Testimony: HB 386: Pesticides – PFAS Chemicals – Prohibition

Submitted to: The House Committee on Health & Government Operations
Submitted by: Bonnie Raindrop, Program Director, Smart on Pesticides Coalition and
Ruth Berlin, Executive Director, Maryland Pesticide Education Network
Position: In Support

February 12, 2025

Dear Chair Pena-Melnyk, Vice Chair Cullison and Members of the Committee,

The Smart on Pesticides Coalition (SOPC) comprised of 114 organizations and businesses, and facilitated by the Maryland Pesticide Education Network, whose mission is to protect all life from toxic pesticides and promote healthy alternatives, both support passage of HB386 phasing out PFAS-pesticides used in Maryland

- HB 386 provides a critical action to reduce PFAS pollution from pesticides in Maryland (Md). No need to test any of these pesticides – their actual active ingredient is a PFAS, as identified by National Institutes of Health PubChem and EPA, see attached chart. These currently 66 PFAS pesticide active ingredients contained in approximately 1,000 Maryland-registered pesticides are confirmed to be PFAS by EPA's CompTox Chemical Dashboard, see screenshots, a database that is part of EPA's PFAS Analytic Tools.

- Of the 14,000 Md registered pesticides – less than 8% are currently known to us to be PFAS. There are many Md registered alternatives, sometimes hundreds, for the products that have a PFAS as an active ingredient. These known PFAS pesticides can be swapped out for another product that is not a known "forever chemical" that targets the same pests.

- The George Walter Taylor Act Action Plan, released by Maryland Dept. of the Environment (MDE) in December 2023 clearly states that **"MDA will consider a pesticide product adulterated if PFAS is found in the formulation itself." This provides the directive for pesticides with a PFAS active ingredient to have their registrations revoked.**

- HB386, similar to The George Walter Taylor Act law, defines PFAS in alignment with EPA's definition identifying over 14,000 PFAS chemicals, in its CompTox Chemicals Dashboard, and used by 22 states, Congress, and the U.S. Military. States that use the same definition as Maryland's of "one fully fluorinated carbon atom" are**:** Arkansas, Arizona, California, Colorado, Connecticut, Georgia, Kentucky, Hawaii, Illinois, Indiana, Louisiana, Maryland, Maine, Minnesota, New Hampshire, Nevada, New York, Ohio, Oregon, Rhode Island, Vermont, and Washington. HB386 PFAS definition is also similar to the definition created by a group of international scientists that included U.S. EPA via the Organization for Economic Cooperation & Development (OECD), comprised of 37 member nations including the United States, and adopted by the European Union in their pending regulation of PFAS

Consider this:

"If the intent was to spread PFAS contamination across the globe there would be few more effective methods than lacing pesticides with PFAS," PEER Science Policy Director Kyla Bennett, and former EPA attorney

- **A recent first in the state PFAS in human blood study conducted by the Johns Hopkins School of Public Health and the Maryland Pesticide Education Network** and conducted with the world-renowned Eurofins Laboratory found concerning levels of PFAS in all participants from around the state.

- Both authors of this testimony were also tested by the Eurofins lab, independently of the study and the results for both of us were in the "concerning range" that the National Academy of Sciences Engineering & Medicine considers the range for "potential adverse effects- especially for sensitive populations". One of us is in ongoing treatment for ovarian cancer, thyroid disease and we both have high cholesterol—all linked to PFAS exposure—and both have multiple health issues that put us in the "sensitive populations" category.

- **At a recent 2025 HGO briefing on PFAS MDA and MDH shared several conclusions from their 2023 study group established by law in 2022 which need to be updated and/or clarified:**
  - **MDA statement: "MDA test over 700 pesticides for PFAS and found no PFAS."** These testing results are not relevant to HB386 and the PFAS pesticides it phases out because these 66 cannot be detected this way.
    - **There are no current testing methods for these PFAS-pesticides where the active ingredient is a PFAS.** MDA could only test for a very limited number of PFAS from container contamination and possibly PFAS inert ingredients added to the product.
    - Current PFAS testing methods only test for 25-70 PFAS compounds of the nearly 15,000 PFAS compounds.
    - **A strength of HB 386 is that no testing is needed**. These 66 pesticide active ingredients are known PFAS listed on product labels – this fact is not in dispute. As per bullet 1, see attached chart and see screenshots.

  - **MDH told the study group they couldn't find any studies showing adverse health impacts from PFAS-pesticides.**
    - Dr. Ichniowski's 2025 written bill testimony, on behalf of American Academy of Pediatrics–MD Chapter, **cites numerous** animal studies and *in vitro* human cell **studies that have identified adverse health effects from PFAS pesticides currently approved for use in Maryland**. **Please see his testimony** for a partial list that includes long term health impacts of PFAS-pesticides, including two significantly used in Maryland – Bifenthrin and Fipronil. Both are heavily marketed to healthcare for indoor/outdoor use and Bifenthrin is also used for mosquito control. They are *linked to* teratogenicity (harm to fetal growth, anatomy, and development), immunotoxicity, endocrine disruption, carcinogenicity, neurotoxicity, and thyroid toxicity.
      Dr. Ichniowski's citations include:
      - PFAS Pesticides: A Growing Source of PFAS Contamination in the Environment (Environmental Health Perspectives)
      - Revisiting pesticide pollution: The case of fluorinated pesticides
      - Bifenthrin (a PFAS pesticide, the active ingredient on the label is a PFAS) PubChem Hazardous Substance Data Bank (HSDB) - Bifenthrin
      - Fipronil (A PHAS pesticide, active ingredient listed on label) PubChem Hazardous Substance Data Bank (HSDB) Fipronil

- Prior to the current federal administration, **EPA's lifetime safe level for the most notorious PFAS, PFOS, in drinking water was 4 parts per trillion (ppt)** and federal government regulators were close to establishing a discharge limit for PFAS manufacturers. In January 2025, President Trump issued a sweeping executive order withdrawing these proposed regulations. (https://www.cbsnews.com/newyork/news/trump-drinking-water-regulations-forever-chemicals-pfas/).

- **Given the current Trump administration intensions to weaken and limit the work of the US EPA**, it behooves states, including Maryland, to address critical environmental health issues including PFAS-pesticides. We cannot rely on EPA to continue doing its job for the foreseeable future. PFAS pesticides are absorbed and run off from lawns, crops, and farmland where they are applied, contaminating the soil, streams, rivers, wells, and the Bay. Millions of Marylanders' drinking water comes from surface **waters and wells that are consequently PFAS contaminated.**

- **Maryland's $600 million dollar seafood industry is also at risk from PFAS** – MDE has issued fish consumption warnings for 15 fish species in the Bay watershed. Eating just one Maryland rockfish could be equivalent to drinking PFAS-tainted water for a month. Keep in mind, these numbers are for a single exposure; we may be eating tainted food every day and it accumulates in our bodies.

- Skin exposure for short chain PFAS pesticides makes them more dangerous for farmers, farm workers and those handling sprayed produce. A recent study found short chain PFAS more readily absorbed through skin than longer chain PFAS, with higher absorption percentages into the bloodstream than longer chained compounds.

- **PFAS are considered "forever chemicals" because they remain in our bodies for years and decades**. Given our ongoing cumulative exposures to PFAS, it accumulates in our bodies throughout our lifetime.

- **Pesticides do not require PFAS to be effective. There are dozens if not hundreds of alternative pesticides registered in the state for all pests, as noted in entomologist Dr. Todd's submitted testimony.**

Four years ago, Md legislators wisely took a crucial first step by banning PFAS in firefighting foam, food packaging, carpets, and rugs.

Similar to other toxic chemicals that cause dangerous health impacts such as lead, asbestos, and the pesticide DDT, the first step is identifying the problem. As with these overwhelming issues we have conquered, once identified, the solutions were evasive, and the threat seemed insurmountable. This is where we are with PFAS. The issue and even the solutions have been scientifically clarified. **The time is now for addressing the solutions by turning off the tap from PFAS-pesticides.**

We have reduced lead levels in Md, thanks to needed state laws and policies. Problems that once seemed insurmountable are now, due to wise leaders acting, increasingly becoming success stories. Decades of hard work curbing these harmful chemicals has led to improvements in our environment and hope for better public health. Like all public health reforms once accomplished, **we need to tackle known PFAS in pesticides with a similar strategy.**

Why more PFAS use guardrails are needed

PFAS exposure through pesticides presents a broader risk to Marylanders and our environment than common household items because pesticides are so pervasive. Maryland's 14,000 pesticides may be used everywhere.

