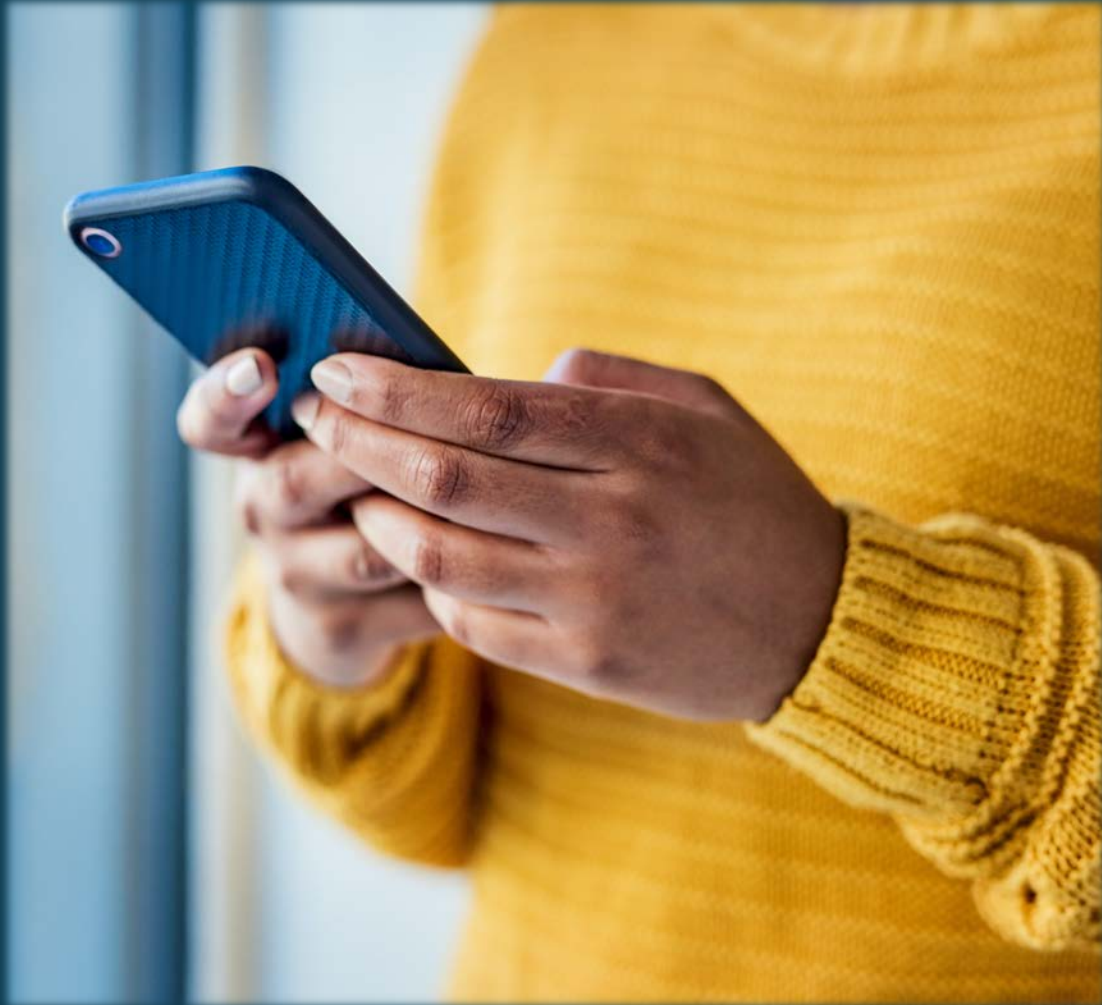


Ethylene Oxide in the Allentown, PA Community





Use the Q and A module to ask questions or ask for technical help.

Adam Ortiz

Mid-Atlantic Regional Administrator
U.S. EPA Region 3

To contact us, please visit EPA's website at:

<https://www.epa.gov/eto>

Click the “Contact Us” link to leave a question or comment.

Why we are here today

1

B. Braun Medical is using ethylene oxide in Allentown.

2

We are working to reduce risk from this chemical.

3

We want to hear from you.



