EJSCREEN Instructions

The EPA EJScreen is an environmental justice mapping tool that assesses environmental and demographic indicators within a specific geographic region, or buffer zone. For the Sacrifice Zone Policy, the EJScreen is used to determine if a four mile radius zone around a facility of greatest concern qualifies as a sacrifice zone. The EJScreen provides two measures of health risk that we use to determine if an area is a sacrifice zone – the cancer risk and respiratory health index, both provided as part of the National Air Toxics Assessment (NATA). **A sacrifice zone is defined as an area within a 4-mile radius that has a NATA air toxics cancer risk value and/or NATA respiratory hazard index value at or above the 70th percentile for the state.**

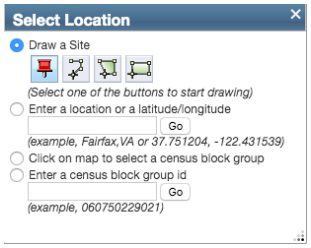
Use the following instructions to observe if your 4-mile radius zone qualifies as a Sacrifice Zone (The EJScreen Mapping Tool can be accessed here (https://ejscreen.epa.gov/mapper/):

1. Identify a facility of greatest concern. This facility will mark the center of the four-mile radius for the sacrifice zone.

2. Search the location of your facility under the "**Select Location**" drop down tab

3. Enter the physical address of the facility of greatest concern in the second bullet point ("Enter a location or a latitude/longitude") and click **Go.**

   Facility of greatest concern:
   Street Address, City, State, Zip Code



4. On the EJScreen map, a **Chart or Report** pop-up menu will appear at the location of the facility. Write the name of the facility in the space provided.

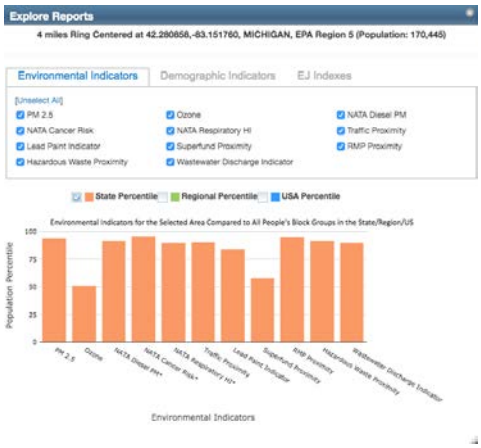
5. Change the Buffer radius from 1 mile to 4 miles.

6. Click **Add to Map** to view the four-mile radius zone around the chosen facility.

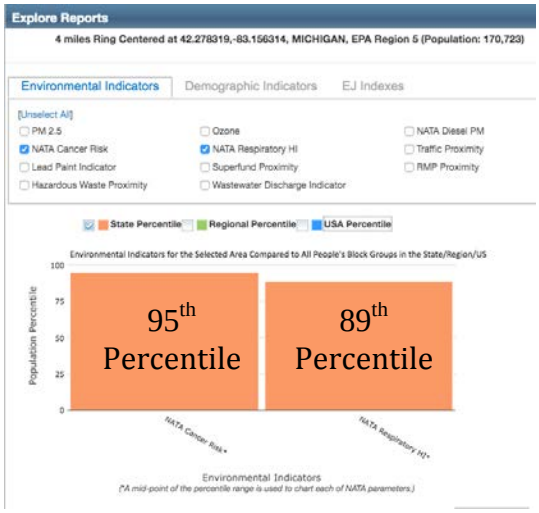
7. View the environmental indicators to see if the sacrifice zone meets the health risk criteria. Click the "**Explore Reports...**" link on the **Chart or Report** pop-up menu.

