Elevated Cancer Risk in Laredo, TX from Ethylene Oxide Emissions by Midwest Sterilization Corporation

Executive Summary

According to the U.S. Environmental Protection Agency (“EPA”), the citizens of Laredo face a significant risk of developing cancer from exposure to a gas called ethylene oxide (“EtO”) emitted by Midwest Sterilization Corp., a commercial sterilization facility located within the Killam Industrial Park at 12010 General Milton Dr., Laredo, Texas 78045.

As indicated by the EPA’s NATA Cancer Risk Map, a vast majority of Laredo residents fall within the top 95-100 percentile cancer risk, meaning that an individual residing within the red area on the map to the right has a higher risk of developing cancer from air pollution than at least 95% of U.S. residents. This high risk is a result of the high volume of EtO emissions to which Laredoans are exposed from a commercial sterilizer plant.

What is Ethylene Oxide?
Ethylene oxide, or EtO, is a flammable, colorless, cancer-causing gas. Derived from natural gas or petroleum, it is used to manufacture a variety of chemicals for products such as plastics, detergents, and antifreeze. In Laredo, Midwest Sterilization Corp. uses ethylene oxide to sterilize medical equipment.

It is carcinogenic, and among the most dangerous of all air toxics regulated by the EPA. The EPA has found that “[l]ong-term exposure to ethylene oxide can irritate the eyes, skin, nose, throat, and lungs, and harm the brain and nervous system (causing effects such as headaches, memory loss, numbness).
Studies show that breathing air containing elevated ethylene oxide levels over many years increases the risk of certain cancers, namely cancers of the white blood cells (such as non-Hodgkins lymphoma, myeloma and lymphocytic leukemia); and breast cancer in females.¹

The EPA has recently found that EtO is 30-times more toxic to adults and 60 times more toxic to children than previously estimated.² This is significant because children potentially convey a greater lifetime cancer risk than the same exposure to adults.

Midwest Sterilization Emissions
Midwest Sterilization Corp. opened its Laredo facility in 2005. Until recently, it emitted more than 16,000 pounds of ethylene oxide per year. In a recent air permit, the Texas Commission on Environmental Quality (TCEQ) authorized Midwest to emit up to 12,620 pounds a year, although it’s uncertain as to how the company is meeting that annual limit.

Nationally, the Laredo facility ranks 2nd among all facilities that emit this air toxic. It is singularly responsible for creating extreme elevated risks of cancer in our community. Midwest Laredo ranks 3rd, nationally, for the highest Cancer Hazard from air pollution from over 15,000 industrial facilities that reported to the EPA’s Toxic Release Inventory in 2019.³

Since 2014, the Laredo facility has ranked among the highest emitters of ethylene oxide in the United States from among the approximately 100 facilities that release this hazardous chemical into the air. Since opening in 2005, Midwest Sterilization Corp. has emitted a staggering 192,956 pounds of ethylene oxide as a result of its sterilization process, based on the company’s self-reported data to the EPA.4

Unfortunately, pollution controls at commercial sterilization facilities, such as Midwest Sterilization Corp., do not remove all of the ethylene oxide from the air. The amount of ethylene oxide that people are exposed to depends on their proximity to the facility, wind speed, wind direction, and other factors.

Elevated Cancer Risks at Laredo School Campuses.

Because of the volume ethylene oxide emissions in Laredo, and the extreme toxicity of EtO, 10 Laredo schools rank in the top 1 percent of Most Air Toxic/Hazardous Air Pollutant exposure at public and private schools in the country, according to the “Air Toxics at School Project” of the Political Economy Research Institute (PERI) at the University of Massachusetts Amherst.5

Ninety-four of Laredo’s 95 schools (public, private, charter, K-12, higher education institutes) rank within the top 6% exposed schools in the country, according to PERI. This is worrisome, as the EPA has recently determined that exposures to children potentially convey a greater lifetime cancer risk than the same exposures to adults. The EPA has found that EtO cancer risks are higher than previously estimated: 30 times for adults and 60 times for children.6

