



FAQ

Ethylene Oxide Air Emissions Viant Medical Inc.

520 Watson Street SW, Grand Rapids, Michigan

Frequently Asked Questions (FAQ)

These frequently asked questions have been compiled to answer the community’s questions about ethylene oxide emissions in a general sense, as well as specific questions related to the Viant Medical Inc. (Viant) facility.

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General Information

1. What is ethylene oxide and what are its uses?

Ethylene oxide is a gas with many industrial uses. There are two key uses for ethylene oxide: 1) It is used to make other chemicals that produce many everyday products and 2) It is used to sterilize devices that can't be sterilized using steam, such as some medical and dental equipment. This is how Viant uses ethylene oxide at their facility.

2. Is ethylene oxide naturally occurring?

Yes. In addition to its industrial uses, ethylene oxide also occurs naturally in our bodies from metabolizing food. We all have some ethylene oxide in our bodies. Exposures to ethylene oxide in the air we breathe can add to our natural levels.

3. Is ethylene oxide dangerous?

Yes. In the workplace, ethylene oxide needs to be managed so that it does not pose a fire or explosion risk, and to limit exposures to workers. As an outdoor air pollutant, it is designated by the U.S. Environmental Protection Agency (USEPA) as one of the 187 Hazardous Air Pollutants. At high enough levels of exposure, it can pose a cancer risk.

Health Information

4. How does the Michigan Department of Environmental Quality (DEQ) regulate ethylene oxide in air emissions?

Since 1982, the DEQ has regulated ethylene oxide in air emissions as a **probable** human carcinogen based on animal studies. In December 2016, the USEPA classified ethylene oxide as a **known** human carcinogen based on studies of workers. In order to help ensure that public health is protected, the DEQ restricts air emissions of ethylene oxide and other air pollutants when it issues air permits to companies

5. Can exposure to ethylene oxide cause immediate or acute health effects?

At very high levels in the air, ethylene oxide can cause headaches, dizziness, nausea, fatigue, and respiratory irritation.

6. Can ethylene oxide cause cancer?

Yes. At certain exposure levels, ethylene oxide can cause lymphoid cancers (including multiple myeloma, leukemia, and non-Hodgkins lymphoma) and breast cancer in females.

7. How long does ethylene oxide stay in my body?

Ethylene oxide is removed from the body quickly. Almost 90 percent of ethylene oxide would be eliminated from the body in two hours.

8. Is there a way to test my ethylene oxide exposure?

While there are tests to estimate current contact with ethylene oxide, they would be accurate only for a very recent and high exposure. These tests would not be helpful in telling you about your risk for future health problems.

Viant and Ethylene Oxide Concerns

9. Does Viant have a permit for their ethylene oxide emissions?

Yes. Viant's most recent [air permit](#) was issued in 2005. This permit requires the operation of air pollution control equipment to remove ethylene oxide before emissions are exhausted to the atmosphere.

NOTE: Air permits are issued prior to installation of the equipment and are good for the life of the equipment. Permits must be re-evaluated when certain changes are proposed for that equipment or if a company wished to install new equipment. Viant has not made changes to their equipment or proposed to install new equipment at this time.

10. Is Viant operating within their permitted limits?

In July 2018, the DEQ Air Quality Division cited Viant in [violation](#) of the permitted emission limit and received a [response from Viant](#). Since then, the DEQ has been in regular contact with Viant to evaluate emissions. The current reported data indicates that Viant has reduced emissions. Results from the upcoming stack testing will determine whether Viant is in compliance with the limits established in their permit.

11. What actions is the DEQ requiring Viant to take?

The DEQ has requested that Viant conduct stack testing to determine what emissions are coming out of the stack. We are also seeking further reductions by having the company look for better capture of ethylene oxide emissions. This will include evaluating whether the fugitive emissions (those exiting the building, but not going out the stack) can be further captured and sent through an existing air emissions control device.

12. What levels of ethylene oxide are in the air near Viant?

In October 2018, the DEQ Air Quality Division conducted a [modeling study](#), which looked at the emissions using a computer model. As a result of this modeling study, we estimate that the nearest and most impacted residential area has an average level of 0.3 micrograms per cubic meter of ethylene oxide in the outdoor air. For perspective, the USEPA has estimated that the average ethylene oxide level in the US is 0.0062 micrograms per cubic meter in outdoor air.

13. Are the levels of ethylene oxide near Viant high enough to cause noncancer health effects?

No. The ethylene oxide levels do not pose a concern for short-term or long-term noncancer health effects, based on the Viant emission estimates and DEQ modeling. The DEQ started an air monitoring study in November 2018 to help evaluate the level of actual emissions.

14. Are cancer rates high in this area?

We are working on getting this information. The Kent County Health Department is currently evaluating cancer rates in the [in the area of Viant](#) with the Michigan Department of Health and Human Services. We anticipate the release of their findings in early 2019.

15. What is my risk of cancer from living in this area?

The overall risk of getting cancer in your lifetime living anywhere in the United States is 40%, which can also be expressed as 400,000 in one million. The DEQ has estimated the additional increased risk of getting cancer from long-term exposure to ethylene oxide from Viant is 0.15% or 1500 in one million. This estimate is for the nearest residential area near Viant. More distant residential areas have lower ethylene oxide levels and risks.

16. What is the DEQ doing to better understand and reduce ethylene oxide emissions from Viant?

The DEQ is currently discussing with Viant ways they can reduce ethylene oxide emissions and exposures. Outdoor air monitoring is being conducted in November 2018 and a stack test of emissions will be conducted in December 2018.

17. What is the USEPA doing to better understand and reduce ethylene oxide across the country?

The USEPA is reviewing the Clean Air Act regulations for facilities that emit ethylene oxide to determine if emissions standards should be tightened. It will also consider whether more immediate emission reduction steps are necessary in any locations.

Air Monitoring**18. Where will the outdoor air samples be taken?**

The initial round of outdoor air sampling will be taken around the facility to ensure that ethylene oxide can be detected with the tools that are available. Depending on the results, additional sampling may be conducted further away from the facility and in some of the neighborhoods surrounding Viant. You can see more information about this in the Quality Assurance Project Plan.

19. Will the results of the sampling be shared with the public?

Yes. The results will be shared once they are gathered and analyzed. At that time, a determination will be made regarding further monitoring plans.

Michigan's Environmental Justice Policy promotes the fair, non-discriminatory treatment and meaningful involvement of Michigan's residents regarding the development, implementation, and enforcement of environmental laws, regulations, and policies by this state. Fair, non-discriminatory treatment intends that no group of people, including racial, ethnic, or low-income populations, will bear a disproportionately greater burden resulting from environmental laws, regulations, policies, and decision-making.

Meaningful involvement of residents ensures an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health.