The following instructions will be displayed using an example from the Marathon Petroleum Co LP located in Detroit, Michigan:

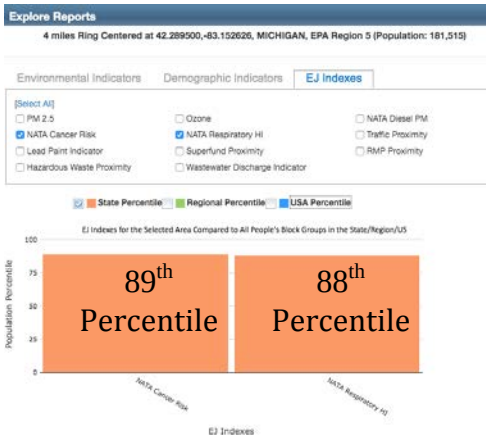
8. In the Explore Reports screen look at the **Environmental Indicators** tab. Change the view from USA Percentiles (blue graph) to State Percentiles (orange graph). Unclick the USA Percentiles box under the Environmental Indicators tab, and select the State Percentiles box. This view will show the state percentiles for all 11 environmental indicators.



9. View the NATA Cancer Risk and NATA Respiratory HI. We are intersted in only looking at the NATA Cancer Risk and NATA Respiratory HI. Unselect all other environmental indicators that are not the NATA Cancer Risk or NATA Respiratory HI.

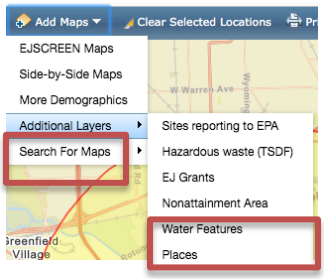


10. Repeat steps 8 and 9 now looking at the EJ Indexes tab within the Explore Reports menu.



Using the environmental indicators for the NATA air toxics cancer risk for the 4-mile radius zone, with Marathon Petroleum Company LP as the center, the area is in the 95th percentile for the state. The NATA respiratory hazard index is in the 89th percentile for the state. Using these two environmental indicators, the zone can qualify as a sacrifice zone. If the zone does not qualify as a sacrifice zone using the environmental indicators, it is important to also check the EJ Indexes to see if either the NATA air toxics cancer risk (89th percentile) or NATA respiratory hazard index (88th percentile) meets the sacrifice zone qualifications. *A sacrifice zone can be established if either one or both of these environmental indicators and/or EJ Indexes is at or above the 70th percentile for the state.* This zone can submit an application to establish itself as a sacrifice zone.

View Official Facility Name or Registry ID Number:

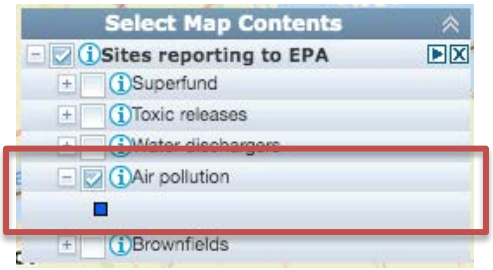


This information will be needed when searching the facility's hazardous air pollutants (HAPs) emissions using the EPA ECHO database.

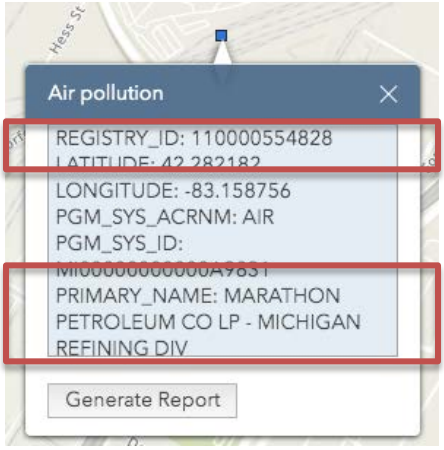
1. In the blue tool bar at the top of the screen select the "Add Maps" drop down.

2. In the "Add Maps" drop down menu, hover over the "Additional Layers" button and select "Sites Reporting to the EPA".

3. Select the "**Air Pollution**" check box to view facilities that report air emission releases to the EPA



4. Click on the facility (identified on the map with a dark blue box) to view the **Air Pollution** pop-up tab. Take note of the **Primary Name** and **Registry ID**.

