

# The Fall 2024 BioLabs Fire

Science Facts and Analysis from Science for Georgia

About the BioLab Fires & Chemical Plume in Conyers, Rockdale County, GA, Sept 29, 2024. (Biolab Inc. is the swimming pool & spa care division of GA-based KIK Consumer Products)

## Fire Details

- [The most likely cause for the fire is a sprinkler malfunction](#) at 5:00am on Sunday, Sept. 29. The chemicals stored in the plant react when they come in contact with water, and the sprinklers going off caused chemicals to spark.
- The fire was controlled at 12:00pm, Sept. 29, but was reignited when chemicals were being removed from the building.
- The [AJC](#) reported that after the fire was contained, [smoke/gas continued to escape](#) the plant due to chemicals reacting with water that was used to contain the fire.

## What was in the chemical plume?

Chlorine, other chemicals, and microparticles were in the plume.

- [Primarily Chlorine](#). Chlorine is a chemical that is used in disinfectants or cleaning products (such as bleach) and is used to disinfect things such as drinking water and swimming pools. It is stored and used in liquid form. Small amounts are okay (which is why a swimming pool's chlorine concentration is closely monitored), but large amounts can be highly toxic.
  - At one EPA testing station on Tue, 10/01/24, testing data showed chlorine levels in the air were over [62 times the EPA limit](#). Georgia Tech professor Sally Ng reported a peak [1,400-times increase](#) compared to regular levels.
- Other chemicals include:
  - [Chloramine](#), a disinfectant used to treat drinking water.
  - [Chlorine compounds](#), [Hydrogen Chloride](#), [Hydrogen Sulfide](#)
  - Low levels of [Bromine](#), an alternative chemical used in spa/pool treatments.
  - Cleaning products contained [trichloroisocyanuric acid](#), a chemical that gradually dissolves in water and releases chlorine.
- [PM2.5](#) - category of fine inhalable particles, with diameters that are generally 2.5 micrometers and smaller.
  - E2I2 stated they were seeing rates of PM2.5 that were almost [650% greater than the recommended EPA level](#) for humans.

## What are short term side effects of exposure to Chlorine gas?

The Chlorine levels detected were over the acceptable EPA limits but were considered a "low level exposure." Low levels of exposure are still harmful but are not fatal. There are [heightened risks](#) for those who are pregnant, children, elderly, and [those with asthma or obstructive pulmonary disease](#).

- [Chlorine at Low Concentration](#) - "At five to 15 parts per million, throat irritation could arise. An exposure of 40 to 60 parts per million could result in lung injury," [Jeremy Sarnat, Emory Professor & EPA Scientific Committee](#)
  - Sarnat stated most people's exposure would be under 5 parts per million.
  - The PR Manager for Piedmont Rockdale Hospital said [no county residents came to the hospital with health issues relating to the fire](#).
  - However, [numerous news sites](#) received reports of citizens experiencing headaches, metallic tastes in the mouths, chest tightness and burning, and eye irritation.

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- [CDC's Full List of Chlorine Exposure Symptoms](#): Burning of eyes, nose, mouth; lacrimation (discharge of tears), rhinorrhea (discharge of thin nasal mucus); cough, choking, substernal (occurring beneath the sternum) pain; nausea, vomiting; headache, dizziness; syncope; pulmonary edema; pneumonitis; hypoxemia (reduced O<sub>2</sub> in the blood); dermatitis; liquid: frostbite.

## What should I do if I experience these symptoms?

If you are in distress and/or having trouble breathing, seek medical treatment immediately.

People with nonurgent symptoms can call the Georgia Poison Center to discuss what they should do, and whether they need to seek medical care, at a special number established for this purpose: 404-856-6252.

**When in doubt – seek medical care immediately.**

## What are potential long-term side effects of Chlorine gas exposure?

Long-term health effects are a bit uncertain.

- [The CDC writes](#), "No known cure exists for chlorine exposure. Treatment involves removing chlorine from the body as soon as possible and providing supportive medical care."
  - If low amounts are breathed in, symptoms may show up later.
  - "Lung health usually returns to normal within 7 to 14 days" ([CDC](#)).
- [Lung issues may continue](#) for those more seriously exposed.
  - Exposure can lead to reactive airways dysfunction syndrome (RADS).
  - Exposure can cause asthma.
    - [Chest or asthma symptoms could linger for several days after the initial trigger](#)

## What should I do to clean my house / clothes?

The initial "shelter in place" alert was to close your windows, to prevent the gas from coming inside. [The chlorine gas released should have already dissipated by now](#). Open your windows and doors to air out your house. Wash your clothes that have been exposed.

## A history of incidents

[Fox5](#) reported a history of fires at the facility in Conyers

- A fire in 2004 which forced hundreds of people ([or thousands according to AJC](#)) to evacuate from a 10-mile-long plume of smoke and resulted in a \$7M settlement<sup>2</sup> small fires in 2015
- A fire in 2020 that the Chemical Safety and Hazardous Investigation Board determined was exacerbated by poorly stacked pallets and materials.



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## Sources:

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4. The Atlanta Journal Constitution 2 (Oct 11) - [‘Fear and anxiety’ loom over Georgia residents living in BioLab’s shadow \(ajc.com\)](#)
5. The Guardian (Oct 1) - [‘Pattern of negligence’: a chemical plant fire in Georgia forces tens of thousands to take shelter | Georgia | The Guardian](#)
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7. CDC, Chemical Emergencies- <https://www.cdc.gov/chemical-emergencies/chemical-fact-sheets/chlorine.html>
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10. The Chlorine Institute, White Paper - <https://aok.org/rcai/ChlorineEffectsOnHealth.pdf>
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12. EPA, Air Trends - <https://www.epa.gov/air-trends/particulate-matter-pm25-trends>
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