

# Pollution Here and Your Health: Air Quality and Health Impacts

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# Houston Air Quality Landscape



# ITC Fire

- Sunday March 24, storage tank caught fire at Intercontinental Terminals Co. (ITC)
- Fire burned for more than 60 hours
- Forced school closures, shelter-in-place orders
- More than 1,000 people sought treatment at mobile clinics for headaches, nausea and other fire-related ailments

## Services include:

- Health and wellness services
  - Immunizations for adults and children (please bring your child's vaccine record)
- Mental health providers
- Preparedness resources
- Asthma education
- Nutrition education
- Dental education
- Mosquito education
- Chronic disease education
- Tobacco cessation
- Food and water safety
- Childhood lead poisoning education
- Kids play zone

**HCPH**  
Mobile Health Village

Alvin D. Baggett  
Community Center  
1302 Keene Street  
Galena Park, TX 77547

**Saturday,  
March 30**  
9:00 am – 2:00 pm  
For the latest information  
go to @hcphtx

No onsite medical lab test for Benzene or other chemicals and no medical claims

Harris County Public Health @hcphtx - Mar 28

Our Mobile Health Village will be in @CityGalenaPark this Saturday, March 30th from 9AM

to 2PM. We will be providing free health and wellness services as well as educational

resources. Check out the flyers below. #PublicHealthMatter #MobileHealth

Dr. Umair A. Shah (MD, MPH), Harris Health System, Harris County OHSEM and 3 others

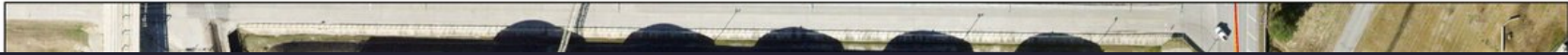
www.hcphtx.org

Harris County  
Public Health  
Building a Healthy Community



Godofredo A. Vasquez, Houston Chronicle

# ITC Fire



## Why is Benzene more of a concern now than during the fire?

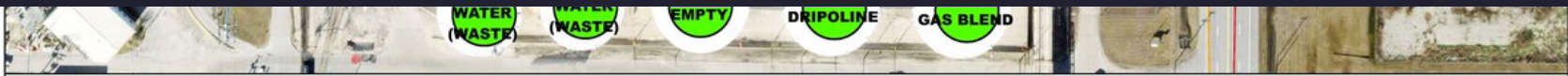


During the fire, Benzene was being pushed up into the air — heat rises. Due to the high-heat, when reaching the air, the Benzene quickly evaporated.

### AFTER THE FIRE, WHAT CHANGED?



The tanks are covered by a foam sealant. If there is a hole in the sealant, the Benzene vapors can escape. Because there is no high-heat from the fire, the Benzene gas will linger in the air and not evaporate as quickly.