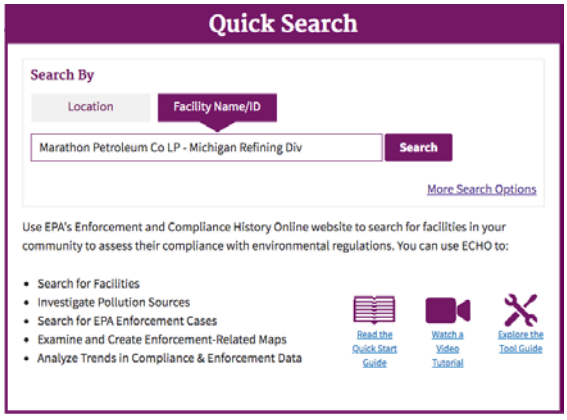


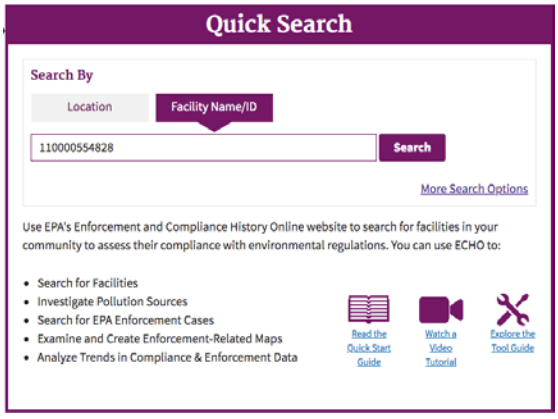
ECHO Database Instructions

The EPA Enforcement and Compliance History Online (ECHO) is an online database that provides detailed information on a reporting facility's enforcement, compliance, inspection, violation and release history. For the Sacrifice Zone Policy, the ECHO database is used to calculate the Hazardous Air Pollutants (HAPs) released by all air emitting facilities located within the sacrifice zone. **In a sacrifice zone all aggregate Hazardous Air Pollutants (HAPs) in the four-mile radius surrounding the facility of greatest concern is restricted to under 25 mixed or 10 individual tons of air emissions a year.**

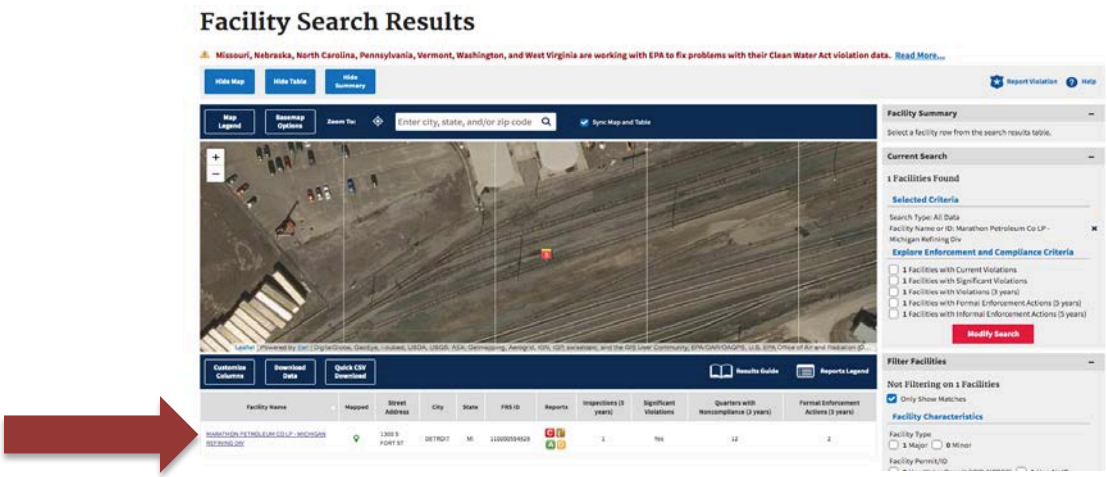
The ECHO database home search page can be found here: (https://echo.epa.gov/).
This example will be following the search of the **Marathon Petroleum Co., LP** facility.

