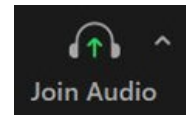


Ethylene Oxide and Risk in the Community of Memphis, TN

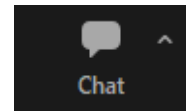


Thank you for joining the meeting!

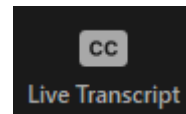
Your microphones have been muted to reduce background noise.



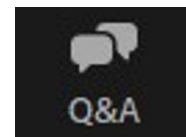
Please use the Zoom controls to connect to audio and visuals as desired.



Let us know if you are having any technical issues via the **Chat function** at the bottom of your screen.



Closed captioning/Live transcription is available. To enable or disable the streaming text for Closed captioning, click the icon on your Zoom control bar and select "show" or "hide" subtitle.



If you are participating via Zoom, please enter any questions for our panel by using the **Q&A function**.

If you are **listening on your phone** and cannot access the Q&A function, press ***9** to let us know you have a question. Once we identify you by the last four digits of your phone number, press ***6** to unmute.

Ethylene Oxide and Risk in the Community of Memphis, TN



- EPA Region 4 Contact Information:
 - 800-241-1754
 - Region4EtO@epa.gov
- EPA Website:
www.epa.gov/eto/Memphis

Daniel Blackman

EPA Region 4
Administrator



Why we are here today

- 1 Pollution is increasing health risks in your neighborhood.
- 2 We are working to reduce this risk in three ways.
- 3 We want to hear from you.



Madeline Beal

**EPA Senior Risk
Communication Advisor**

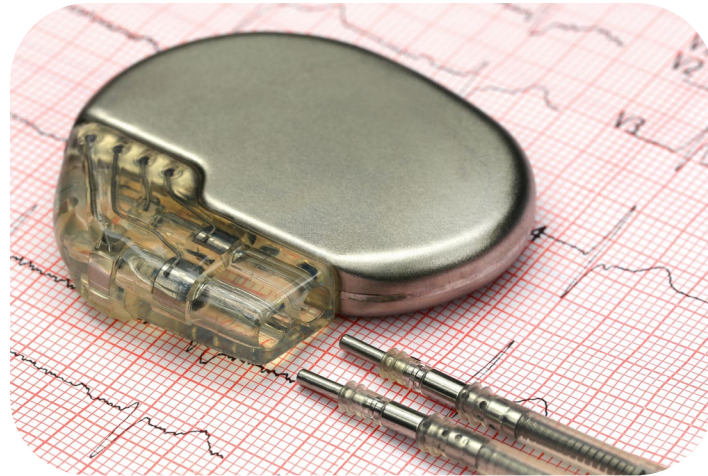


What is Ethylene Oxide?

**Gas: Colorless,
Flammable, Odorless**

*(in concentrations
we see in communities)*

**Sterilization Services of
Tennessee uses EtO to sterilize
medical and dental equipment.**



Current knowledge suggests these risks are not a concern

No indication of non-cancer risk:

- From soil or water
- Acute or emergency health impacts
- From consumer use of products made with or sterilized with EtO



Over your lifetime

Breathing in EtO over
many years can cause
breast cancer and white
blood cell cancer.



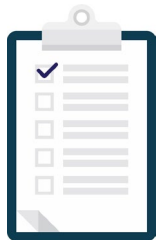
Special Considerations about Risk



Workers may be exposed at higher levels.