- Everyone is exposed to pesticides where we work and play – in public spaces, healthcare facilities, schools, and our neighborhoods.
- Bifenthrin and Fipronil are two PFAS pesticides targeted by this bill and are heavily marketed to healthcare facilities and schools as indoor/outdoor solutions. Bifenthrin is a popular mosquito control product used by companies that contract with homeowners for scheduled spraying of yards in spring, summer, and fall.
- PFAS pesticides pollute drinking water. These chemicals have made their way into our drinking water, the rivers we draw surface drinking water from—Potomac, Patuxent, and Susquehanna in drought, wells, the soil, our food, and consequently, our bodies. **PFAS-pesticides cannot be extracted from water facilities with current technologies**.
- PFAS in pesticides is a farmer and overburdened communities' health issue. Farmers, farmworkers and families in agricultural areas bear greater exposures from PFAS-pesticides applied in farming, and greater risk from handling PFAS-pesticides and crops that have been sprayed.
- Those living in poverty are more likely to fish to supplement protein, yet USGS has reported Md fish are testing with PFAS at levels as high as 500,000 parts per trillion.
- People of color are more likely to be harmed; pesticide use against rodent and cockroaches is often higher in lower-income housing due to age of buildings, poor maintenance and often crowded living conditions.
- While there is research underway to extract PFAS from water, there is still no way to safely dispose of the extracted *forever* chemical

Human health impacts

- **PFAS are linked to serious health impacts even at low levels of exposure**. There is strong evidence linking PFAS to kidney, testicular, prostate, ovarian, and breast cancer, birth defects and developmental damage in infants, childhood obesity, thyroid disease, high cholesterol, non-alcoholic fatty liver disease, and impaired immune function. According to Dr. Birnbaum and as noted in her testimony, **PFA "causes" (beyond just linkage) certain cancers,** including one of the two authors of this testimony continues to battle ovarian cancer

with confirmation of notable PFAS levels in her blood.

- **Exposure to PFAS has been associated with increased COVID-19 susceptibility** and with an increased risk of more severe outcomes from the disease

Other species health impacts

- Science has shown **PFAS causes harm to fish and wildlife, including pollinating bees and birds**.
- Maryland has found alarming levels of PFAS in Bay waters, tributaries, and fish. These were so high that the MDE issued a warning against eating three fish species caught in Piscataway Creek in Prince Georges County and issued 14 PFAS fish advisories.
- New research shows dangerous levels of toxic PFAS in freshwater fish. "You'd have to drink an incredible amount of water — we estimate a month of contaminated water — to get the same exposure as you would from a single serving of freshwater fish," – *study co-author David Andrews*

The solution

HB 386 is a simple next step to reduce accumulating harm to our bodies, crops, lawns, and the environment by eliminating the unnecessary PFAS pollution from ubiquitous use of pesticides that contain PFAS as their active ingredient. EPA has identified these pesticide active ingredients as PFAS. MDE's PFAS action plan states "MDA will consider a pesticide product adulterated if PFAS is found in the formulation itself." And there are plenty of alternatives in the more than 13,000 other pesticides that Maryland registers, so H386 will not be a hardship for farmers and professional pesticide applicators to switch to another solution. It's time to turn off this PFAS tap. **HB386 addresses the need to stop the use of pesticide-containing PFAS chemicals in our communities and is a critical step for states to fill the void now so blatantly left by federal regulators.**

We urge a positive report on HB386.
Bonnie Raindrop, Program Director, Smart on Pesticides Coalition
Ruth Berlin, Executive Director, Maryland Pesticide Education Network
Maryland Pesticide Education Network – Baltimore office: 2913 Overland Ave., Baltimore, MD 21214

Addenda:

1- SOPC membership list

2- Fact sheet/infographic

3- The 66 known PFAS compounds included as active ingredients in over 1,000 pesticides used in MD

4- Scientist Statement on Defining PFAS – 168 scientist signers The Smart on Pesticides Maryland Campaign is a coalition of 114 concerned Maryland citizens, organizations, groups, and businesses working for better protections and data to keep our families, our waterways, and our wildlife safe from toxic pesticides.

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Smart on Pesticides Coalition members of 112 orgs and businesses

A.I.R. Lawncare & Landscaping Services
Alliance of Nurses for a Healthy Environment
American Academy of Pediatrics – Md. Chapter
American Bird Conservancy
American Public Health Association – Md. Chapter
Anacostia Watershed Society
Anne Arundel Beekeepers Association
Arundel Rivers Foundation
Assateague Coastal Trust
Audubon Maryland – DC
Audubon Naturalist Society
Baltimore Backyard Beekeepers Network
Baltimore Bird Club
Bee Friendly Apiary
Beyond Pesticides
Big City Farms
Bowie-Upper Marlboro Beekeepers Association
CATA, Farmworkers Support Committee
Carroll County Beekeepers Association
Cecil Bird Club
Center for Biological Diversity
Center for Food Safety
Central Maryland Beekeepers Association
Central Maryland Ecumenical Council/Ecumenical Leaders Group
Centro de los Derechos del Migrante
Charm City Meadworks
Charles Smith Apiaries
Chesapeake Physicians for Social Responsibility
Children's Environmental Health Network
Clean Bread and Cheese Creek
Clean Water Action
Common Market Co-Op
Conservation Community Consulting
Cottingham Farm
Crossroads Community Food Network
Earth Coalition
Earthjustice
Eastern Shore Food Hub
Environmental Working Group (EWG)
Environment Maryland
Fair Farms
F&D Apiaries
Farmworker Justice
Food and Water Watch
Fox Haven Farm and Learning Center
Frederick County Beekeepers Association
Friends of Briers Mill Run
Friends of Lower Beaverdam Creek
Friends of Quincy Run
Friends of the Earth
Greenbelt Forest Preserve Butterfly Brigade
Heathcote – School of Living
Healthy Campaigns
Hampden Community Council
Hereford Bed & Biscuit
Honey Flower Foods
Howard County Beekeepers Association
Howard County Bird Club
Interfaith Partners of the Chesapeake
Interfaith Power and Light
Johns Hopkins Center for a Livable Future
Karma.Farm
KW Landscaping
Latino Farmers & Ranchers Association – Md Chapter
League of Women Voters of Maryland
Learning Disabilities Association – Md Chapter
Lower Susquehanna Riverkeeper
Maryland Autism Project
Maryland Bass Nation
Maryland Children's Environmental Health Coalition
Maryland Environmental Health Network
Maryland Ethical Cannabis Association
Maryland League of Conservation Voters
Maryland Nurses Association
Maryland Organic Food and Farming Association
Maryland Ornithological Society
Maryland Pesticide Education Network
Maryland Public Interest Research Group
Maryland United for Peace and Justice
Maryland Votes for Animals
McDaniel Honey Farm
Migrant Clinicians Network
Moms Clean Air Force
MOM's Organic Market
Montgomery Countryside Alliance
National Aquarium
Natural Resources Defense Council
Organic Consumers Association
Pearlstone Conference. Center
Perfect Earth Project
Pesticide Action Network – North America
Potomac Riverkeeper
Queen Anne's Conservation Association
Rachel Carson Council
Really Raw Honey Co.
Red Top Farm
Rodale Institute
Rosedale Farm
Ruscombe Community Health Ctr.
SafeGrow Montgomery
Safe Minds
Safe Skies Maryland
Severn River Association
Sierra Club – MD Chapter
Spa Creek Conservancy
The Flower Factory
Towson Estates Assn.
Trout Unlimited
Washington County Beekeepers Association
Waterkeepers Chesapeake
Westport Farmers Market
Westport Neighborhood Association
Wicomico Environmental Trust

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Protect Maryland by REDUCING PFAS IN PESTICIDES

HB386/SB345:Pesticides – PFAS Chemicals – Prohibition

Protect Marylanders from Forever Chemicals

Some pesticides are much more dangerous to human health and our environment because they contain **PFAS**, also known as ***forever chemicals***.