1. On the ECHO database home quick search page, under the "**Facility Name/ID**" tab within the Quick Search box type in either the **facility name** or **facility ID number**. The primary facility name and facility registry ID number can be found using the **EJScreen Step-By-Step Instructions.**

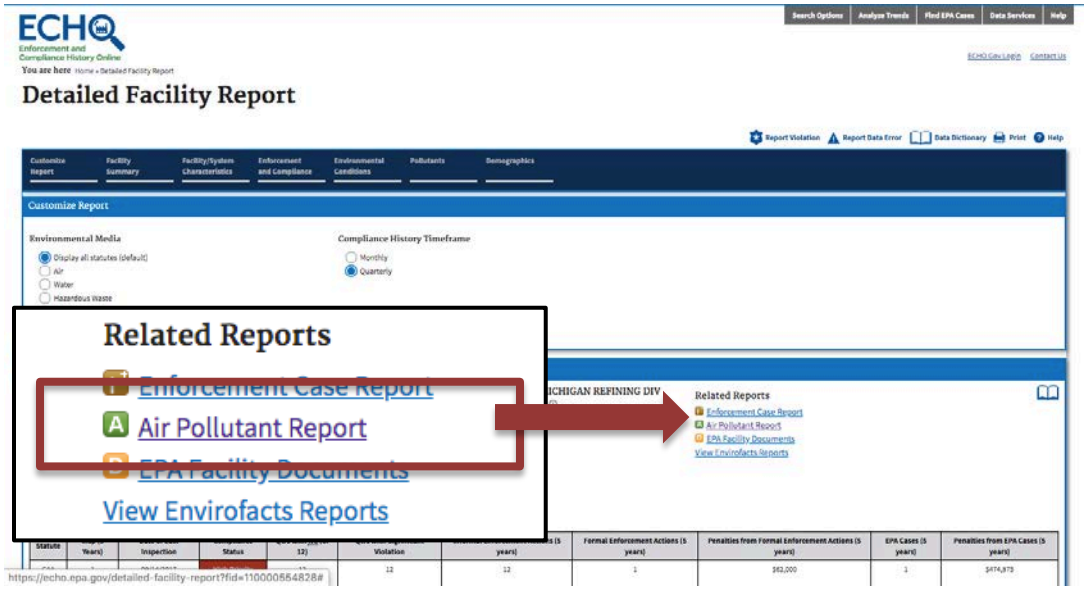




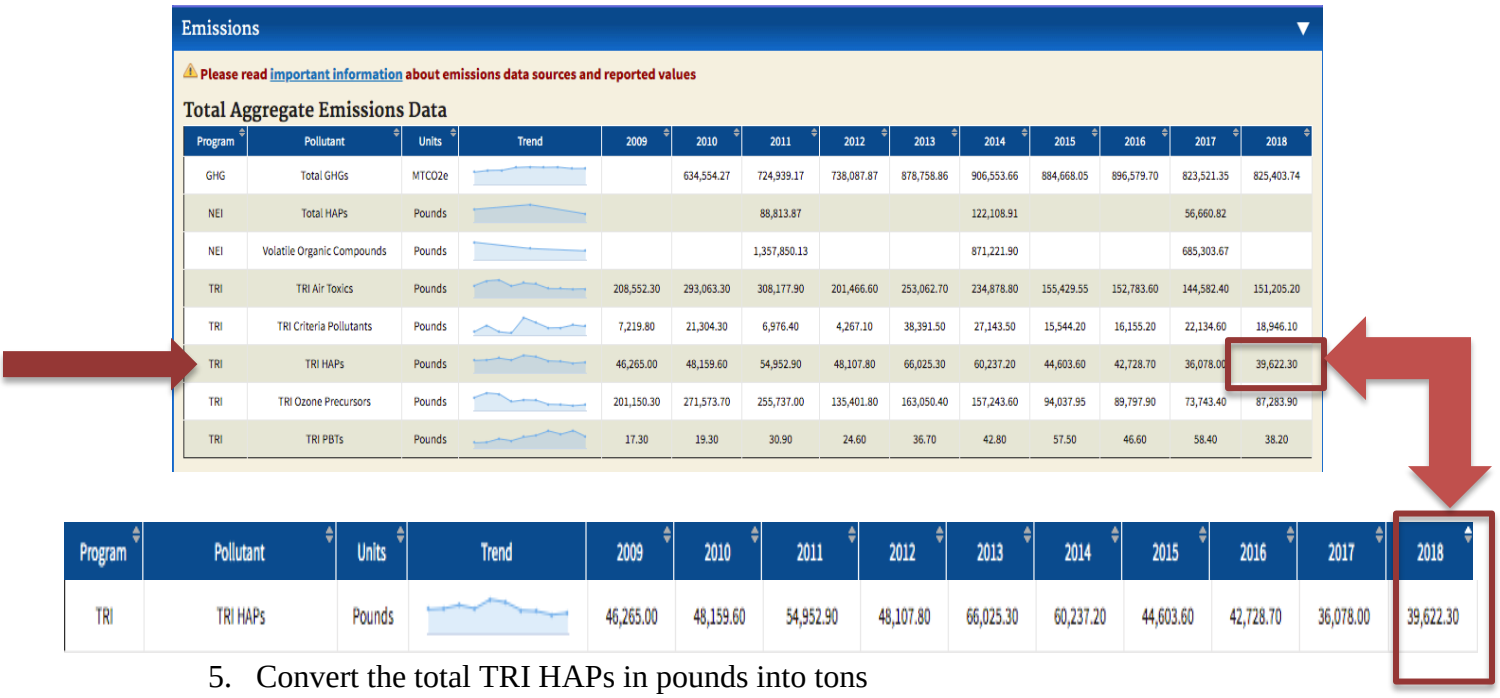
2. The ECHO database will direct you to a new page with the "Facility Search Results." Click on the correct facility (matching the facility name or facility ID) that is located in your sacrifice zone.



3. A new page will open to the "Detailed Facility Report." Locate the "**Air Pollution Report**" in the top right section of the "**Facility Summary**." The Air Pollution Report is recognizable by the little green box icon with an "A".



4. On the Air Pollution Report page, look under the "**Emissions**" section to locate the **TRI HAPs** column. Record the value of total TRI HAPs in pounds for the most current year displayed.



Emissions