<table>
<thead>
<tr>
<th>School Name</th>
<th>City</th>
<th>State</th>
<th>Toxic Hazard</th>
<th>percentile in US</th>
<th>percentile in state</th>
</tr>
</thead>
<tbody>
<tr>
<td>JULIA BIRD JONES MULLER EL</td>
<td>LAREDO</td>
<td>TX</td>
<td>948,081.14</td>
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<td>1st</td>
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<td>BARBARA FASKENEL</td>
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<td>TX</td>
<td>241,827.06</td>
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<td>2nd</td>
</tr>
<tr>
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<td>2nd</td>
</tr>
<tr>
<td>RAZEN EL</td>
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<tr>
<td>Trautmann Middle</td>
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<td>4th</td>
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<tr>
<td>Elias Herrera Middle</td>
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<td>TX</td>
<td>110,048.68</td>
<td>1st</td>
<td>4th</td>
</tr>
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</table>

Figure 2: List of Top 10 Laredo schools that rank in the top 1 percent of most air toxic/hazardous air pollutant exposure, according to the Political Economy Research Institute at the University of Massachusetts Amherst.


Children are the most vulnerable to air pollution, including ethylene oxide emissions, for a variety of reasons, according to Neil J. Carman, PhD, of the Lone Star Chapter Sierra Club. Factors include: more rapid breathing and greater intake of air pollution relative to body size; more time spent outdoors; closer to the ground where air pollutants are more concentrated; and the lack of a fully developed immune system, endocrine system, and other organs to protect them from the damaging effects of many chemicals.

**RGISC Recommendations**

As an environmental advocacy leader in Laredo, RGISC makes the following recommendations based on the urgency of this public health matter, and the severity of related cancer risks to Laredo and its schools from ethylene oxide emissions:

1) Urge EPA to inspect and release information about Midwest’s compliance status, and require or perform immediate fenceline monitoring around Midwest;

2) Urge EPA’s Air Office to release up-to-date health risk information for the community around Midwest;

3) Urge EPA to immediately begin and expeditiously complete a rulemaking to strengthen the national emission standards for hazardous air pollutants, including ethylene oxide;

4) Urge EPA to review and assure that TCEQ complies with all Clean Air Act requirements in the permitting process for this facility;

5) Petition the City to develop a program with local health officials and physicians to produce and publish an updated cancer registry for the Laredo region from 2011 to present;

6) Urge UISD to consider relocating Muller Elementary students to other campuses as these children may be more susceptible to carcinogenic air toxins because their risk is compounded by continued exposure from an early age.
What is Ethylene Oxide?
Ethylene oxide, also referred to as EtO, is a flammable, colorless, cancer-causing gas. It is one of the most dangerous air pollutants in the United States, and is regulated by the U.S. Environmental Protection Agency under the Clean Air Act, along with 186 other hazardous air pollutants, also known as “air toxics” because they cause serious health problems in people. The toxicity of these pollutants varies greatly, and ethylene oxide ranks among the most extreme.

Derived from natural gas or petroleum, ethylene oxide is used to manufacture a variety of chemicals for products such as plastics, detergents, and antifreeze. It is also used as a commercial sterilizer, and while banned in all food production, it is still used as a fumigant and pesticide in the production of spices sold in the United States, according to the American Spice Trade Association.

In Laredo, Midwest Sterilization Corp. uses ethylene oxide to sterilize medical equipment.

Ethylene Oxide and Laredo, TX
Midwest Sterilization Corp., a commercial sterilization company based in Jackson, MO, opened its Laredo facility in 2005. Each year since 2014, the Laredo facility has ranked among the highest emitters of ethylene oxide in the United States from among the approximately 100 facilities that release this hazardous chemical into the air.

Figure 3: Map of Laredo, illustrating location of the Midwest facility, located at 12010 General Milton Dr., Laredo, TX 78045. It sits within the Killam Industrial Park between I-35 and FM 1462 (Mines Road), just north of Bob Bullock Loop 20.

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9 Management Alert. at 13. According to the U.S. Food and Drug Administration, nearly half of all medical devices used in hospitals and other medical settings, are sterilized with ethylene oxide.
Until recently, it emitted more than 16,000 pounds of ethylene oxide per year. In a recent air permit, the Texas Commission on Environmental Quality (TCEQ) authorized Midwest to emit up to 12,620 pounds a year, although it is uncertain as to how the company is meeting that annual limit.