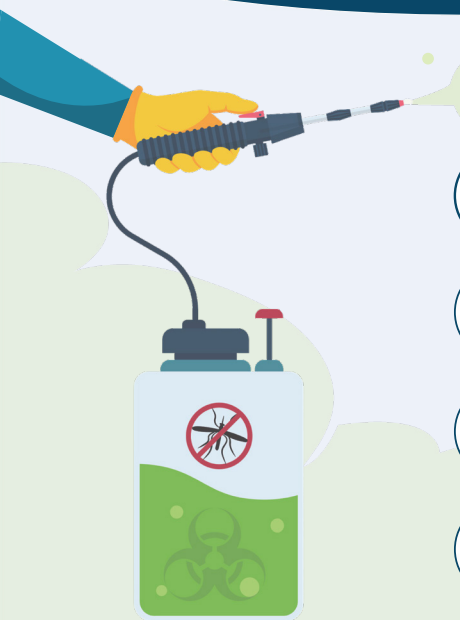
What Are Forever Chemicals?

A class of fluorinated chemicals, PFAS are known as ***forever chemicals*** because they do not break down in the environment. PFAS remediation is a massive problem and emerging technologies are limited and extremely expensive. These heavy costs will ultimately fall on communities, counties, and states. PFAS are already in our drinking water, in the Chesapeake Bay,[1] and in our soil, food,[2] and bodies.[3] Nearly every U.S. resident now carries measurable levels of PFAS in their blood.[4] Every exposure adds to the impact on our bodies.

The Problem

Maryland registers over 14,000 pesticides annually and over 1,000 contain toxic forever chemicals as their **active** ingredient. These pesticides are used widely in agriculture, homes, emergency rooms, health care facilities, and schools — among people who are already vulnerable. Also alarming is that there is no research on the synergistic effects of combining these ***forever chemicals*** with toxic pesticides that already have adverse health impacts.

Maryland has issued fish consumption warnings for PFAS in 15 fish species in the Bay watershed. Testing has found PFAS in drinking water from household taps in Maryland's Montgomery County[5] and other locations around the state.



Even low PFAS exposure is linked to many long-term serious health impacts, including:[6,7]

- Birth Defects
- Developmental Damage to Infants
- High Cholesterol
- Impaired Functioning of the Liver, Kidneys, and Immune System
- Kidney, Testicular, and Breast Cancer
- Less Effective Vaccine Response
- More Serious Covid-19 Outcomes
- Thyroid Disease

“

IF THE INTENT WAS TO SPREAD PFAS CONTAMINATION ACROSS THE GLOBE THERE WOULD BE FEW MORE EFFECTIVE METHODS THAN LACING PESTICIDES WITH PFAS.”

— Kyla Bennett, PEER Science Policy Director, attorney & scientist formerly with EPA

It’s Not Too Late

The good news is we can stop further contamination from known PFAS pesticides. We can turn off ***this*** tap. Yes, forever chemicals are already here, but we can stop adding to the damage. There are numerous pesticides that can easily replace PFAS pesticides for all uses.

Our legislators can make a difference.

We can stop adding to the problem and compounding damage already done. We **can** remove PFAS from pesticides — and protect our families and future generations.

We are urging the Maryland General Assembly to help keep all Marylanders, especially children, pregnant women, families, the elderly — and our environment — safer from the life-threatening effects of PFAS when used as a pesticide's active ingredient by passing HB386/SB345.

For more information: email info@mdpestnet.org and visit smartonpesticides.org

[1] https://www.fda.gov/food/chemical-contaminants-food/testing-food-pfas-and-assessing-dietary-exposure

[2] https://www.fda.gov/food/chemical-contaminants-food/testing-food-pfas-and-assessing-dietary-exposure

[3] https://www.cdc.gov/biomonitoring/PFAS_FactSheet.html

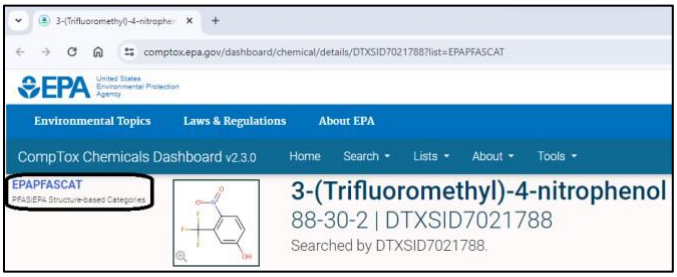
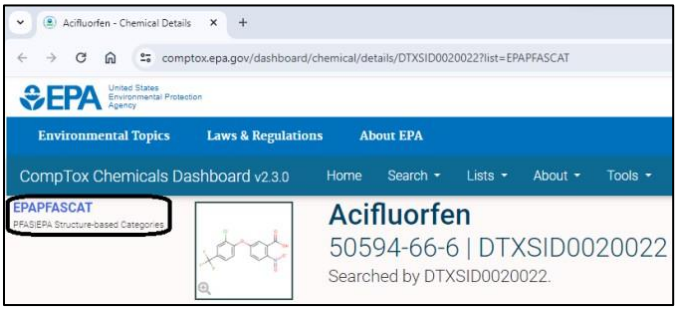
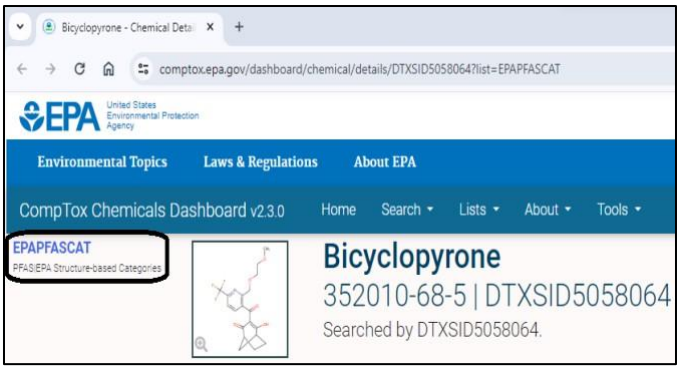
[4] https://www.scientificamerican.com/article/pesticides-are-spreading-toxic-lsquo-forever-chemicals-rsquo-scientists-warn

[5] https://www.bayjournal.com/news/fisheries/forever-chemicals-found-in-chesapeake-seafood-and-maryland-drinking-water/article_2aa7a82a-28fa-11eb-ac61-9f14273a6e14.html

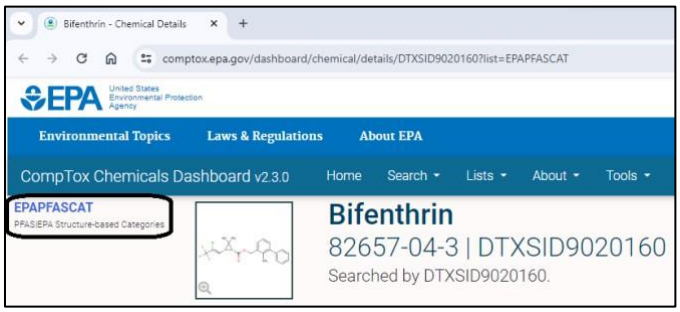
[6] https://www.atsdr.cdc.gov/pfas/health-effects/index.html?CDC_AA_refVal=https%3A%2F%2Fwww.atsdr.cdc.gov%2Fpfas%2Fhealth-effects.html

[7] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6380916

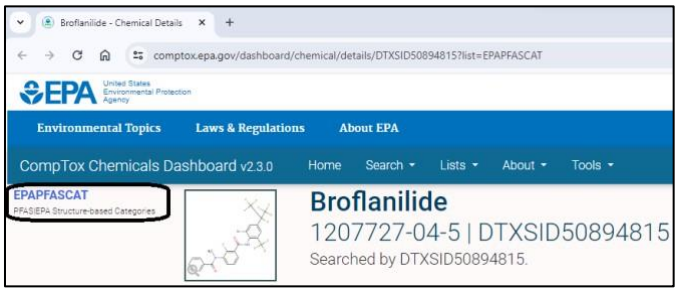
Pesticide active ingredients: Verified as PFAS in EPA's PFAS Analytic Tool CompTox Chemicals Dashboard