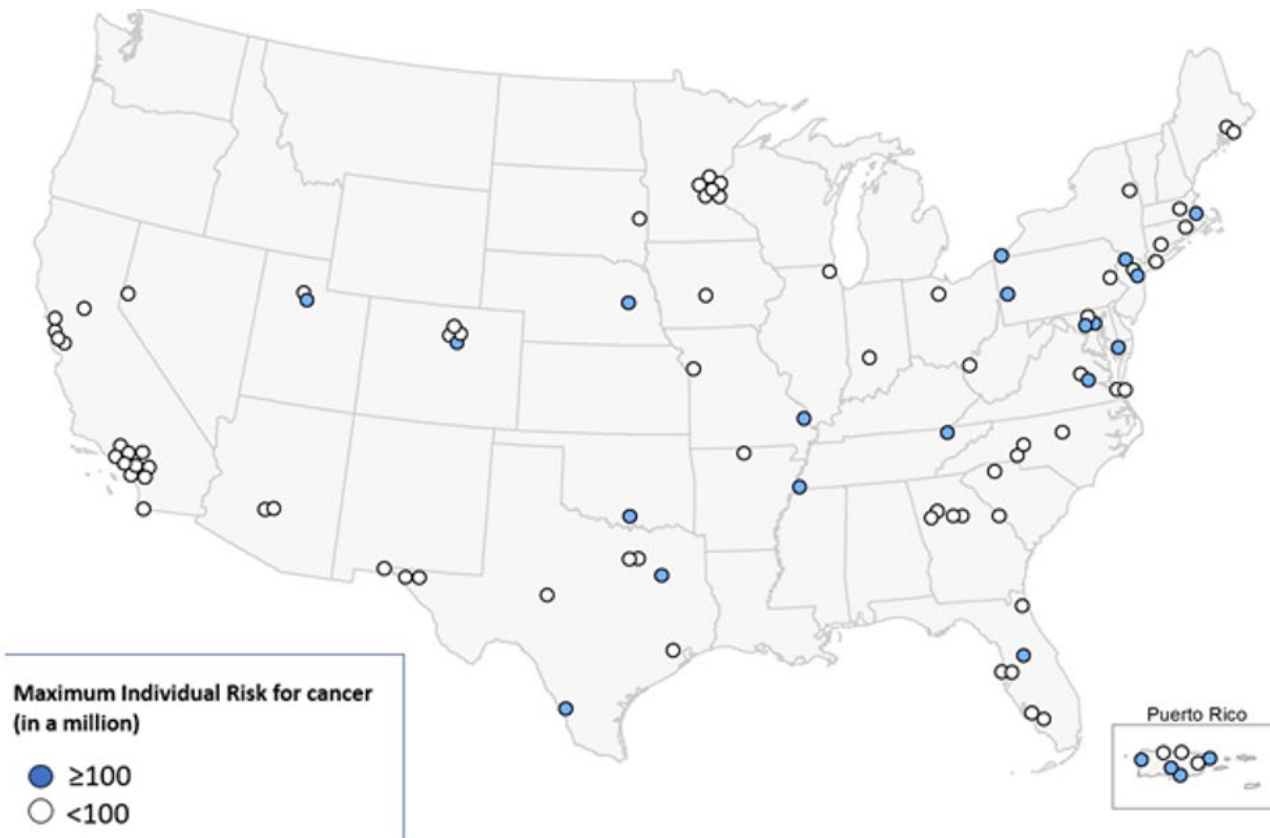


Children and babies may be at higher risk.



This risk assessment and the rule it supports are focused on community risk not worker risk.

National Context



- Approximately **100** commercial sterilizers in the United States
- Sterilization Services of Tennessee is **one of 23** with the **highest risk**
- More information on all facilities at <https://www.epa.gov/eto>

Understanding Risk

How close?

How much?

How long?



Caroline Freeman

EPA Region 4 Air and
Radiation Division Director



EPA Headquarters Modeling Analysis

- EtO Uses
- Facility Processes
- Facility Equipment
- Weather
- Community Details