Since 2005, Midwest Sterilization Corp. has emitted a staggering 192,956 pounds of ethylene oxide as a result of its sterilization process, based on the company’s self-reported data to the EPA.\(^\text{10}\) Below is EPA data that shows the amount of emissions, \textit{in pounds}, that Midwest Sterilization Corp. has released into Laredo’s air from 2005 through 2019.\(^\text{11}\)

<table>
<thead>
<tr>
<th>Year</th>
<th>Fugitive Air</th>
<th>Stack Air</th>
<th>Total Air Emissions</th>
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<td>15,850</td>
<td>16,390</td>
</tr>
<tr>
<td>2018</td>
<td>481</td>
<td>14,631</td>
<td>15,112</td>
</tr>
<tr>
<td>2017</td>
<td>471</td>
<td>14,374</td>
<td>14,845</td>
</tr>
<tr>
<td>2016</td>
<td>467</td>
<td>14,264</td>
<td>14,731</td>
</tr>
<tr>
<td>2015</td>
<td>413</td>
<td>17,362</td>
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<td>2014</td>
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<tr>
<td>2005</td>
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<td><strong>Total</strong></td>
<td><strong>4,743</strong></td>
<td><strong>188,213</strong></td>
<td><strong>192,956</strong></td>
</tr>
</tbody>
</table>

\textit{Table 1. EPA Toxic Release Inventory Facility Report: Midwest Sterilization Corp. (Laredo, TX)}

In 2019, the Laredo plant ranked 2\textsuperscript{nd} nationally among 106 regulated facilities that emit ethylene oxide.\(^\text{12}\) That same year, the Laredo plant ranked 3\textsuperscript{rd} in the nation as the most hazardous industrial facility among the over 15,000 regulated facilities that report hazardous air toxic emissions to the EPA.\(^\text{13}\)


\(^{11}\) EPA’s 2019 Toxic Release Inventory, \textit{Midwest Sterilization Corp., TRI Facility Report (epa.gov)}.

\(^{12}\) U.S. EPA Toxic Release Inventory database, \url{https://edap.epa.gov/public/extensions/EasyRSEI/EasyRSEI.html#} (last accessed Aug 8, 2021). Risk-Screening Environmental Indicators (RSEI) is a screening-level model that analyzes factors that contribute to human health risk. These include the amount of chemical released, the degree of toxicity, and the size of the exposed population. RSEI calculates scores to highlight releases that would potentially pose greater risk over a lifetime of exposure.

The EPA warns that “[f]or a single year of exposure to ethylene oxide, the cancer risk is greater for children than for adults.” And as expected, the “greatest risk [for developing cancer] is for people who have lived near a facility releasing EtO into the air for their entire lifetime.”

**How Sterilization Works**
According to Midwest Sterilization Corp.’s website, the process of EtO sterilization “typically consists of three phases: Preconditioning, Sterilization and Aeration.” Preconditioning calls for a “sterilization load [to be] held in controlled and validated conditions of temperature and relative humidity to heat the product to the sterilization temperature (100-130 degrees Fahrenheit), 40-80% relative humidity for 12-24 hours depending on the cycle.”

The Sterilization phase, the most concerning phase in the process, calls for “[t]he sterilization load [to be] transferred to a sterilization chamber, with a water-heated jacket and served to provide vacuum, steam, nitrogen, gaseous EtO and air.” The “sterilant used” in the sterilization process “is 100% ethylene oxide” gas. After the sterilization phase is complete, the “sterilization load is held under constant temperature to allow desorption of EtO and its by-products . . .”

Pollution controls at commercial sterilization facilities do not remove all of the EtO from the air. The remaining EtO is released to the outside air. The amount of EtO that people are exposed to depends on their proximity to the facility, wind speed, wind direction, and other factors.

**Cancer Risks and Health Hazards of Ethylene Oxide**
Ethylene oxide has among the highest "inhalation toxicity weight" among the roughly 600 chemicals on the EPA’s Toxics Release Inventory, a measure of the pollutant’s cancer-causing ability. Acute exposure to EtO may result in respiratory illness and lung injury, headaches and shortness of breath. Chronic exposure has been associated with neurotoxicity, mutagenic changes, reproductive side effects such as spontaneous miscarriage, and cancer.