Pesticide	EPA identification as PFAS - CompTox screenshot
3-trifluoromethyl-4-nitrophenol, CAS #88-30-2	
Acifluorfen, CAS #50594-66-6	
Benfluralin, CAS #1861-40-1	
Bicyclopyrone, CAS #352010-68-5	

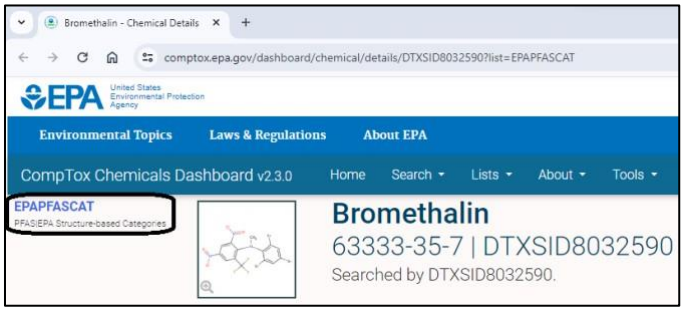
Bifenthrin, CAS #82657-04-03



Broflanilide, CAS #1207727-04-5

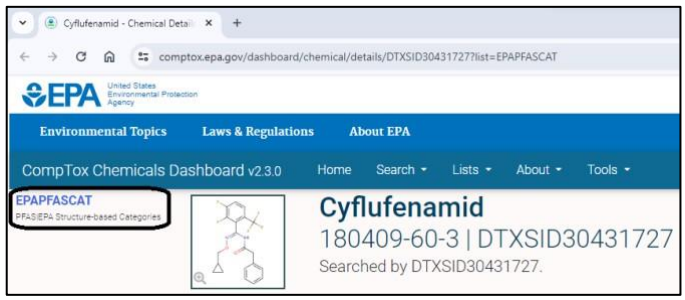


Bromethalin, CAS #63333-35-7

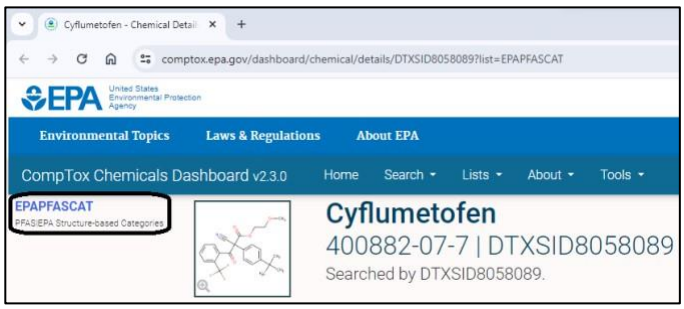


Chlorfenapyr, CAS #122453-73-0

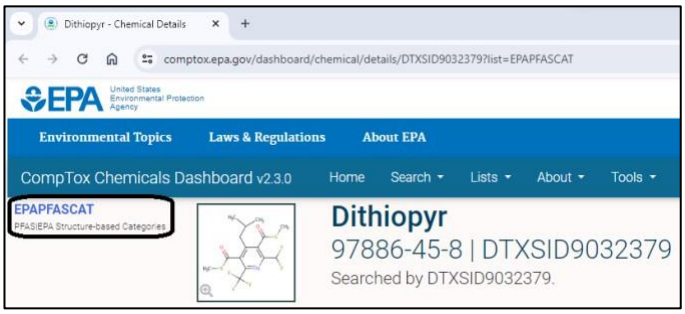
Cyflufenamid, CAS #180409-60-3



Cyflumetofen, CAS #400882-07-7

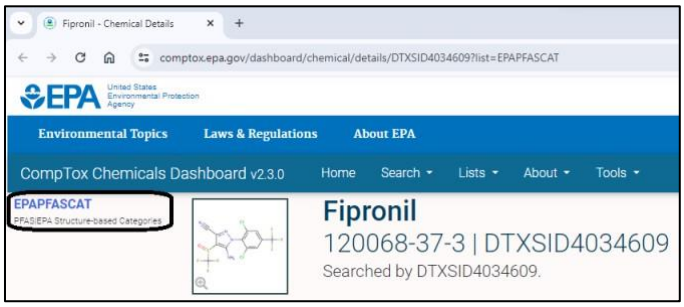


Dithiopyr, CAS #97886-45-8

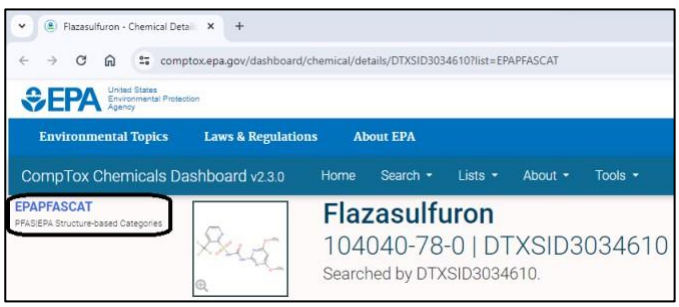


Ethalfluralin, CAS #55283-68-6

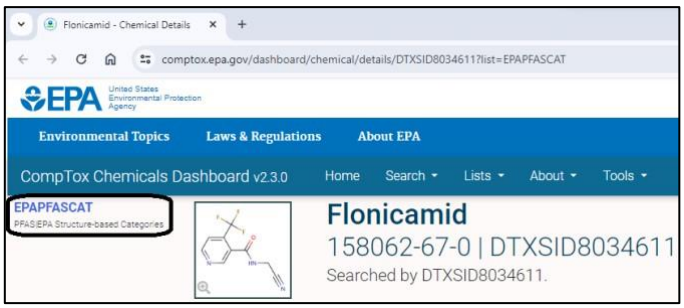
Fipronil, CAS #120068-37-3



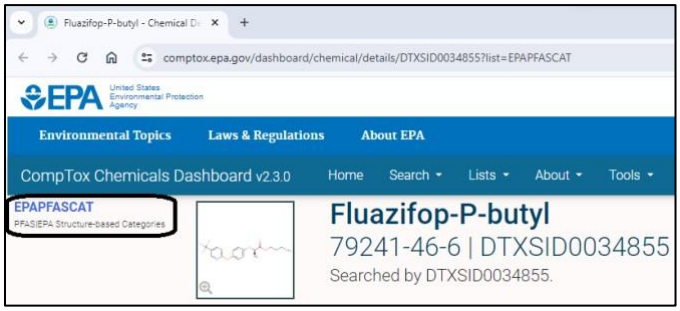
Flazasulfuron, CAS #104040-78-0



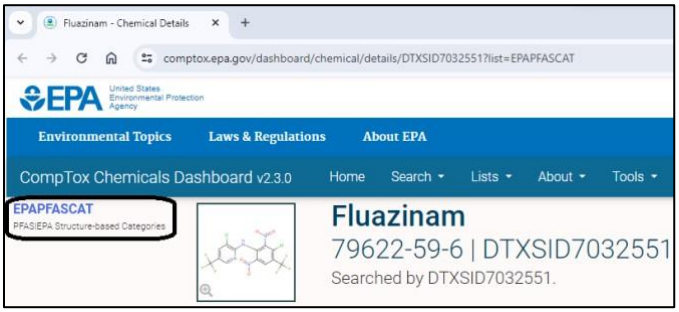
Flonicamid, CAS #158062-67-0



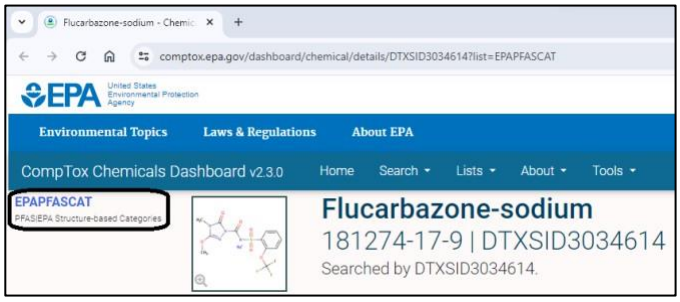
Fluazifop-P-butyl, CAS #79241-46-6