Madeline Beal

Senior Risk Communications Specialist
Office of the Administrator
U.S. EPA Headquarters



Website:

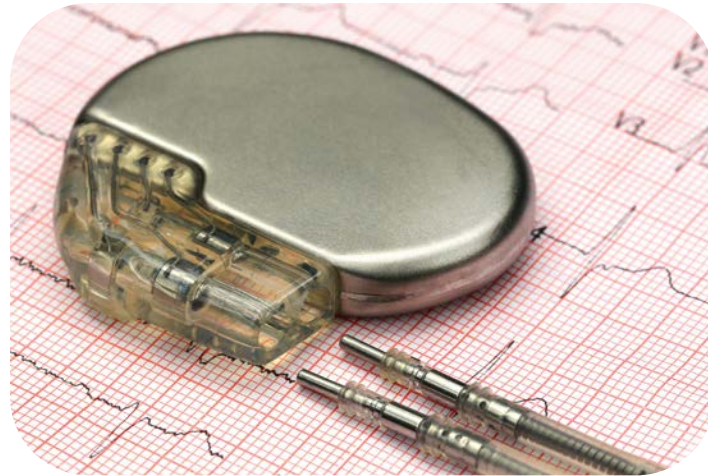
<https://www.epa.gov/eto>

What is Ethylene Oxide?

- **Gas, Colorless,
Flammable, Odorless**

(in concentrations
we see in communities)

- **B. Braun in Allentown
Uses EtO to Sterilize
Medical Devices**



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 lymph
cancer.



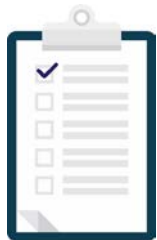
Special Considerations about Risk



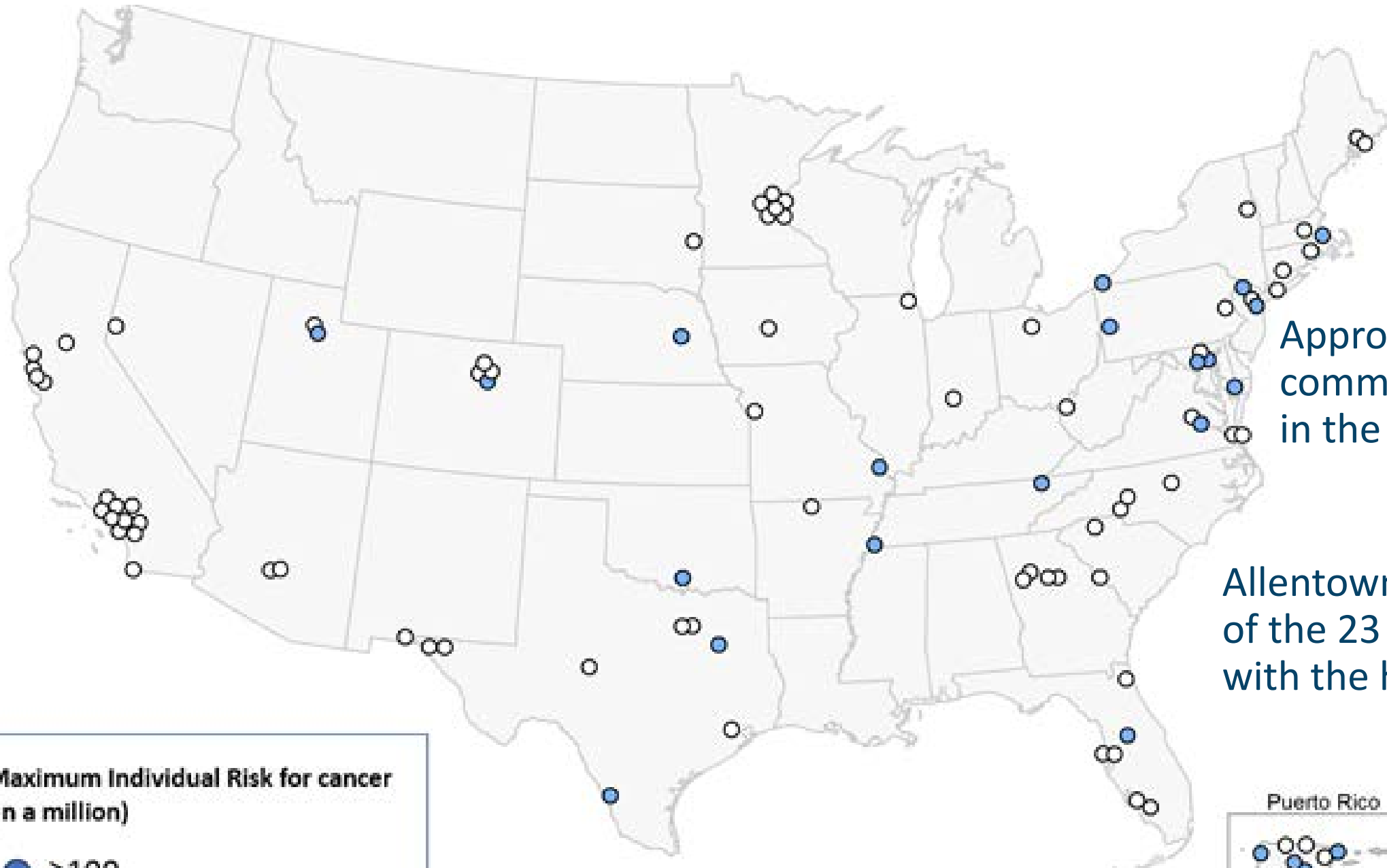
Workers at sterilizer facilities may be exposed at higher levels.