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15 *Id.*
17 *Id.*
18 *Id.*
19 *Id.*
20 *Id.* Desorption is a step in the sterilization process to remove residual ethylene oxide content. EtO must be properly aerated to remove residual gas and by-products.
21 U.S. EPA, *Evaluation of the Inhalation Carcinogenicity of Ethylene Oxide Executive Summary*, [https://www.epa.gov/sites/default/files/2020-12/toxicity_data_rsei_v239.xlsx](https://www.epa.gov/sites/default/files/2020-12/toxicity_data_rsei_v239.xlsx) (linked from [https://www.epa.gov/rsei/rsei-toxicity-data-and-calculations](https://www.epa.gov/rsei/rsei-toxicity-data-and-calculations)). The EPA toxicity weighting system is in this spreadsheet from the Risk Screening Environmental Indicators (RSEI). EtO has the twentieth highest Inhalation Toxicity Weight among 440 chemicals with Inhalation Toxicity Weights (and a total of 643 chemicals on the list). EtO’s toxicity weight is 11 million on a scale that starts at 0.07 and goes to 1.4 billion.
23 Georgia Institute of Technology, Chem Facts Ethylene Oxide, [https://www.ehs.gatech.edu/sites/default/files/ethylene_oxide.pdf](https://www.ehs.gatech.edu/sites/default/files/ethylene_oxide.pdf) at 1
Ethylene oxide is classified as genotoxic, mutagenic and carcinogenic and its toxicity "is based on its ability to bind to nucleophilic biopolymers such as RNA, DNA, and proteins."\(^{24}\) The DNA-damaging properties of EtO have been studied since the 1940s.

EPA’s current regulation for sterilizers using ethylene oxide dates back to the early 1990s, but the agency recently found that the chemical is even more dangerous than previously believed. In 2016, EPA’s Integrated Risk Information System (IRIS) program published its multi-year epidemiological and toxicological review of EtO’s cancer risk.\(^{25}\)

The agency concluded that EtO is 30-times more toxic to adults and 60 times more toxic to children than previously estimated.\(^{26}\) This is significant because children potentially convey a greater lifetime cancer risk than the same exposure to adults. Also, because of the earlier ages of exposure, the lifetime risk of cancer may manifest in any ethylene oxide-attributable cancers occurring at an earlier age than for similar risks to adults.

In December 2016, the EPA changed ethylene oxide’s status from “probably carcinogenic to humans” to “carcinogenic to humans.” This change was based on studies that showed that “exposure to EtO [is] associated with an increased risk of cancers of the white blood cells” and “an increased risk of breast cancer in females.”\(^{27}\) In 2018, the EPA published its 2014 National Air Toxics Assessment (NATA), based on emissions generated in 2014. The NATA determined that residents living in 17 metro areas – Laredo included – faced “unacceptable cancer risks.” This applies to census tracts with an air toxics cancer risk of 100 in 1 million or higher. Less than 1 percent of all census tracts in the country show these levels. The national average is 30 per million.\(^{28}\)

Advocacy groups like Earthjustice have argued that EPA’s 100-in-1 million unacceptable-cancer-risk level is outdated and that EPA should update that value to reflect current science and account for cumulative impacts and exposures which occur more frequently in communities facing environmental injustice. Three air toxics are largely responsible for EPA’s “unacceptable cancer risk” assessment: (1) ethylene oxide, (2) chloroprene, and (3) coke oven emissions.\(^{29}\)

Because of these findings in the NATA report, EPA’s Office of the Inspector General (OIG) issued a Management Alert report to the EPA, urging the agency to take prompt action to inform residents living near ethylene oxide-emitting facilities about the health concerns and the actions the agency was taking to address those concerns.\(^{30}\) The OIG report goes on to identify “25 high-priority ethylene oxide-emitting facilities” - which includes the Midwest Sterilization Corp. facility in Laredo. It advised EPA to inform communities of the health risks from these sources.

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\(^{24}\) Id.


\(^{26}\) U.S. Environmental Protection Agency, supra note 9.

\(^{27}\) Id.


\(^{29}\) Id.

\(^{30}\) U.S. Environmental Protection Agency OIG, supra note 1.
EPA’s Lack of Action in Laredo
Ten of the 25 high-priority facilities are in EPA-Region 6, a five-state region that includes Texas. When the OIG published its report, EPA Region 6 had not conducted any outreach or initiated plans for outreach. And even today, the agency has not fully complied with the OIG’s recommendations, nor with subsequent OIG reports. Figure 3 shows that Midwest’s Laredo plant is the third largest EtO source among all facilities in Texas and Louisiana.