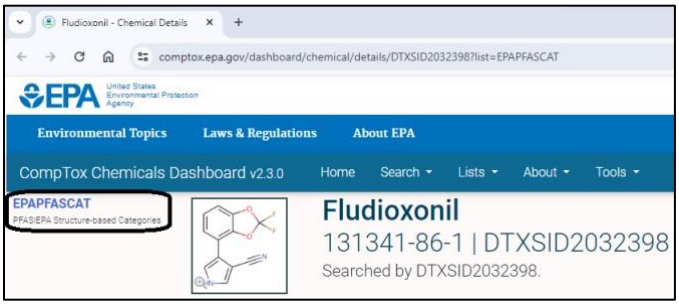
Fluazinam, CAS #79622-59-6



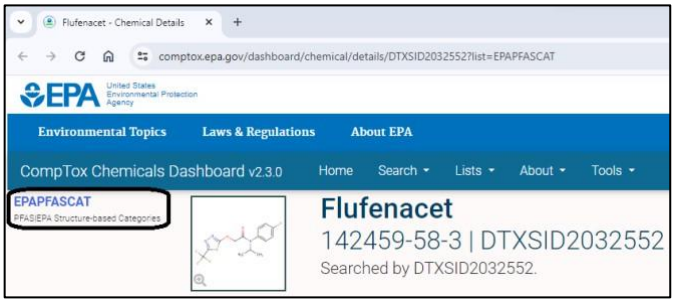
Flucarbazone-sodium, CAS #181274-17-9



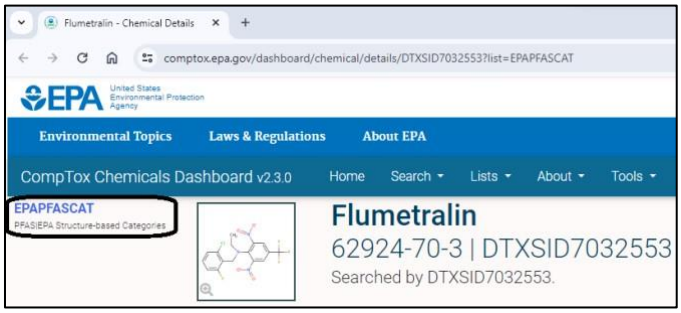
Fludioxonil, CAS #131341-86-1



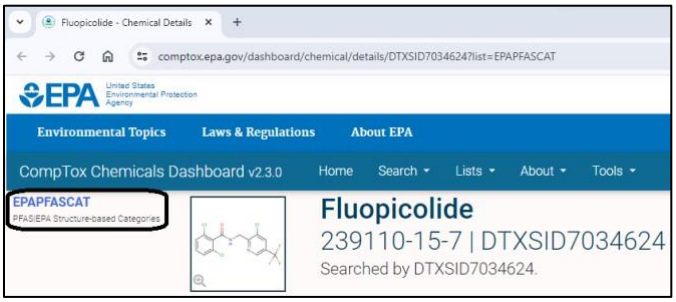
Flufenacet, CAS #142459-58-3
BB



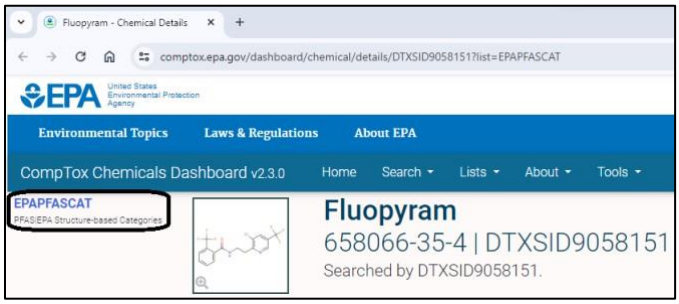
Flumetralin, CAS #62924-70-3



Fluopicolide, CAS #239110-15-7



Fluopyram, CAS #658066-35-4



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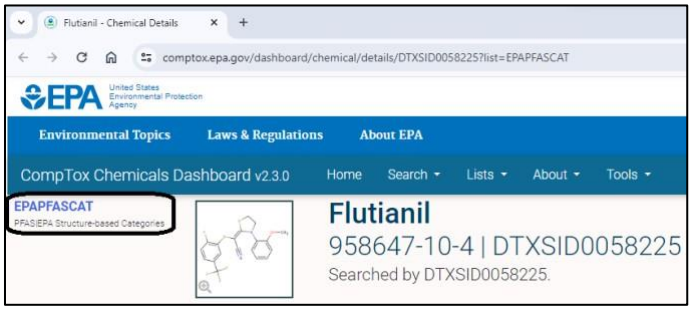

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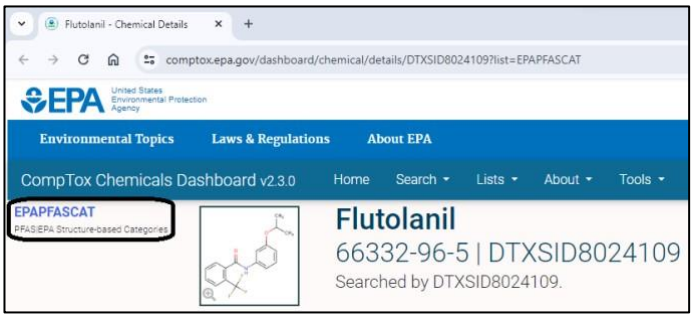

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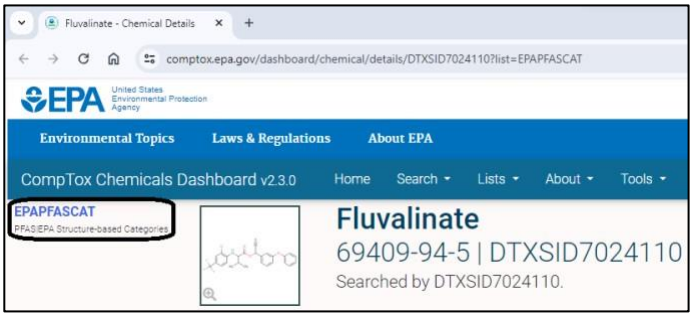

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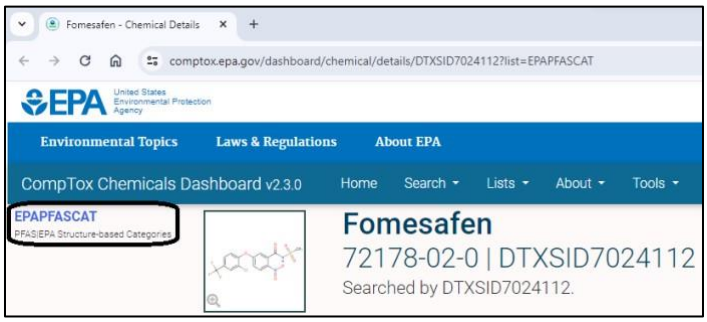

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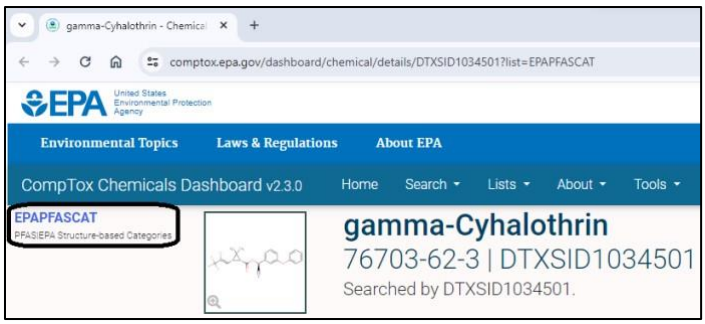

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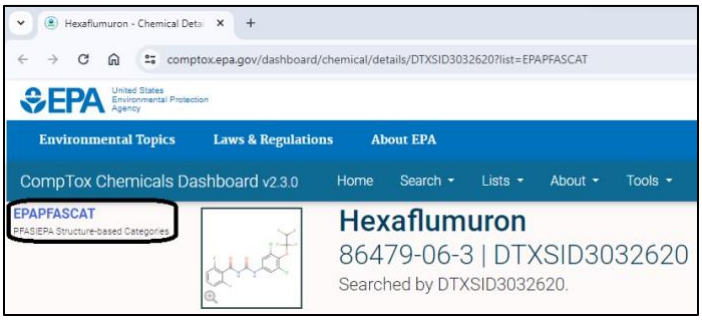