Please read important information about emissions data sources and reported values

Total Aggregate Emissions Data

Program	Pollutant	Units	Trend	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
GHG	Total GHGs	MTCO2e			634,554.27	724,939.17	738,087.87	878,758.86	906,553.66	884,668.05	896,579.70	823,521.35	825,403.74
NEI	Total HAPs	Pounds				88,813.87			122,108.91			56,660.82	
NEI	Volatile Organic Compounds	Pounds				1,357,850.13			871,221.90			685,303.67	
TRI	TRI Air Toxics	Pounds		208,552.30	293,063.30	308,177.90	201,466.60	253,062.70	234,878.80	155,429.55	152,783.60	144,582.40	151,205.20
TRI	TRI Criteria Pollutants	Pounds		7,219.80	21,304.30	6,976.40	4,267.10	38,391.50	27,143.50	15,544.20	16,155.20	22,134.60	18,946.10
TRI	TRI HAPs	Pounds		46,265.00	48,159.60	54,952.90	48,107.80	66,025.30	60,237.20	44,603.60	42,728.70	36,078.00	39,622.30
TRI	TRI Ozone Precursors	Pounds		201,150.30	271,573.70	255,737.00	135,401.80	163,050.40	157,243.60	94,037.95	89,797.90	73,743.40	87,283.90
TRI	TRI PBTs	Pounds		17.30	19.30	30.90	24.60	36.70	42.80	57.50	46.60	58.40	38.20