Unfortunately for the residents of Laredo, the EPA currently has no immediate plans to conduct direct outreach efforts to inform residents living near Midwest. Thus, Laredoans who are affected by Midwest’s air toxic emissions have had no guidance from the EPA or Texas Commission on Environmental Quality (TCEQ). Neither agency has provided any information about risks and potential actions to address such risks in Laredo.

While EPA Region 6 has begun to conduct outreach at other ethylene oxide-emitting industrial facilities, it’s unclear why the Laredo facility, and other commercial sterilizers, are not included in these current plans.

Meanwhile, a commercial sterilization plant owned by Sterigenics in Willowbrook, IL, an affluent suburb of Chicago, was shut down in 2019 after residents and elected officials learned that they faced elevated cancer risks due to EtO air pollution. Midwest’s facility in Laredo releases more than three times the amount of the Sterigenics plant, according to self-reported emissions data from the EPA’s Toxic Release Inventory. (see Figure 1)

Elevated Cancer Risks at Laredo Schools
Because of the level of ethylene oxide emissions in Laredo, and the extreme toxicity of EtO, 10 Laredo schools rank in the top 1% of Most Air Toxic/Hazardous Air Pollutant exposed among all public and private schools across the country, according to the “Air Toxics at School Project” of the Political Economy Research Institute (PERI) at the University of Massachusetts Amherst.

(1) Julia Bird Jones Muller Elementary
4430 Muller Memorial Blvd., Laredo, Texas 78045
Top Contributing Facility: Midwest Sterilization Corp.
Total Toxicity-Weighted Concentration: 948,081
Distance from Top Contributing Facility: ~1.7 Miles

(2) Barbara Fasken Elementary School

31 EPA OIG, EPA Should Conduct New Residual Risk and Technology Reviews for Chloroprene- and Ethylene Oxide-Emitting Source Categories to Protect Human Health, Report No. 21-P-0129 (May 6, 2021)
32 EPA Ethylene Oxide Community Meetings Via Phone and Zoom, Air Issues in Texas | US EPA. EPA Region 6 announced that it will conduct outreach at seven EtO facilities across Texas and Louisiana, which excludes Laredo. 8/10/2021 – Eastman Chemical (Longview, TX) | 8/12/2021 – Taminco (St. Gabriel, LA)/BCP Ingredients (St. Gabriel, LA) | 8/17/2021 – Indorama (formerly Huntsman) (Port Neches, TX) | 8/19/2021 – Union Carbide (Hahnville, LA) | 8/24/2021 – Evonik (formerly Air Products Performance Manufacturing, Inc) (Reserve, LA) | 8/26/2021 – Shell Technology (Houston, TX) | 8/31/2021 – Sasol Chemicals (Westlake, LA)
33 Political Economy Research Institute (PERI) at the University of Massachusetts Amherst, Air Toxics at School Search Results, (2018)
11111 Atlanta Dr., Laredo, Texas 78045
**Top Contributing Facility:** Midwest Sterilization Corp.
**Total Toxicity-Weighted Concentration:** 241,827.06
**Distance from Top Contributing Facility:** ~2.0 Miles

(3) United Day School
1701 San Isidro Pkwy, Laredo, Texas 78045
**Top Contributing Facility:** Midwest Sterilization Corp.
**Total Toxicity-Weighted Concentration:** 165,405
**Distance from Top Contributing Facility:** ~1.9 Miles

(4) Abraham Kazen Elementary School
9620 Albany Dr., Laredo, Texas 78045
**Top Contributing Facility:** Midwest Sterilization Corp.
**Total Toxicity-Weighted Concentration:** 145,274
**Distance from Top Contributing Facility:** ~2.3 Miles

(5) Finley Elementary School
2001 Lowry Rd., Laredo, Texas 78045
**Top Contributing Facility:** Midwest Sterilization Corp.
**Total Toxicity-Weighted Concentration:** 145,274
**Distance from Top Contributing Facility:** ~2.5 Miles

(6) Raul Perales Middle School
410 EG Ranch Rd., Laredo, Texas 78046
**Top Contributing Facility:** Midwest Sterilization Corp.
**Total Toxicity-Weighted Concentration:** 142,491
**Distance from Top Contributing Facility:** ~10.9 Miles