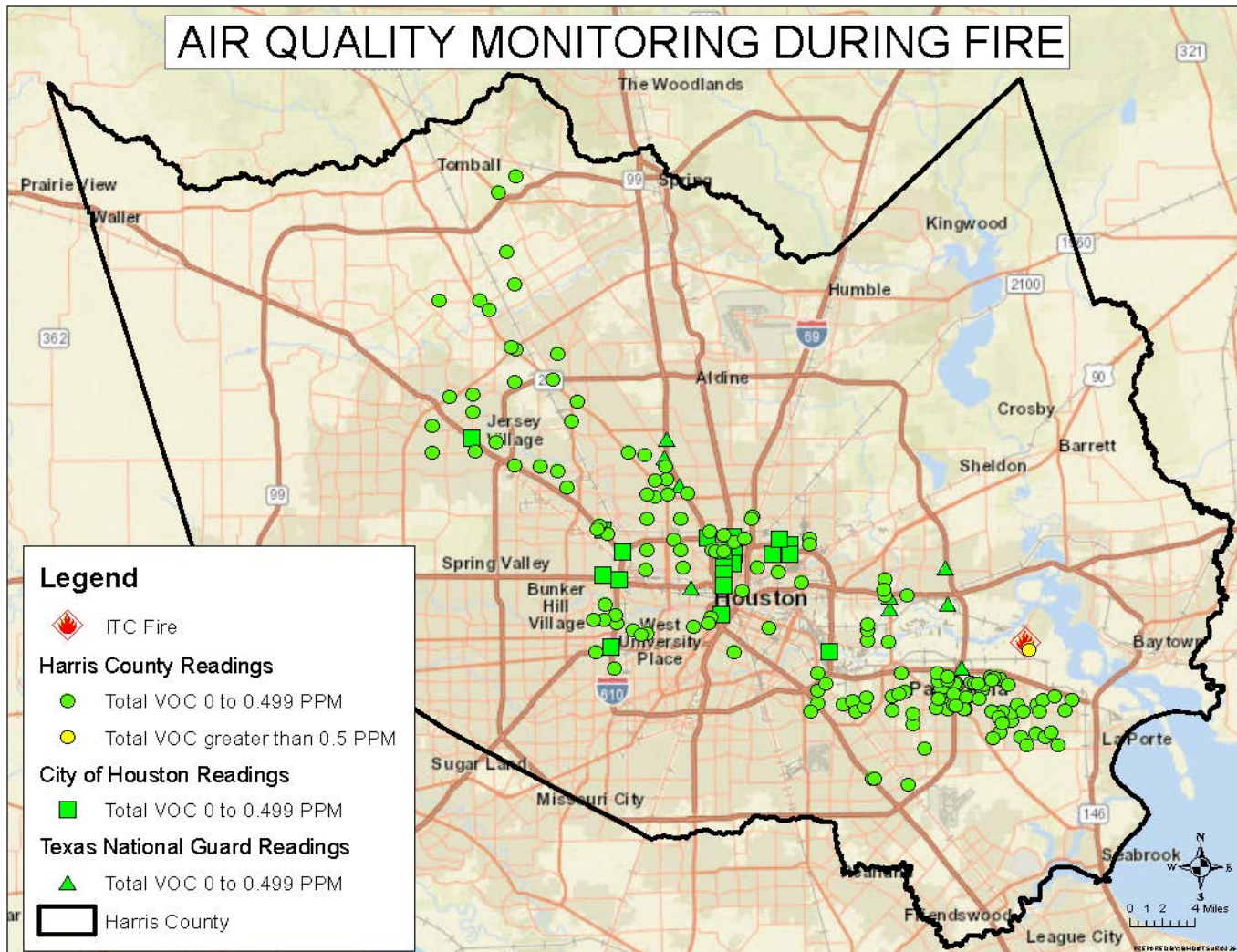


**Legend:**

- Water (Waste)
- Empty
- Dripoline
- Gas Blend
- BURNED OUT
- COLLAPSED
- NOT INVOLVED
- ON FIRE
- ORIGIN

Map Created On: 3/19/2019

# ITC Fire





# Ship Channel Barge Collision

- 11,000 barrels (462,000 gallons) of oil spilled
- Officials reported no air quality concerns
- On 5/10/19 TCEQ contractor detected 2,400 – 2,600 ppb of benzene in Seabrook
  - Unified Command not notified until 2 hours later
  - No public notification for more than 15 hours

# Benzene Health Effects and Levels

- Common component of crude oil
- Acute symptoms of high levels of benzene exposure:
  - Drowsiness
  - Dizziness
  - Rapid/irregular heartbeat
  - Headaches
  - Confusion
- Long term (greater than one year) exposure linked to harmful effects on bone marrow, low birth weight (animal studies), leukemia