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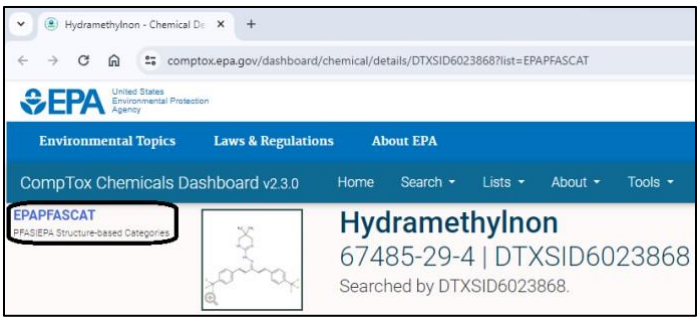

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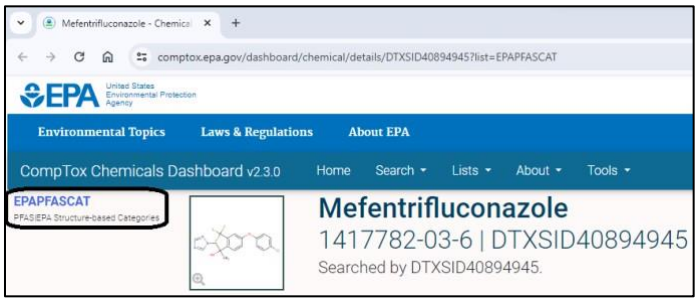

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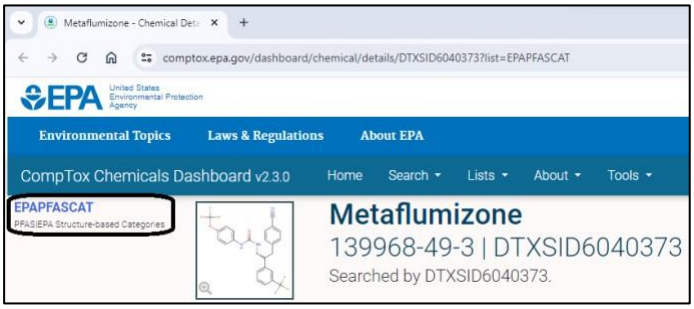

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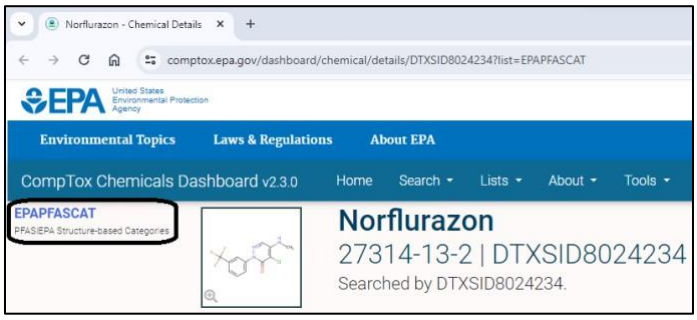

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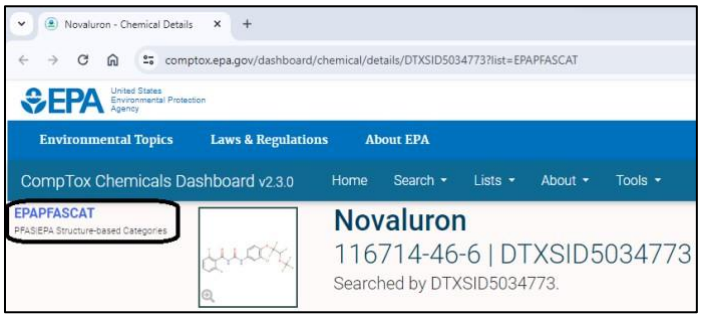

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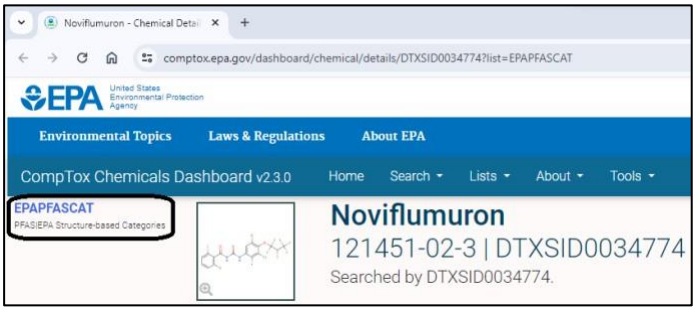

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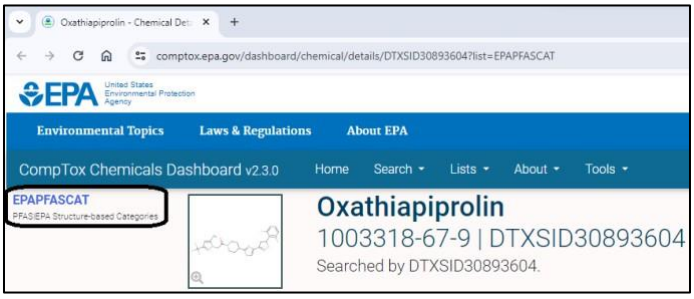

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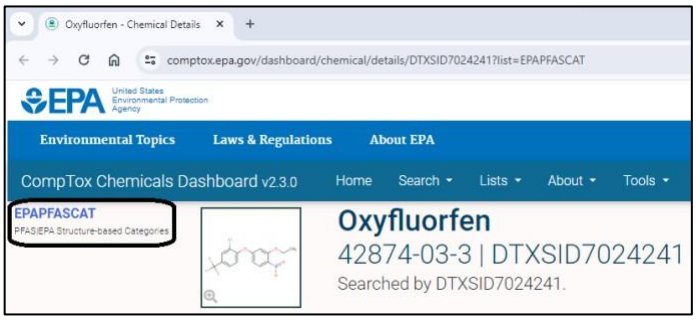

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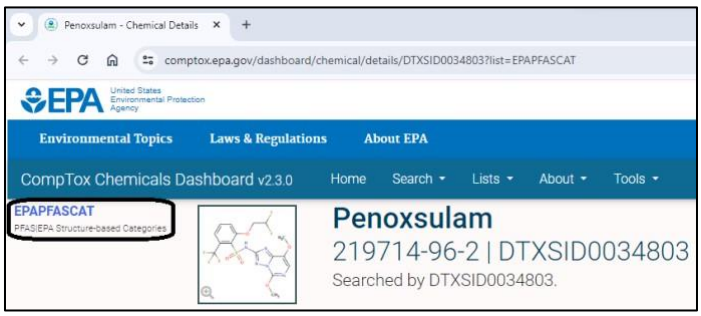

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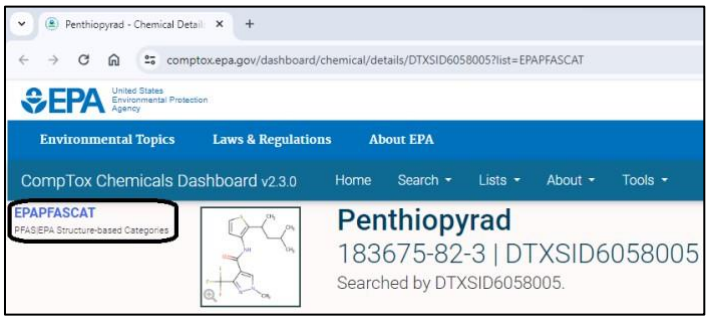

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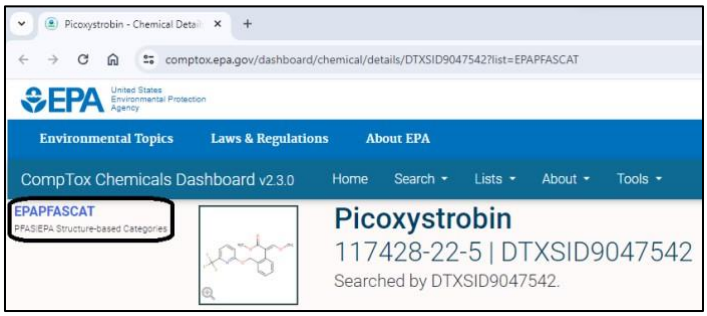