Children and babies may be at higher risk.



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



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

Allentown is **NOT** one of the 23 communities with the highest risk.

Maximum Individual Risk for cancer (in a million)

- ≥ 100
- < 100





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.

Understanding Risk

How close?
How much?
How long?



Cristina Fernandez

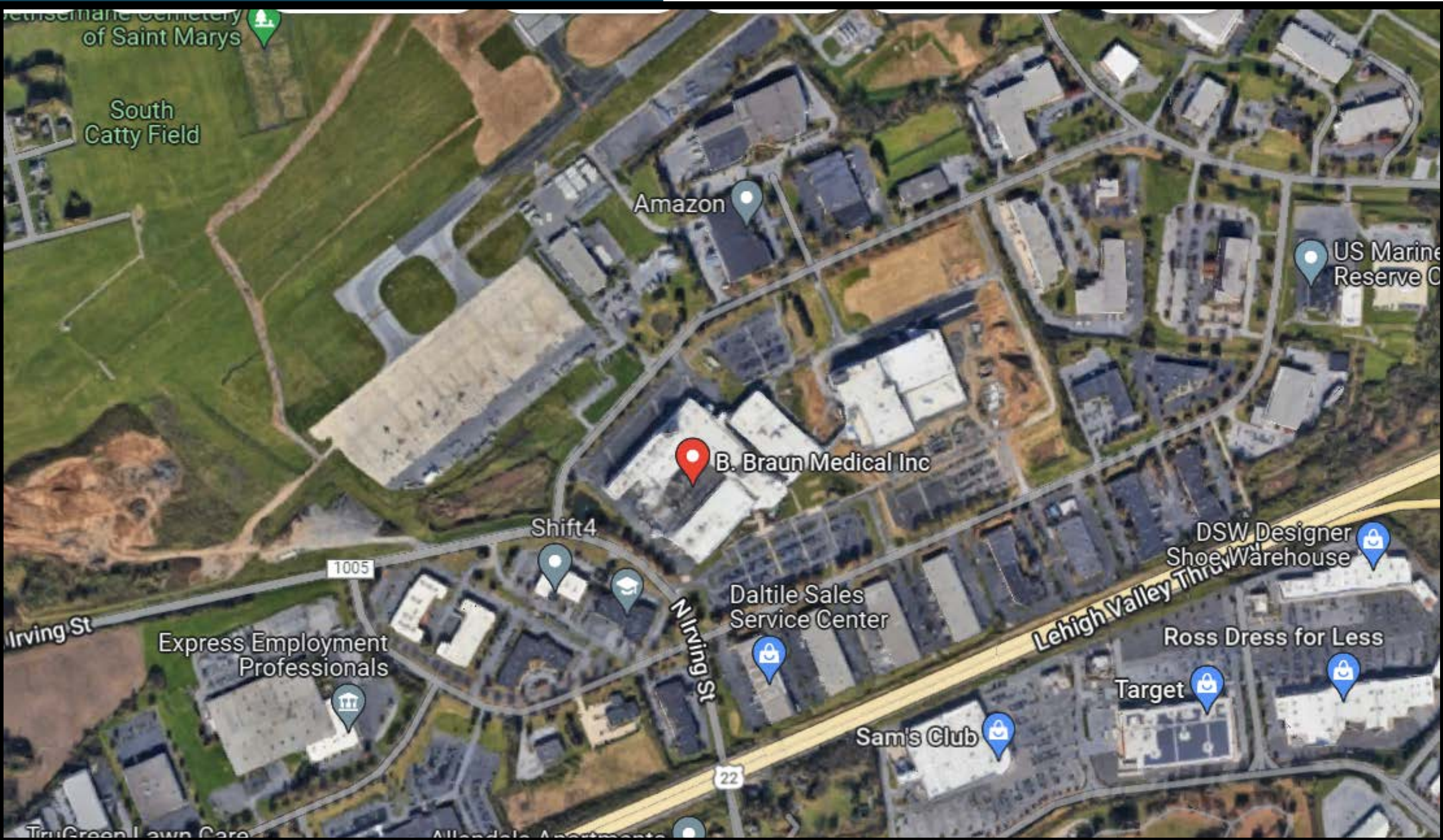
Air Division Director
Mid-Atlantic Region
U.S. EPA Region 3