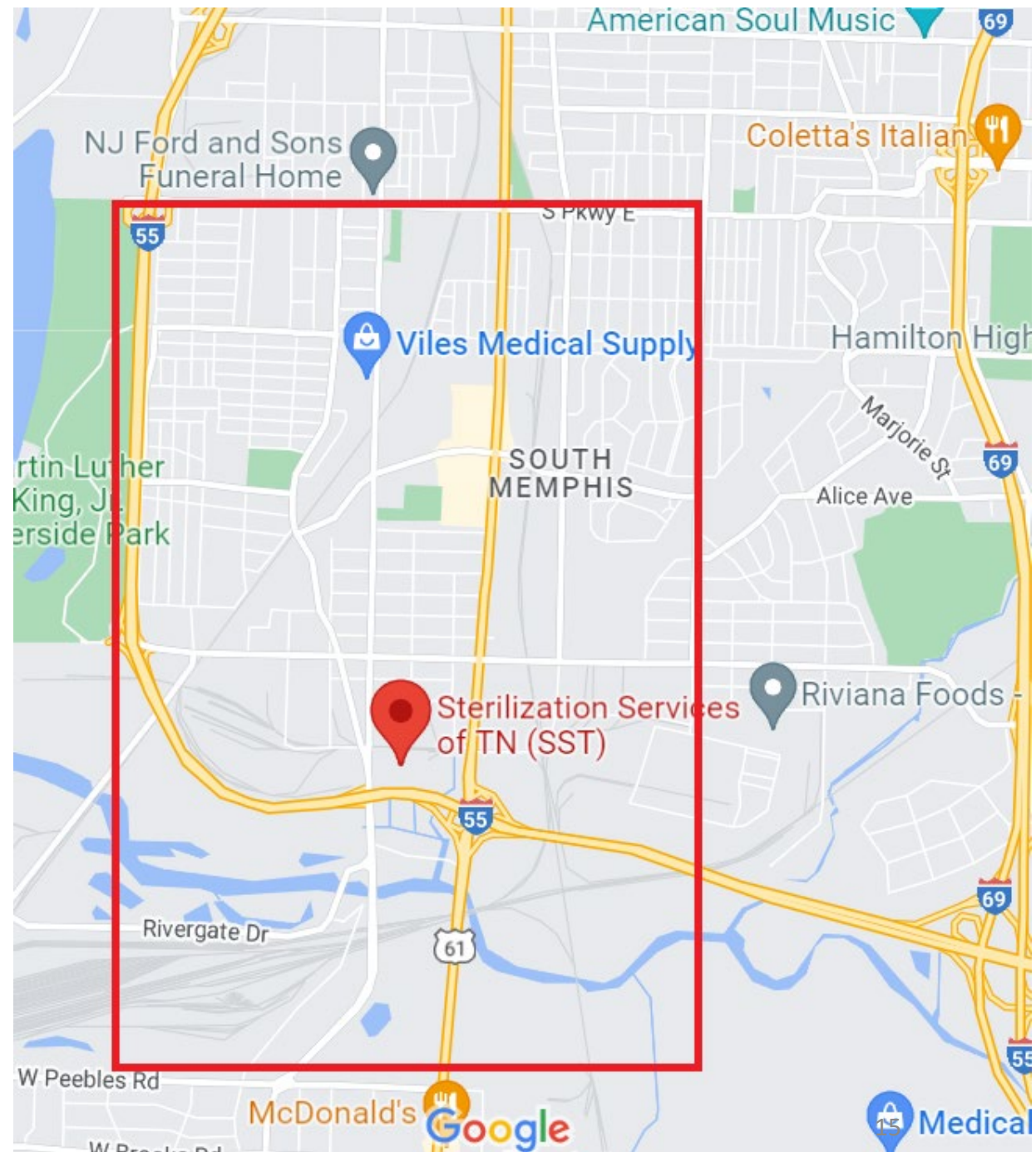
Modeling Analysis

**Maps the Risk
Caused by EtO
from a Facility**

Sterilization Services of TN Boundary Map

Area of Impacts:

- South to East Peebles Rd;
- North to South Parkway East;
- 250' West of the intersection of I-55 and Riverport Rd; and
- East to South Lauderdale Street



