

Groups sue to ban toxic chemical used at local refineries

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Efforts to more strictly regulate a toxic chemical used to make high-octane gasoline at refineries across the nation, including at PBF Energy's Torrance Refinery and the Valero Refinery in Wilmington, are once again ramping up.

This time, several environmental organizations, including the National Resources Defense Council, Communities for a Better Environment and the Philadelphia Clean Air Council, have sued the U.S. Environmental Protection Agency over its regulation of the chemical, hydrofluoric acid, and its modified counterpart.

The lawsuit, filed earlier this month in the U.S. District Court for the Central District of California, represents a direct response to the EPA rejecting an earlier petition filed by the environmental groups asking the agency to ban the use of hydrofluoric acid and modified hydrofluoric acid at all refineries in the nation under the federal Toxic Substances Control Act.

The Torrance and Valero refineries, whose officials did not comment for this story, are the only two in California that still use hydrofluoric acid in their refining operations, with officials at the PBF Energy facility, in particular, repeatedly describing modified hydrofluoric acid as the safest catalytic chemical.

The EPA denied that petition on May 12, arguing that the NRDC and its partners had failed to prove that using hydrofluoric acid in refineries qualifies for any further regulation under the Toxic Substances Control Act.

"As a result, the facts presented in the petition," Nancy Beck, the EPA's principal deputy assistant administrator, said in the rejection letter, "did not establish unreasonable risk under the conditions of use of using and distributing in commerce hydrofluoric acid for domestic refining."

The NRDC and its partners had made its intentions to file a lawsuit against the EPA — should the agency reject the original petition — known to the public in February at an event commemorating the 10th anniversary of an explosion at the Torrance Refinery, which, in the decade since, has put the facility at the center of the effort to ban hydrofluoric acid and

modified hydrofluoric acid.

The 2015 Torrance Refinery explosion, which registered as a small earthquake, left four workers injured and covered the surrounding communities in catalytic dust.

It was later dubbed a “near-miss” event that could have had catastrophic consequences for the hundreds of thousands of people living in the densely populated area around the refinery, according to regulators such as the U.S. Chemical Safety Board, because the explosion launched a 40-ton piece of debris that came just 5 feet from puncturing storage tanks containing tens of thousands of gallons of modified hydrofluoric acid, among other chemical components.

The explosion sparked concerns among the refinery’s surrounding communities about the potential dangers of modified hydrofluoric acid and hydrofluoric acid, which are used at both the Torrance and Wilmington refineries. No other facility in California uses the chemical. (The three other local refineries — Phillips 66 Los Angeles, Tesoro and Chevron — use sulfuric acid, according to South Coast Air Quality Management District documents. The Phillips 66 Los Angeles Refinery, which has two facilities in Wilmington and Carson, is set to close this year.)

While those who advocate for banning or phasing out the chemical — ranging from a local activist group to the California attorney general and numerous other elected officials — say the safety risks posed by hydrofluoric acid and modified hydrofluoric acid to the surrounding communities is too high, refinery and industry representatives have repeatedly argued it’s the safest commercially viable option on the market.

The key difference between modified hydrofluoric acid and hydrofluoric acid is that the former contains an additive that’s meant to prevent a ground-hugging cloud from forming should there be a leak during refining operations.

Activists from the Torrance Refinery Action Alliance, though, have repeatedly called the efficacy of modified hydrofluoric acid into a question. Those concerns have also been raised by the air quality district, which said in previous reports that the “ability of MHF (modified hydrofluoric acid) to prevent formation of a vapor/aerosol cloud is highly uncertain” and that a “release of MHF will result in exposure to HF (hydrofluoric acid) with the same health effects.”

In the years since the Torrance Refinery explosion, which occurred under its previous owners, ExxonMobil, the facility has since put new safety measures in place that are aimed at preventing a modified hydrofluoric acid release.

Since 2019, according to the Torrance Refinery’s website, PBF has installed a new protective steel structure around its alkylation unit, as well as a water mitigation dome and curtain, an expanded water deluge system, a hydrofluoric acid/modified hydrofluoric acid laser

detection system, water mitigation monitors and more.

“As we have shown, our robust safety systems are multi-layered and redundant, fully capable of containing and preventing an offsite impact of MHF, protecting refinery personnel and the community,” PBF representative Abena Williams said earlier this year, around the 10-year anniversary of the Torrance explosion, “while allowing Torrance Refinery to reliably produce alkylate, a critically important blending component required for producing California-compliant reformulated gasoline that helps fuel California’s economy.”

Valero, meanwhile, has apparently had some issues with its safety procedures, despite previously making improvements. The facility was fined nearly \$300,000 by the EPA last month for numerous violations of chemical safety procedures at its Wilmington facility relating to modified hydrofluoric acid.

Valero has remained relatively quiet about its use of the chemical, as the company, over the years, has not responded to several requests for information about its safety measures regarding modified hydrofluoric acid use. There also isn’t any public information about the issue on its website, in contrast to the Torrance Refinery’s website, which has an entire section about modified hydrofluoric acid.