Website:

<https://www.epa.gov/eto>

<https://www.epa.gov/eto/allentown>



Retsemane Cemetery of Saint Marys

South Catty Field

Amazon

B. Braun Medical Inc

US Marine Reserve C

Shift4

1005

Irving St

Express Employment Professionals

N Irving St

Daltile Sales Service Center

Lehigh Valley Thruway

DSW Designer Shoe Warehouse

Ross Dress for Less

Target

Sam's Club

TruGreen Lawn Care

Allendale Apartments

22

Details about this analysis

EtO Uses
Facility Processes
Facility Equipment
Community Details
Weather

Analysis

Location of Risk
from EtO Emitted
from Sterilizers like
B. Braun

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



Actions to Reduce Risk:

Update rules on:


- How much EtO can come out of facilities.
- How EtO can be used in facilities.

Work with Pennsylvania, local authorities, and B. Braun to reduce risk.



Timeline

- These two new regulations will be proposed in the coming weeks.
- The public comment period will last 60 days.
- How long facilities have to meet the new requirements may be up to 3 years but could be shorter.
- Additional resources on the comment process are available here:
<https://www.epa.gov/dockets/commenting-epa-dockets>

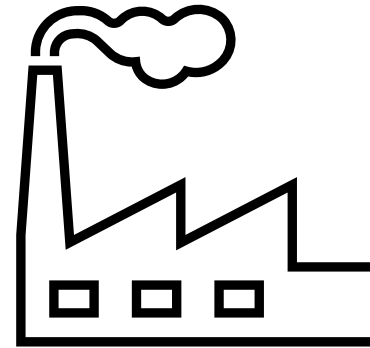


Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

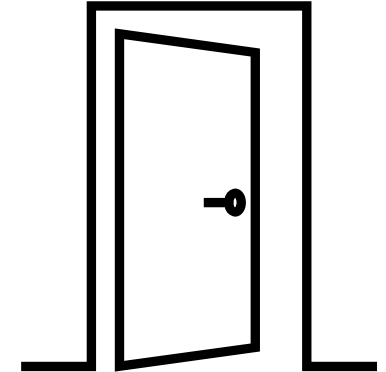
Where EtO Comes from at the Facility

There are two types of EtO emissions from facilities:

Controlled
Emissions



Fugitive
Emissions



Work in Progress

- B. Braun installed a new control system in 2020 which reduced EtO emissions over 90% from 2018 to 2021.
- Pennsylvania Department of Environmental Protection inspected the facility in November 2022.
- PADEP will continue to conduct routine inspections to verify compliance with air quality operating conditions.





Ethylene Oxide (EtO) Public Outreach

PADEP Northeast Region

December 1, 2022

Tom Wolf, Governor

Ramez Ziadeh, Acting Secretary

Air Quality Permit

- B Braun holds Air Quality Permit 39-00055
 - Current EtO controlled sources
 - sterilizers (8)
 - aeration room
 - B. Braun has installed new and updated controls

Previous Controls

- DEOXX Scrubber
 - Designed to control 99% EtO
 - Required as best available technology
- Catalytic Oxidizer
 - Designed to control 99% EtO
 - Required by 40 CFR Subpart O of the National Emission Standards for Hazardous Air Pollutants for Sterilization Facilities