Sterilization Services of Tennessee Memphis, Tennessee

Maximum Risk Level: 2,000/Million

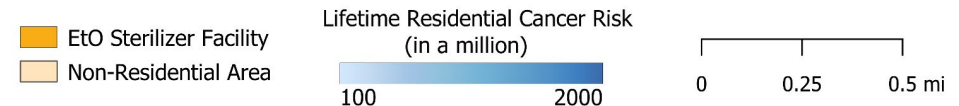
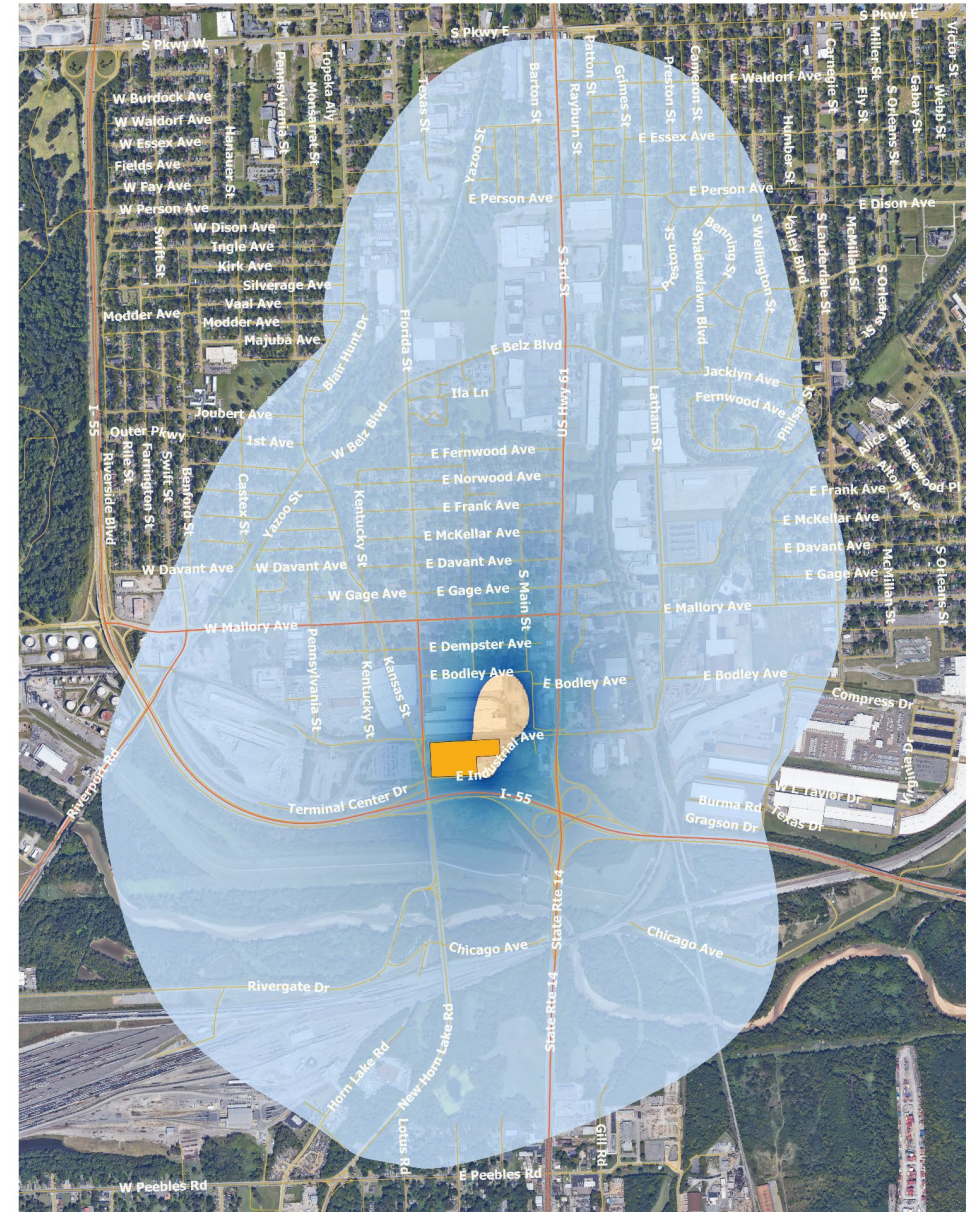
Blue: Estimated lifetime cancer risks of 100 to 2,000 in one million.

Lifetime cancer risk - breathe air containing EtO at the level estimated at that location for 24 hours a day, every day for 70 years.

This estimated risk is in addition to cancer risk from other causes.

For more information and to view this map online: <https://www.epa.gov/eto/memphis>

**Lifetime Residential Cancer Risks - EtO Sterilization
Sterilization Services of Tennessee, Memphis, TN**





Recent Steps Taken to Learn about Risk and Reduce It:

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

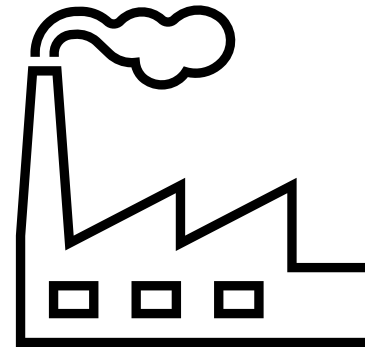
Previous work:

- 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.

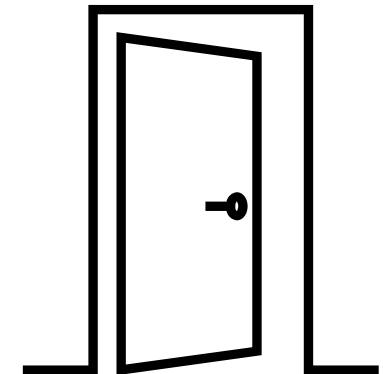
Where EtO Comes from at the Facility

There are two types of EtO emissions from facilities:

