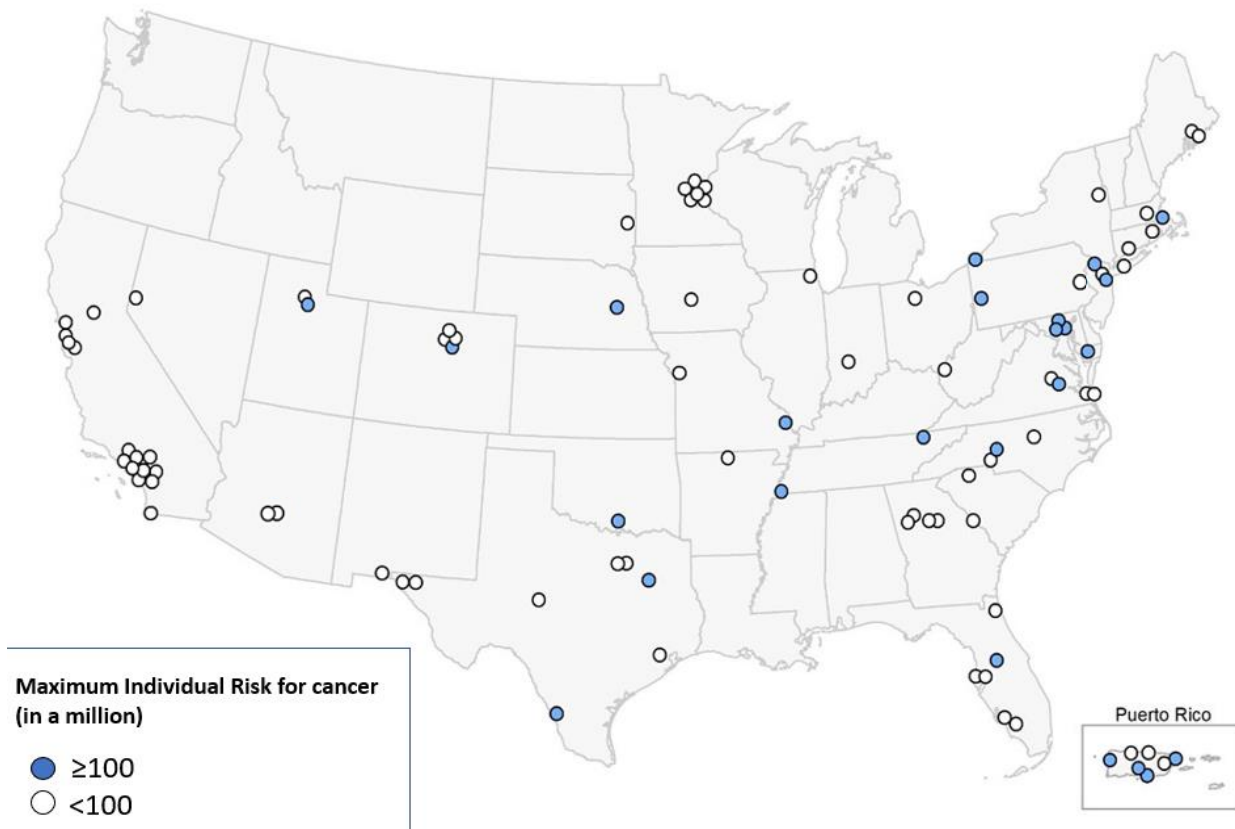
Recent Steps Taken to Learn about Risk and Reduce It:

- July, 2022: Complete analysis showing in which specific communities risk is highest for people who live nearby.
- Continue to seek more immediate reductions of EtO coming out of facilities.

Previous work:

- 2016: Learn EtO is more dangerous when people breathe it in.
- 2018: Initial analysis showing that EtO might be causing risk near certain types of facilities.
- 2020-2022: Collect and verify data and complete analysis to understand more exactly where there is risk and why.

National Context



Approximately **100** commercial sterilizers in the United States

Blue dots show 23 facilities with highest risk to people who live nearby.

More information on all facilities at <https://www.epa.gov/eto>

ADDRESSING ETHYLENE OXIDE ELEVATED RISK

EPA's overall action plan to address EtO and learn more about the chemical includes:

- Revising our current Clean Air Act (CAA) regulations for industries that emit EtO into the air
- Reevaluating the terms of EtO's use as a sterilant under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) to reduce risks to workers and bystanders and expanding environmental reporting requirements under the Toxics Release Inventory for sterilization facilities
- Continue working with state and local air agencies and facilities to reduce EtO emissions as quickly as possible – in advance of a revised CAA rule
- Using enforcement options as appropriate

Risk Communication: Why Now?

- We have a completed analysis with recent, best-quality data available from facilities about increased risk directly attributable to facility sources.
- Interest in this issue is high and transparency is needed.
- Communities deserve to have information about risk.

Risk Communication Objectives

- Inform residents about risks from EtO and what EPA, state, and facilities are doing about those risks. Include an understanding of multiple key components of this complicated message.
- Increase community involvement in the rule-making process. Increase cases of partnership between communities, states, and facilities to lower risk.
- Increase trust that EPA is taking this issue incredibly seriously and is dedicated to making change

PROPOSED OUTREACH PLAN

NATIONAL LAUNCH



RELEASE OF RISK RESULTS
WEBSITE WITH RISK MAPS
NATIONAL WEBINAR



COMMUNITY MEETINGS



EPA WILL HOLD COMMUNITY MEETINGS IN EVERY COMMUNITY WHERE MODELED RISK LEVELS ARE AT OR ABOVE THE 100/MILLION LEVEL. OTHER FEDERAL AGENCIES WILL BE INVITED TO ANSWER WORKER, HEALTH CONCERNS.

ONGOING ENGAGEMENT



FOLLOW UP AS NEEDED, SPECIFIC ACTIONS DEPENDENT ON STATE/LOCAL ACTIVITY, COMMUNITY NEEDS, AND COLLABORATION WITH OTHER FEDERAL AND STATE AGENCIES.

PARTNERSHIP

- EtO is critical to public health at the same time that it is a cause of risk in communities.
- There are many risk communication challenges.
- Communities will have questions about the health of their families.
- Through partnership and active engagement we can reduce risk and meet public health needs.