Program	Pollutant	Units	Trend	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
TRI	TRI HAPs	Pounds		46,265.00	48,159.60	54,952.90	48,107.80	66,025.30	60,237.20	44,603.60	42,728.70	36,078.00	39,622.30

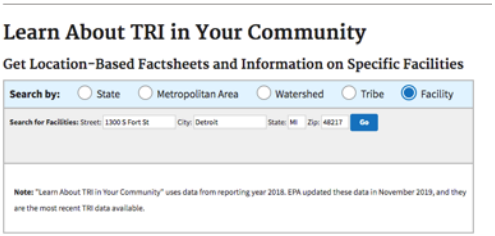
5. Convert the total TRI HAPs in pounds into tons
   Pounds x 0.0005 = tons
   39,622.30 pounds * 0.0005 = **19.811 tons**

The Neighborhood Enforcement Group (NEG) will be responsible for completing this process for all air reporting facilities located within the four-mile radius sacrifice zone.

TRI Database Instructions

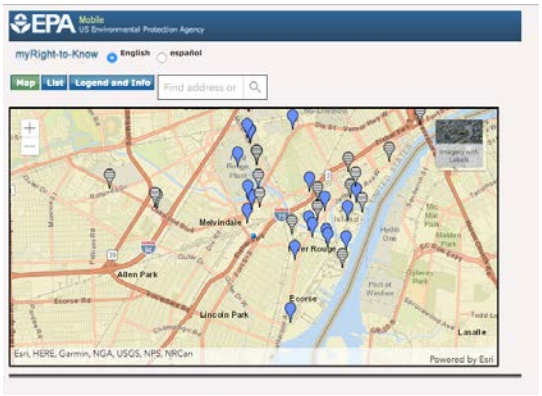
The TRI (Toxic Release Inventory) database tracks the release of 595 chemicals and 33 chemical categories that can pose human and environmental health threats released by TRI reporting facilities. In the Sacrifice Zone Policy, all residents, businesses and medical professionals will receive a notification with a map of the four-mile radius sacrifice zone listing the names and addresses of all facilities in the zone and instructions on how to look up a facility's emissions data using the TRI database.

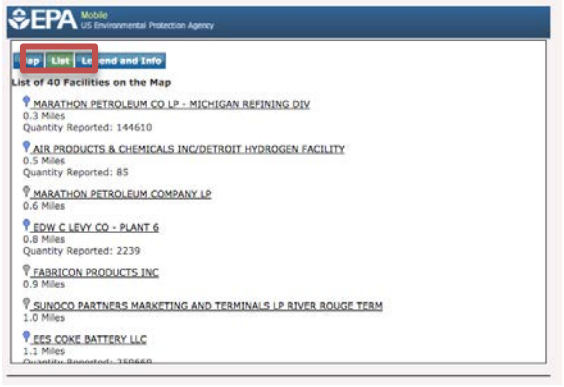
Go to the Toxics Release Inventory (TRI) Program homepage: https://www.epa.gov/toxics-release-inventory-tri-program.



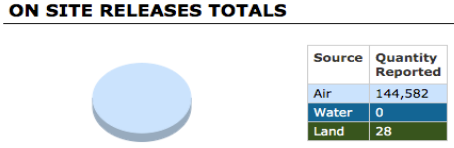
1. Scroll to the bottom of the homepage to the section labeled, "**Learn About TRI in Your Community**." Select the **Facility** bubble in the "Search By" menu. Type in the address of the facility you are searching, using the street address, city, state, and zip code. Then click "Go."

2. On the EPA myRight-to-Know page, a map will display all reporting facilities in the vicinity of the searched address. To view a list of the names of the reporting facilities, select "**List**" in the menu above the Map. Locate and select the name of the facility being searched.