Controlled Emissions



Fugitive Emissions



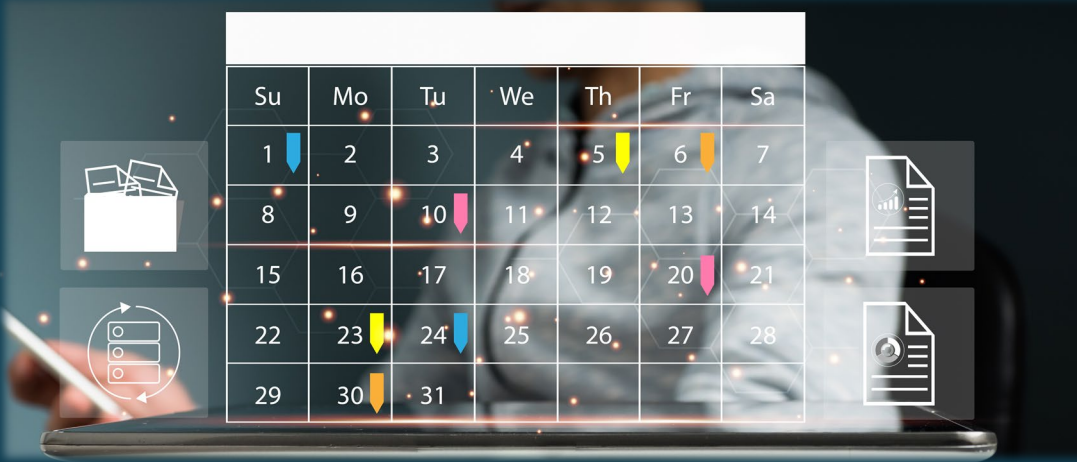
In this community, the majority of the risk is being caused by fugitive emissions

**Reducing EtO coming
out of the facility
is the best way
to reduce risk.**



Timeline

- New regulation to be proposed in the coming months.
- The public comment period will last 60 days.
- Final rule is expected in 2023.
- Once the rule is final, the Clean Air Act allows up to 2 or 3 years to comply with new requirements but EPA plans to solicit comments on a shorter period.
- Additional resources on the comment process are available here: <https://www.epa.gov/eto>



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1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Key Points

EPA has learned that EtO is causing health risk in your community.

We are working to reduce this risk by:

1. Working across government and industry to reduce EtO coming from Sterilization Services of Tennessee.
2. We are updating air pollution regulations to be more protective of your health.
3. We are sharing these risk results with you, so you have the same information we have.

Dr. Michelle Taylor

**Shelby County Health
Department Director**



Sterilization Services of Tennessee

- Began operations in Memphis in 1976
- EtO in use since at least 1979
- Permitted since 1985
- In compliance with the EPA's current rules and regulations regarding ethylene oxide (EtO)

Sterilization Services of Tennessee

- Eight (8) employees
- Operates 24 hours per day, 7 days per week
- Provides sterilization of medical instruments for hospitals, clinics, surgical centers, dentist offices, etc.



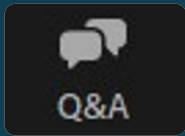
Shelby County Health Department Actions

- Collaborating with the Tennessee Department of Health and Tennessee Cancer Registry for a cancer incidence study (i.e. cancer cluster study) of the neighborhoods surrounding the facility.
 - Objective: To identify if there is a greater than expected number of cancer cases in the area around the facility compared to another region of Shelby County.
 - Study includes blood cancers (i.e. leukemia and lymphoma), as well as stomach and breast cancer

Community Resources

- Tennessee Breast and Cervical Screening Program
 - Shelby County Health Department
 - 901-545-8720.
- Christ Community Health Services
 - Third Street Health Center
 - 901-842-3166.
- Baptist Women's Health Center
 - Mobile mammography unit
 - 901-227-PINK (7465)
- Methodist/LeBonheur Healthcare
 - Mobile Mammography
 - secureapps.methodisthealth.org/Mammo/

- **In-person Participants:** Proceed to a microphone. We will also read aloud some questions that have been provided on comment cards during the Q & A session.
- **Zoom Participants:** Enter your questions by using the **Q&A function**.




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You may also submit questions to EPA by:

- Sending us an email at Region4EtO@epa.gov, and we will respond after the meeting
- Or give us a call at 800-241-1754

Next Steps

- 
- Go to <https://www.epa.gov/eto/memphis> to learn more
 - You can find more information about EtO at www.epa.gov/eto
 - Sign up on the “Interested Individuals” list at the front to receive updates.