(7) George Washington Middle School
10306 Riverbank Dr., Laredo, Texas 78045
**Top Contributing Facility:** Midwest Sterilization Corp.
**Total Toxicity-Weighted Concentration:** 139,094
**Distance from Top Contributing Facility:** ~2.7 Miles

(8) Matias De Llano Elementary School
1415 Shiloh Dr., Laredo, Texas 78045
**Top Contributing Facility:** Midwest Sterilization Corp.
**Total Toxicity-Weighted Concentration:** 119,012
**Distance from Top Contributing Facility:** ~2.8 Miles

(9) Elias Herrera Middle School
8800 McPherson Rd., Laredo, Texas 78045
**Top Contributing Facility:** Midwest Sterilization Corp.
**Total Toxicity-Weighted Concentration:** 110,048
**Distance from Top Contributing Facility:** ~2.7 Miles

(10) Trautmann Middle School

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Kazen and Finley have the same numbers. The distance between the schools is less than 1/2 mile. They share the same 810 meter x 810 meter grid cell in the RSEI geography and so have identical toxicity-weighted concentrations.
810 Lindenwood Dr., Laredo, Texas 78045

Top Contributing Facility: Midwest Sterilization Corp.
Total Toxicity-Weighted Concentration: 110,048
Distance from Top Contributing Facility: ~3.0 Miles

Figure 4: Map of Laredo schools, illustrating their close vicinity to the Midwest facility.

One Laredo campus in particular, Muller Elementary School, sits in a census tract that ranks in the top 0.1% among the EPA’s NATA Cancer Risk for all census tracts across the country. According to PERI, Muller Elementary’s air toxic concentration is 205 times the national average for schools.36

On May 28, 2021, the United Independent School District (UISD) sent a letter to the staff and parents of Muller Elementary, only, detailing some of this information, stating “The District is not aware of the methodology used by PERI to determine its findings.”37

PERI, however, explains on its “Air Toxics at School Project” website that it tracks and ranks industrial toxic air pollution at every K-12 campus and higher education institute in the United States using “data from EPA’s Toxic Release Inventory (TRI) modeled by the EPA’s Risk-Screening Environmental Indicators (RSEI).”38

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35 See Individual School Results from Political Economy Research Institute, supra note 22.
37 United ISD Letter to Muller Elementary Staff and Parents (May 28, 2021) https://lh4.googleusercontent.com/K7u7-ZKNWkGz_z5zbfIz2yR8ZuI5Nw5dh1MrHoZkh2SAUssgkvB00ZG9aKtwrQ3JRLZayaBlfFbPNhl06MnNOuIdF_3w9zBwTRbSHrClfs2k6v6fNPsP7WMZRPjPbzd
38 PERI, Air Toxics at School: About the Project, https://peri.umass.edu/about-air-toxics-at-school
PERI’s data comes from a screening method that uses best practices to connect pollution from the source (facility) to potential health risk at a school. The data lists “the chemicals that make the largest estimated contributions to...air pollution at each school.”  

PERI also explains that the EPA measures toxicity as “how dangerous the chemical is on a per-pound basis”.

**Definitions**

**Toxicity Weight** pertains to the chemical. For ethylene oxide, its toxicity weight is 11 million on a scale where, for example, ammonia is 7 and methanol, wood alcohol, is 0.18. Meanwhile, the **Toxicity-Weighted Concentration** combines the chemical’s Toxicity Weight with the quantity of chemical released and estimated concentration at the school location based on how the chemical spreads through air from the point of release.

For Laredo’s 95 schools, almost all of the Toxicity-Weighted Concentration for *every* campus comes from Midwest’s ethylene oxide emissions. Children remain among the most vulnerable population when it comes to EtO exposure. Midwest’s emissions have not only polluted the air around the majority of Laredoans’ homes, it has also polluted the air of Laredo children’s schools.

![Figure 5: Map of Cancer Risk from Air Pollution from the EPA, illustrating Muller Elementary School's location in a Laredo census tract that has a 95-100% cancer risk level.](Figure_5.png)

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39 Id.