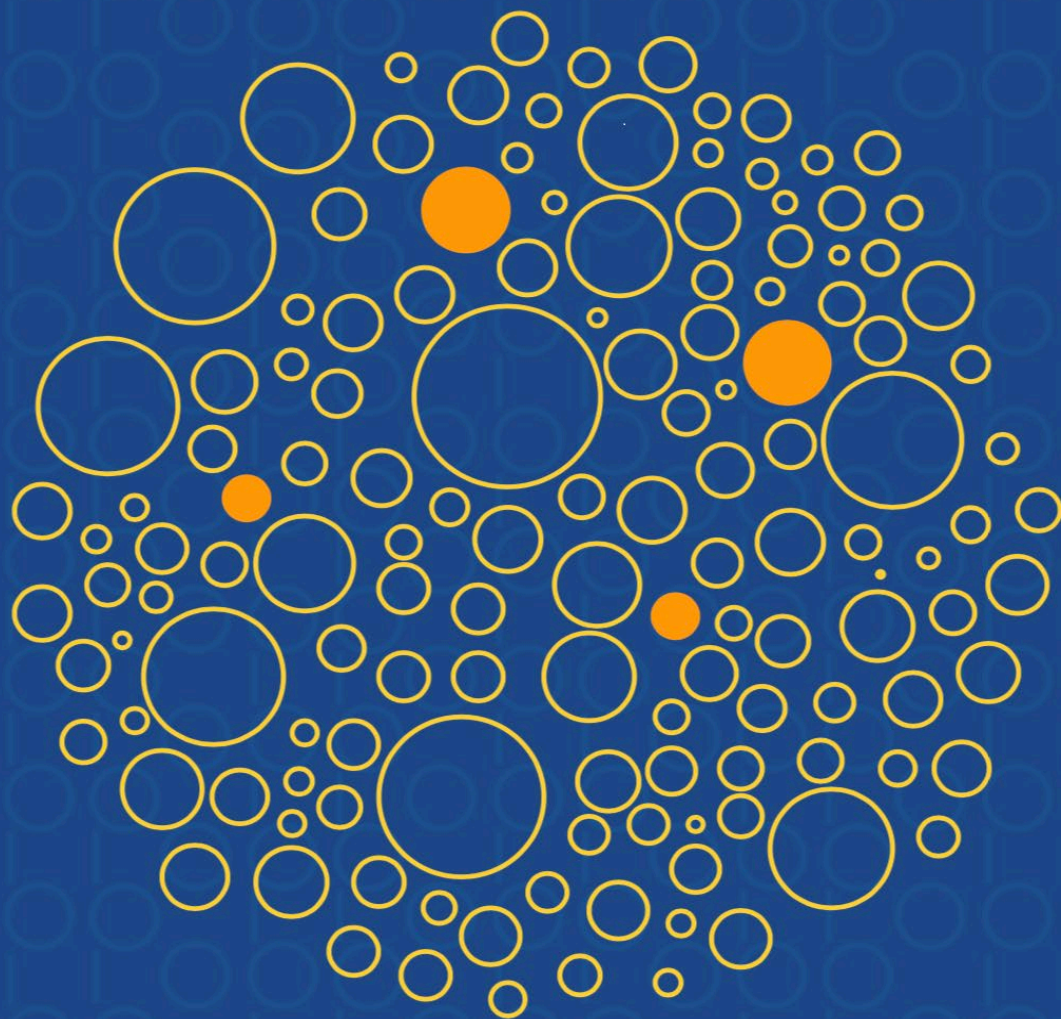


# Benzene Health Effects and Levels


- Health effects are based on *population-level assessment*. It is impossible to know what health effects will result from a single exposure to a single individual
- However, we do know that there is really no safe level of exposure
- American Petroleum Institute, oil and gas industry trade group, in 1948:
  - o *“The only absolutely safe concentration...is zero”*

# Benzene Health Effects and Levels

- After barge accident TCEQ contractor found levels of benzene **>2,600 parts per billion (ppb)** in Seabrook
- After ITC, EDF measured concentrations as high as **495 ppb**, EPA and TCEQ found concentrations **> 500 ppb**
- Texas one-hour threshold for benzene is **180 ppb**
- California's six-hour standard is **8 ppb**
- After the barge accident – unified command set the action level at the workplace threshold **1 ppm or 1000 ppb**



Texas imposed penalties on only **3%** of emission violations reported by companies from 2011-2016.

 Free pass

 Penalty given



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Our Air • Our Health • Our Houston

[onebreathhou.org](http://onebreathhou.org)

# A Vision for Harris County

- **Enhanced Monitoring & Enforcement**
- **Benzene Action Plan** - The City and County adopt a benzene action plan that establishes acceptable limits and updated notification procedures for public communication
- **Air Quality Control Chart & Dashboard (HUB)** – The City (County) creates a centralized mechanism for integrating air quality information from multiple sources that is used to inform enforcement actions and mobile monitoring
- **Active Monitoring Protocol** – City and County adopt a new monitoring protocol to inform their use of mobile monitoring vehicles, ensuring the vehicles are used proactively in the pursuit and identification of pollution sources.
- **Increased Transparency and Emergency Notification**



END

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