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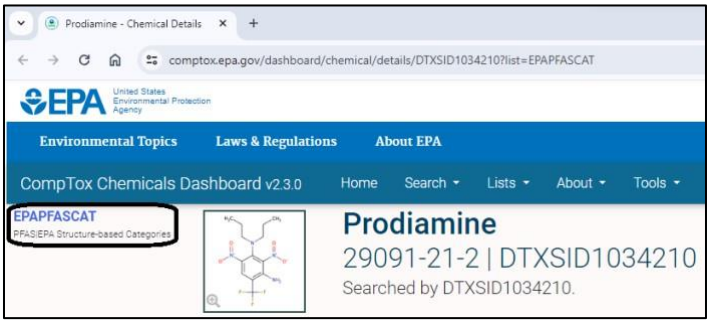

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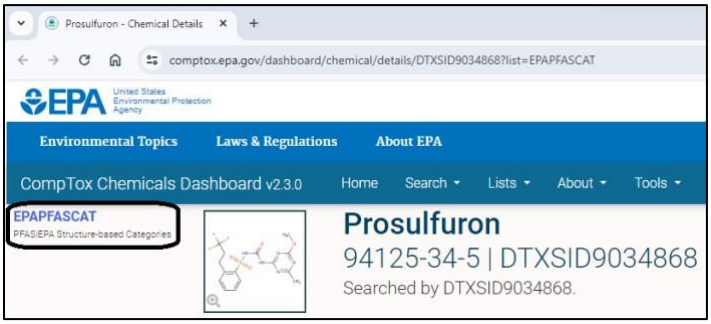

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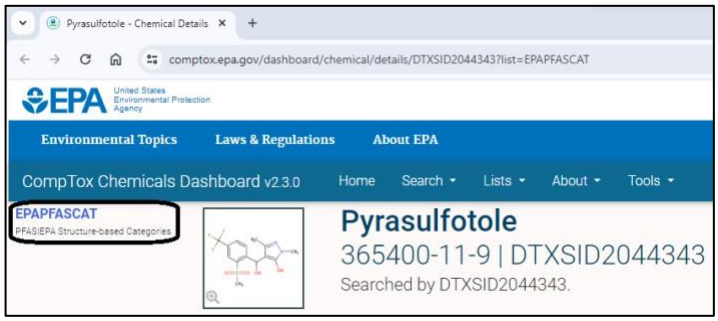

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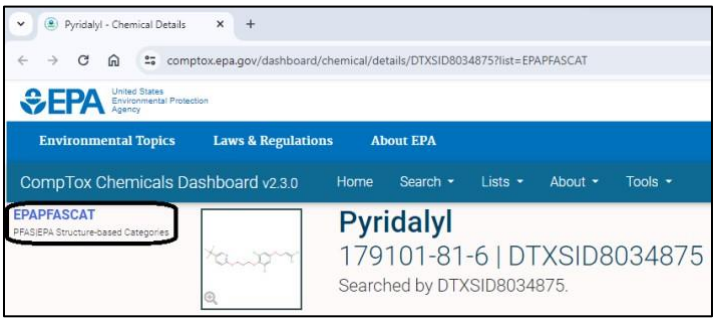

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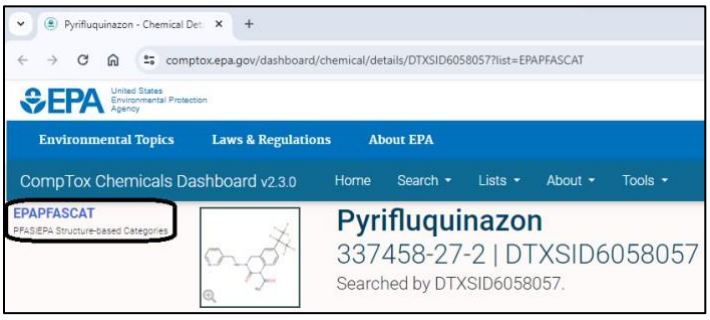

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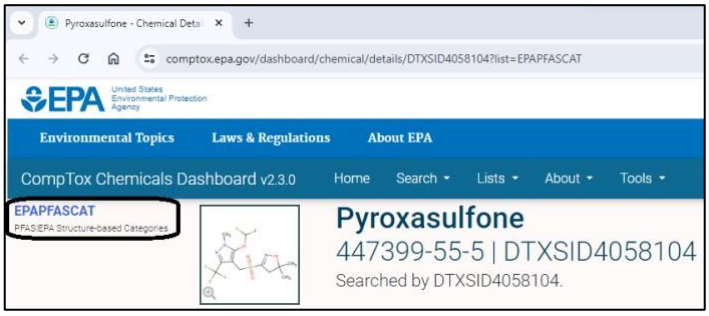

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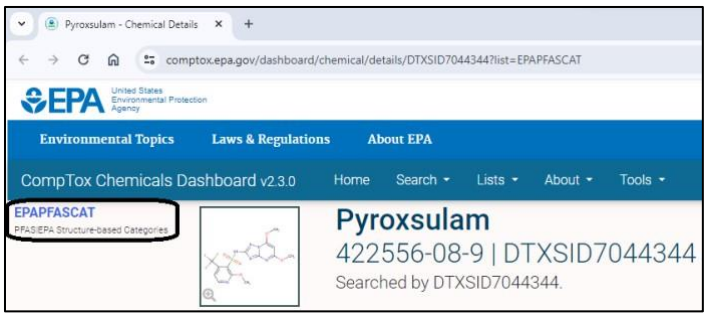

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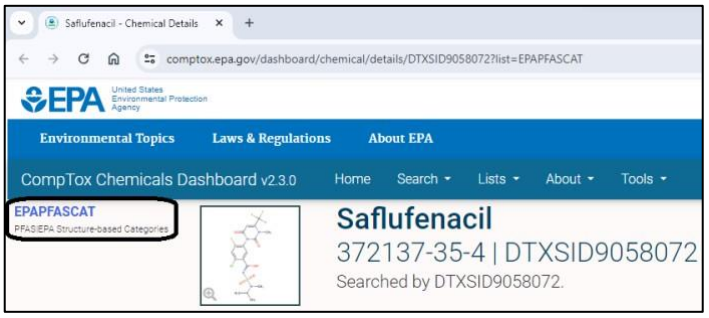

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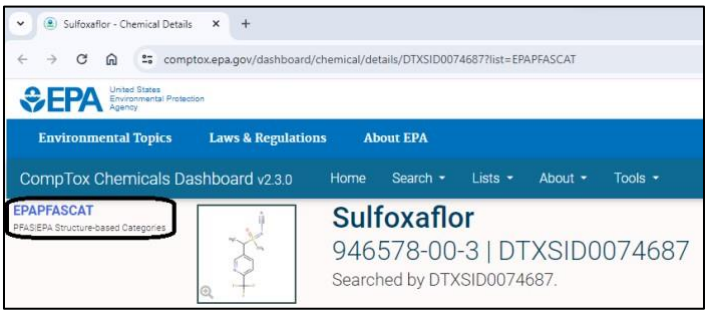

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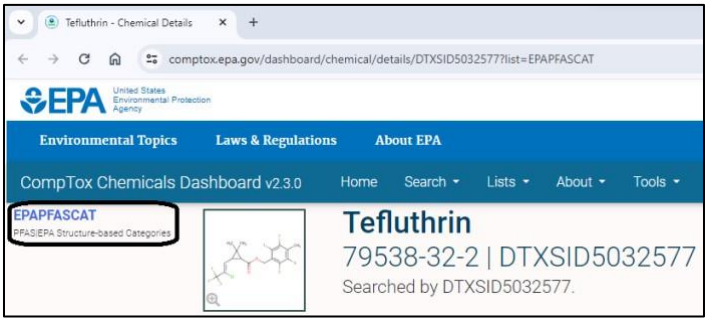