40 PERI, *Air Toxics at School: Technical Notes*, Air_Toxics_at_Schools_Technical_Notes.pdf (umass.edu)

41 See Individual School Results from Political Economy Research Institute, *supra* note 22.

Muller Elementary and UISD
In Laredo, Muller Elementary ranks 20th in the nation for air toxicity, and 6th in Texas.43 In UISD’s May 28, 2021 letter to Muller staff and parents, UISD states that in its meetings with the TCEQ regional director, it learned that Midwest Sterilization Corp. is “generally in compliance” with its air quality permit and applicable rules.

UISD states that on November 9, 2020, Midwest Sterilization Corp. submitted results “which reflect the facility complies with the air permit requirement of 99.63% removal efficiency of EtO.”44 The district, however, doesn’t mention the volume of emissions that continue to be released into the air nor any other details about significant cancer risk levels found in and around these top 10 campuses and beyond. Similar letters were not sent to any other UISD campus that rank in the top 1% of air toxicity in the United States.

Even if Midwest Sterilization Corp. is complying with a TCEQ air permit requirement, the data shows that these requirements are insufficient to protect the public’s health, and they don’t cover major sources of ethylene oxide emissions, such as chamber exhaust vents and fugitive emissions.

Current exposure risks to ethylene oxide places these Laredo schools in the top 1% of all schools for air toxicity. Some of these Laredo schools are located in census tracts that exceed the EPA’s upper limit of acceptable risk. The Centers for Disease Control and Prevention (CDC) states that “there is no safe level of exposure to a carcinogen.”45

The air toxicity problem for Laredo schools doesn’t stop at Muller or other Top 10 schools. PERI data shows that 94 of the 95 Laredo schools rank in the top 6% nationally for air toxicity, including Texas A&M International University (top 2% nationally) and Laredo College (top 4% nationally). The 95th school, Kennedy-Zapata Elementary located in El Cenizo about 25 miles away from the Midwest sterilization plant, ranks in the top 11% nationally.

The EPA’s NATA Cancer Risk Map places a significant swath of Laredo within the top 5% of cancer risk across the country, meaning that residents of Laredo are more likely to develop cancer from air pollution than at least 95% of other U.S. residents.”46

One particular concern, at the national level, is that some companies have begun to petition the EPA to re-calculate and significantly lower their level of emissions from 2014 – the year in which the EPA based its NATA report – to the present.47

RGISC Recommendations
As an environmental advocacy leader in Laredo, RGISC makes the following recommendations based on the urgency of this public health matter, and the severity of related cancer risks affecting most of Laredo and local school campuses from ethylene oxide emissions:

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43 This statewide ranking includes all 11,126 schools, K-12 and higher education, identified by PERI in Texas.
44 UISD letter to Muller parents and staff.
45 Centers for Disease Control and Prevention, Current Intelligence Bulletin 68: NIOSH Chemical Carcinogen Policy, https://www.cdc.gov/niosh/topics/cancer/policy.html
46 See ejscreen.epa.gov/mapper.
1) Urge EPA to inspect and release information about Midwest’s compliance status, and require or perform **immediate fenceline monitoring around Midwest**, using its 114 authority, as it has done at other facilities including Willowbrook in IL, and as it is assisting the West Virginia Department of Environmental Protection to do near chemical plants.

2) Urge EPA’s Air Office to **release up-to-date health risk information for the community around Midwest**, as it has done for the Region 6 facilities, using the best available science (2016 IRIS value).

3) Urge EPA to immediately begin and **expeditiously complete a rulemaking to strengthen the national emission standards for hazardous air pollutants, including ethylene oxide**, that apply to Midwest and other sterilizers as the OIG has advised under CAA 112(f)(2) and (d)(6) – including:
   - set standards that require permanent fenceline monitoring,
   - close all loopholes and strengthen the emission standards to reduce ethylene oxide and other HAPs,
   - end the unacceptable cancer risk Laredo is facing, and
   - assure an ample margin of safety to protect public health in Laredo.

4) Urge EPA to review and **assure TCEQ complies with all Clean Air Act requirements** in the permitting process for this facility.

5) Petition the City to develop a program with local health officials and physicians to produce and **publish an updated cancer registry for the Laredo region** from 2011 to present.

6) Urge UISD to **consider relocating Muller Elementary students** to other campuses as these children may be more susceptible to carcinogenic air toxins because their risk is compounded by continued exposure from an early age.