But during a June 2022 inspection of the Wilmington refinery, the EPA said it found numerous violations of the Risk Management Program Rule, which was established under the Clean Air Act to regulate “extremely hazardous substances,” the federal agency said.

Under the rule, facilities using those hazardous substances are required to develop plans identifying the impacts of potential chemical accidents, steps to prevent any such incidents, and response plans should an emergency occur.

But Valero, the EPA said, had underestimated the distance that dangerous concentrations of chemicals could spread in a worst-case scenario release.

The refinery also had inaccurate facility equipment diagrams, lacked sufficient analysis of how a facility-wide power failure could comprise its safety systems, omitted mandatory information in both operating procedures and incident reports, and failed to implement previous recommended safety measures, the EPA said.

The EPA’s \$270,437 fine for those violations, however, also came along with an assurance from the agency that Valero had “improved its safety systems and emergency response procedures at the Wilmington refinery,” the agency said in a previous news release.

But Valero’s safety failures in Wilmington, environmental advocates said, underscored what modified hydrofluoric acid opponents, including the Torrance Refinery Action Alliance, had been arguing for years.

“This cannot be resolved with mitigation,” alliance board member Steve Goldsmith said previously. “We’ve had numerous near misses around the country and small releases from Valero over the years. We’d like to see what changes they actually made. We definitely think that it’s good that the EPA has done this investigation, but we think there’s a lot more to investigate.”

As for the new lawsuit, which was filed July 8, PBF Energy and EPA officials said in statements Friday that they do not comment on pending litigation.

But the American Fuel and Petroleum Manufacturers, a trade association representing industry interests, said the EPA’s original ruling on the National Resources Defense Council petition should be upheld.

“Alkylate is essential for octane and for producing gasoline that meets the toughest environmental specifications in our country,” the trade association said in a Friday statement. “Refiners produce alkylate using one of two primary catalysts: hydrofluoric acid (HF) or sulfuric acid. If significant alkylation capacity is lost in this country because of HF bans, there would be devastating consequences for both U.S. and global gasoline supplies and for affordable, reliable domestic energy.”

Industry representatives have also argued that alternatives to modified hydrofluoric acid and hydrofluoric acid, such as sulfuric acid and another technology — a Honeywell invention that doesn’t use hydrofluoric acid or sulfuric acid, which was used to convert Chevron’s Salt Lake City refinery from hydrofluoric acid to the new alternative in 2021 — haven’t been proven commercially viable yet and could be prohibitively costly, resulting in job losses or other economic detriments.

Any economic losses could be potentially significant.

The Torrance Refinery, for example, has more than 600 employees, with an additional 300 to 500 contractors, according to the facility’s website. The 700-acre facility, its website says, also produces 20% of the gasoline demand in Southern California and 10% statewide and pays millions of dollars in annual property and utility taxes annually.

“Safety is the top priority for every AFPM member,” the trade association said. “Refineries that use HF expertly manage the associated risks in accordance with layers of government regulations and the toughest industry guidelines. Facilities cannot seamlessly or economically transition between alkylation technologies, and swapping catalysts would simply swap one set of risks for another. Safety would not be better served.”

Environmental groups, as well as local public officials, disagree.

Those groups have spent years working to better regulate the chemical on a local level but without much luck. A South Coast Air Quality Management District rule, for example, spent

four years in development, but died on the floor of the agency's governing board.

So now, the chemical's opponents are taking the fight to a higher level — the federal government.

The environmental groups' lawsuit, which directly sites the Torrance Refinery explosion as an example of how detrimental a hydrofluoric acid or modified hydrofluoric acid leak could be to people exposed to the chemical, asks the court to declare that using the chemical in refining operations "presents an unreasonable risk of injury to public health and the environment" under the Toxic Substances Control Act. The act also requires the EPA to eliminate those risks by more strictly regulating the chemical.

The lawsuit also asks the court to require the EPA to begin the process of creating a new rule to regulate hydrofluoric acid under the Toxic Substances Control Act. The plaintiffs, according to the complaint, also want the EPA to publish a proposed regulation within a year of the court's ruling. They also want a final rule finished within two years of the court's decision.

"This is an unnecessary threat to the communities around dozens of refineries," the NRDC's senior vice president of environmental health said in a news release. "Since the agency won't fix the situation, we are going to court to address it before people are hurt or killed. At a time when oil companies are making tens of billions of dollars every year in profit, the least they can do is adopt safer alternatives that better protect the communities near their facilities."

The Torrance Refinery Action Alliance, the group that has long been at the forefront of efforts to implement stricter regulation on modified hydrofluoric acid and hydrofluoric acid, also issued a statement in support of the lawsuit and said it has been working with the NRDC and its partners on the effort for more than a year.

There were no hearings set for the lawsuit as of Friday, according to court records.