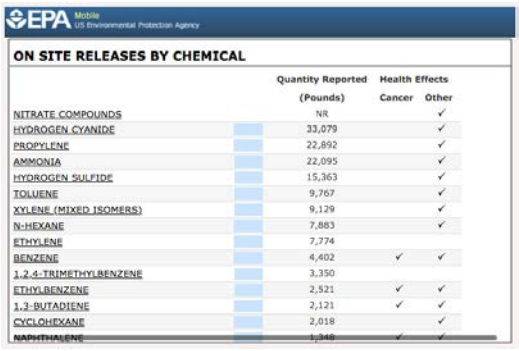




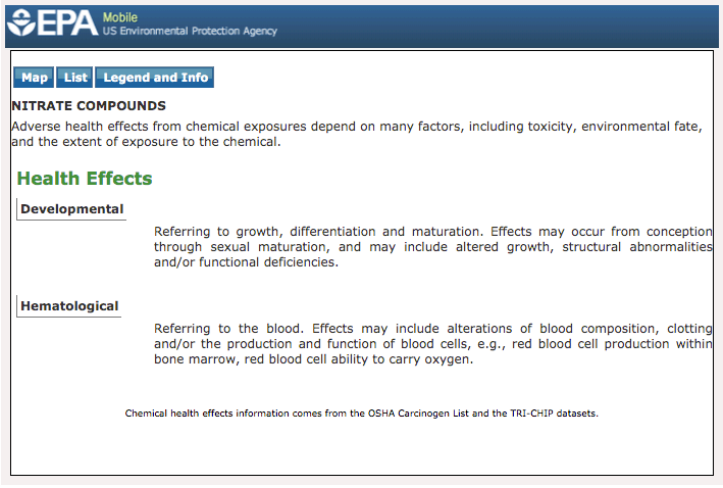
3. Scroll to the "On-Site Total Releases" section to see the total air emissions released by the facility measured in pounds.



4. Scroll to the “On-Site Releases By Chemical.” This section will provide a full list of chemicals released from the facility by source (air, water, land, etc.). We are only concerned with monitoring air release data from the facility.
    a. The table will show the number of releases per chemical by pounds.
    b. The table will also show if the released chemical has a residual human health effect (cancerous or other).

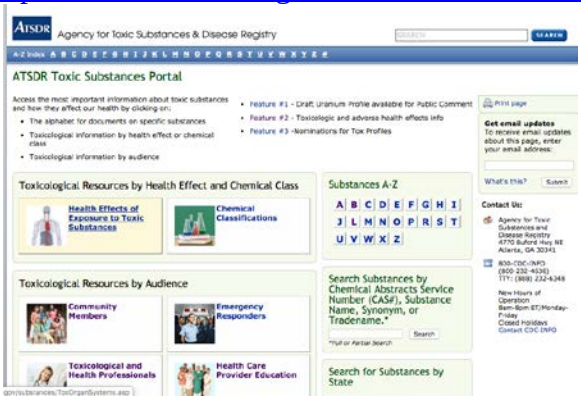


5. The chemical can be clicked on to provide more information on the potential health effects the chemical can cause from exposure.