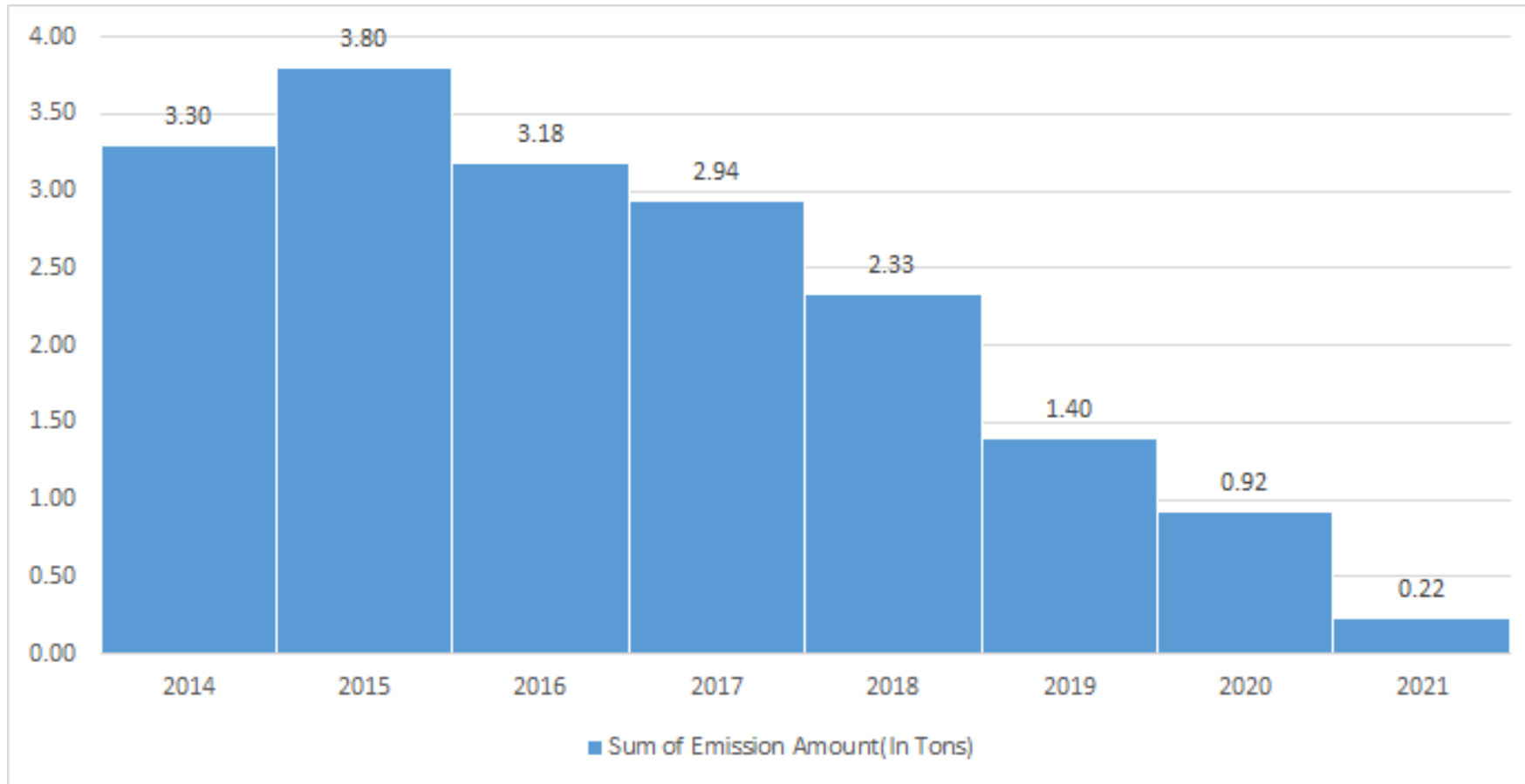
New Controls

- Dry Bed System installed in 2019
 - Voluntarily installed by B. Braun
 - Controls EtO from previously uncontrolled rear sterilizer vent
 - Designed for 99% EtO control
 - Significant reduction in overall EtO emissions

Updated Controls

- Catalytic Oxidizer with Peak Shaver – 2020
 - Voluntarily upgraded by B. Braun replacing existing DEOXX scrubber and catalytic oxidizer
 - Previous equipment designed for 99% EtO control
 - New system is designed to achieve 99.9% EtO control
 - Demonstrated EtO destruction of 99.98%
 - Significant reduction in overall EtO emissions

B Braun EtO Emission Trend

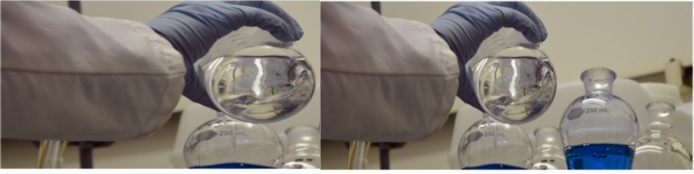


EtO Emission Reductions

- 10TPY EtO emission limit
- Current EtO emissions at 2.2% of limit
- More than 90% EtO emission reduction since 2018

PADEP Inspections

- PADEP conducts periodic unannounced inspections
- Full Compliance Evaluations (FCE)
- Last FCE – November 2022
- No violations identified



Contact Information

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PADEP Northeast Region AQ

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Next Steps



- New regulations to be proposed in the coming weeks.
- Go to <https://www.epa.gov/eto/allentown> to learn more and to sign up to receive updates.

Use Q and A
Module to type a
question.