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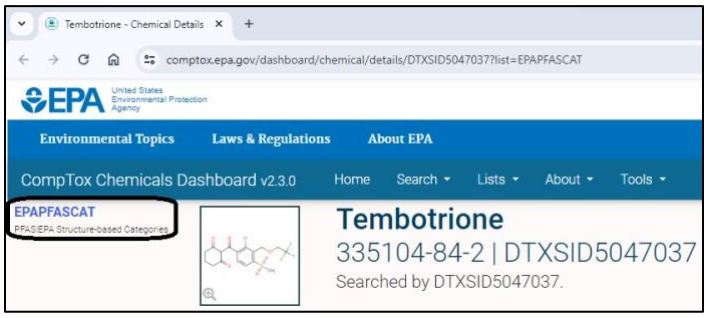

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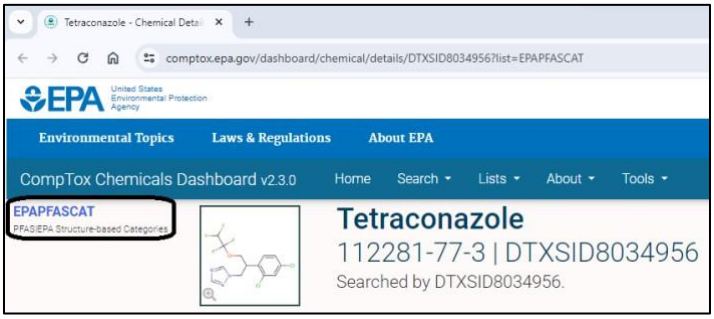

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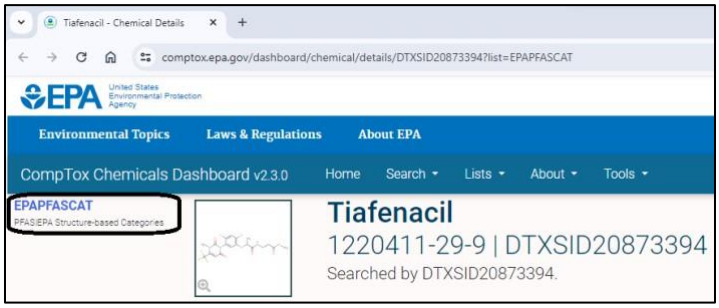

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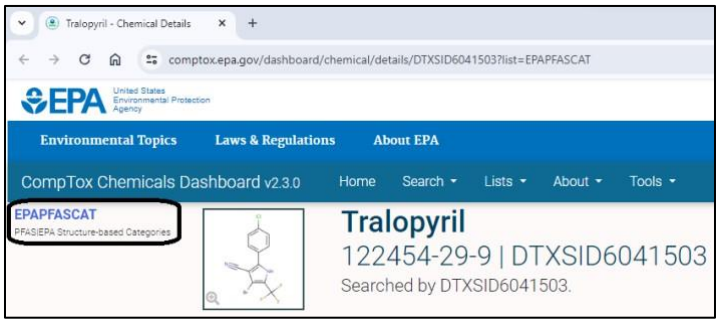

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Trifloxysulfuron-sodium, CAS #290332-10-4

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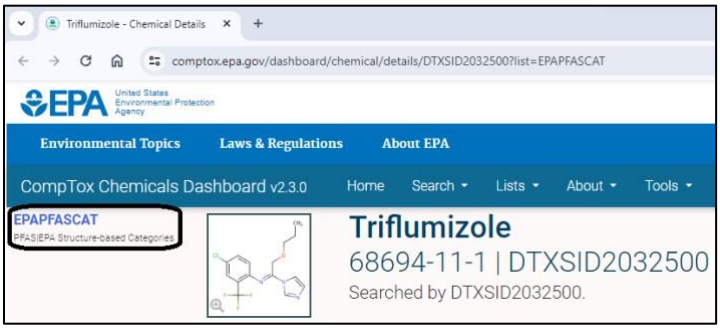

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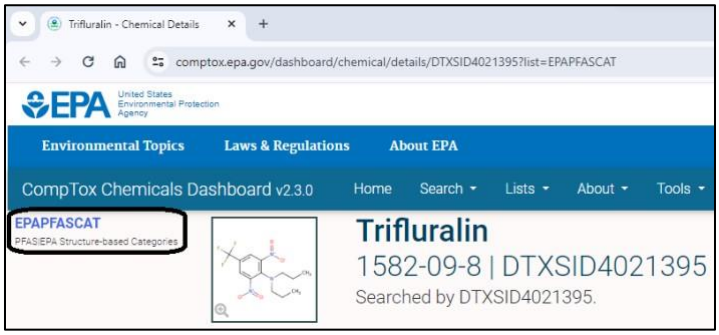

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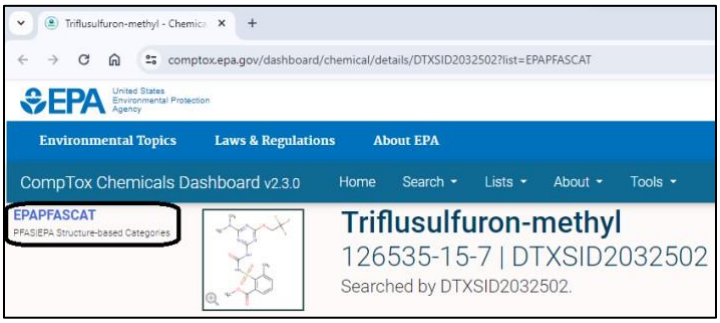

March 7, 2024

Scientists' Statement on Defining PFAS

The undersigned are scientists with expertise in per- and polyfluoroalkyl substances ("PFAS"). We study the use and health & environmental effects of PFAS, and support reducing the adverse impacts of PFAS, the "forever chemicals". Here, we address the necessity for government agencies and legislatures to adopt complete PFAS definitions grounded in science without political interference.

PFAS are used in consumer and industrial applications as surfactants and to impart oil, water, and stain resistance. There are thousands of PFAS chemicals and all well-studied PFAS show human health harms ranging from immune system dysfunction to increased risk of certain cancers.[1] All PFAS are distinguished by the presence of at least one fully fluorinated carbon atom. The carbon-fluorine bond is the strongest single bond in organic chemistry[2], giving all PFAS the shared trait of persistence, leading to their accumulation in our bodies and ecosystems. The health and environmental risks of PFAS coupled with their extreme environmental persistence[3] requires a class-based approach[4] and a definition that reflects that.

The following are science-based definitions:

- The "at least one fully fluorinated carbon" definition that has been used by 23 US states, the Department of Defense, and Congress.[5]
- The nearly identical 2021 OECD definition that was crafted by a panel of international PFAS experts, including those representing the chemical industry and US EPA.[6]

PFAS definitions that exclude polymers and gases are overlooking the most widely used PFAS. Claims that these PFAS are needed to fulfill climate and infrastructure goals are irrelevant to the definition of PFAS and are continuing to be refuted through the development of safer alternatives.

PFAS polymers can be thought of as plastics that contain carbon-fluorine bonds. They have been exempted in some PFAS regulations and definitions due to their lack of direct toxicity, but life-cycle effects must be considered to protect our health and our ecosystems.[7] The manufacturing, use, and disposal of PFAS polymers emits harmful fluorinated building blocks and PFAS greenhouse gases, with *80% of historical PFAS environmental contamination estimated to have originated from polymer production*.[8] PFAS polymers are also persistent, contributing to the ongoing microplastic crisis. Any PFAS definition grounded in science must include all PFAS polymers.

Fluorinated gases must also be included in the class of PFAS. Many persist in the environment or decay into trifluoroacetic acid (TFA), a PFAS that has been building up in the environment since the introduction of CFC replacements like hydrofluoroolefin (HFO) gases. We are concerned that TFA has been increasingly detected in people and drinking water worldwide.[9,10] The low global warming potential of some fluorinated gases does not justify their exclusion from the definition of PFAS.

Government agencies and legislatures should continue to define PFAS accurately using the above definitions, and if any exemptions are needed, e.g., for certain pharmaceuticals, then those can be given without changing the definition of PFAS.

Respectfully signed,

The views expressed are those of the signatories and do not represent their affiliated organizations.

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