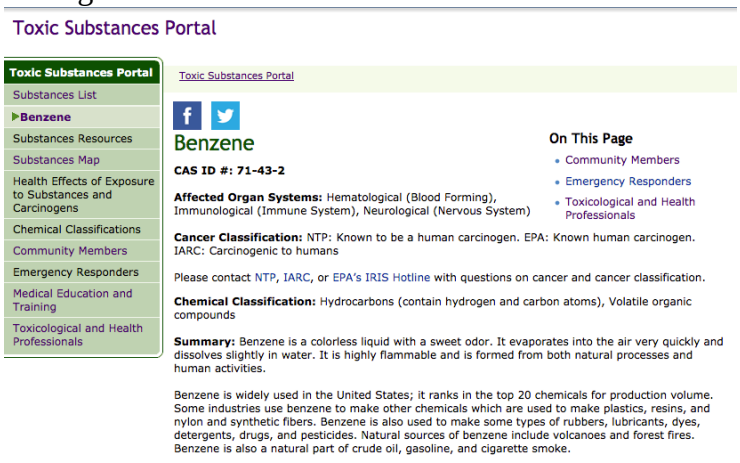
ATSDR Toxic Portal Instructions

The Agency for Toxic Substances and Disease Registry (ATSDR) is a federal public health agency of the Department of Health and Human Services. The ATSDR database provides toxicology and medical health information for thousands of chemicals. In the Sacrifice Zone Policy, residents, businesses and medical professionals will receive a notification with instructions and a link to the ATSDR Toxic Portal to look up further information on a chemical that is released in the zone. The ATSDR Toxic Portal website can be reached here (https://www.atsdr.cdc.gov/substances/index.asp).

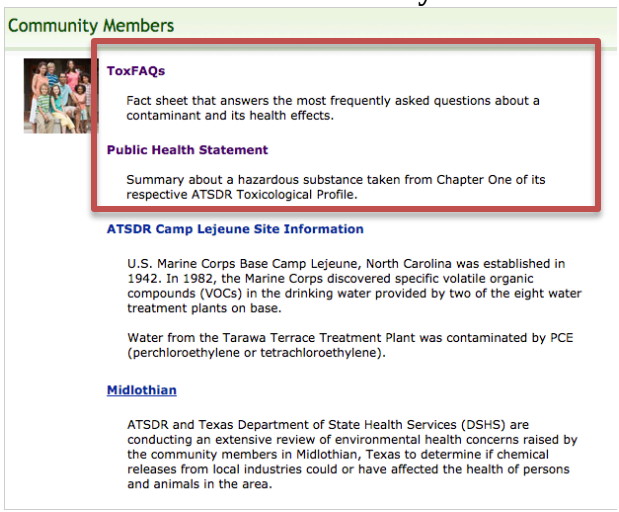


1. On the right side of the screen, search a chemical alphabetically using the "Substances A-Z" menu or by typing in the name of the chemical in the search bar.

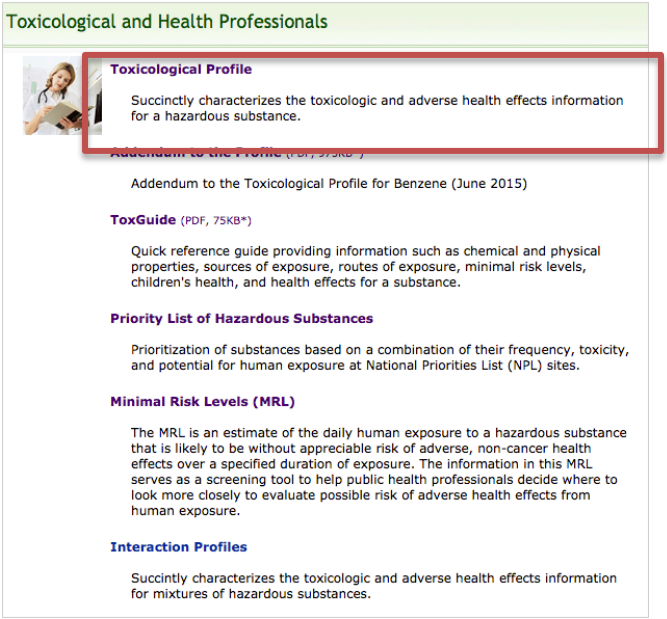
2. The Toxic Substances Portal webpage includes background information on the chemical including its physical and chemical properties, human health impacts and its carcinogenic classification.



3. More information, including a chemical fact sheet (**ToxFAQs**) and a Public Health Statement providing a summary of the adverse health affects associated with the chemical can be found in the **Community Members** section.



4. A more detailed **Toxicological Profile** on the chemical can be found in the Toxicological and Health Professionals section. The Toxicological Profile is a multiple hundreds page packet that includes comprehensive peer reviewed literature on a chemical's toxicology and medical properties.



5. Scroll down on the Toxic Substances Portal and click on the PDF icon for the Complete Profile.