



South Coast Air Quality Management District

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NEWS

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SCAQMD Refinery Committee Directs Development of Measure to Phase Out Toxic Chemical at Two Refineries

The South Coast Air Quality Management District's Refinery Committee today directed agency staff to develop a regulation by May 2019 to better mitigate the risk from – or possibly phase out -- the use of a highly toxic chemical used at two Southland refineries.

The chemical, modified hydrofluoric acid (MHF), is used at just two refineries in the state, both in the South Bay: Torrance Refining Co., owned by PBF Energy, and Valero's Wilmington Refinery.

"The risk to public health from an accidental release of this chemical is too great to accept," said Clark E. Parker, Sr., Ph.D., chairman of SCAQMD's Refinery Committee. "We are directing staff to develop a rule to better protect residents' health in the event of an accident."

The rule will include provisions for a phase-out of MHF. However, during the coming months, if the refineries and manufacturer of MHF provide more technical information on the chemical and show that enhanced mitigation measures will adequately reduce the risk to the public, the committee directed staff to consider a memorandum of understanding as an alternative to a regulation.

Other committee members attending today's meeting were Vice Chairman and Highland Mayor Larry McCallon, Wildomar Mayor Ben Benoit, Rolling Hills Estates Mayor Pro Tem Judith Mitchell and Joseph Lyo, Ph.D. SCAQMD Chairman William A. Burke, Ed.D., participated as an ad hoc member.

More than 600 refinery workers and residents were present for the 7-hour meeting at Wilmington Middle School. Today's event was the fourth Refinery Committee meeting in the South Bay conducted since April 2017 to examine MHF safety issues and gather public input on rule concepts.

In response to the committee's request for further information at the April committee meeting, several subject experts spoke at today's event:

- Kenneth W. Hudnut, Ph.D., a geophysicist with the U.S. Geological Survey in Pasadena, reported on earthquake hazards from two major faults in the South Bay area;

- Ronald P. Koopman, Ph.D., a retired senior scientist from Lawrence Livermore National Laboratory in Livermore, discussed the 1986 “Goldfish” test of hydrofluoric acid (HF) dispersion at the Nevada Test Site, and similar tests;
- John B. Cornwall, an engineer and risk analysis expert on toxic releases with Quest Consultants Inc. of Norman, Okla., reported on past MHF field testing and time and resources needed for additional tests; and
- Michael Mastrangelo, program director of Institutional Preparedness at the University of Texas Medical Branch in Galveston, talked about the 1987 HF release from a refinery in Texas City, Texas, issues with specialized medical treatment and medicine needed for HF exposure, and the university’s work to plan for preparedness for accidental HF releases.

In February 2015, an explosion at the former ExxonMobil refinery in Torrance resulted in a 40-ton piece of debris nearly striking a large vessel containing MHF. As a result of the accident, community concerns about refinery safety, new information about the safety of MHF, and frequent flaring at the refinery, the SCAQMD’s Refinery Committee held a special hearing on the use of HF at refineries.

Based on direction from the Refinery Committee, in April 2017 the SCAQMD started developing a proposed rule for the use of HF at refineries, known as Rule 1410, and since then staff has conducted numerous working group meetings composed of representatives from the refineries, community groups and other regulatory agencies.

Rule 1410 would need to be adopted by SCAQMD’s Governing Board at a public hearing. For more information on SCAQMD’s Proposed Rule 1410, see <http://www.aqmd.gov/home/rules-compliance/rules/proposed-rules/proposed-rule-1410>.

Torrance Refining Co. and Valero Wilmington Refinery use HF modified with an additive to reduce the hazard in the event of an accidental release. It is uncertain, however, how much the HF modifier reduces public health hazards if it is released.

MHF is used in the PBF and Valero alkylation units as a catalyst to produce alkylate, a component of high-octane gasoline. All other refineries in the state use sulfuric acid in their alkylation units.

Hydrofluoric acid is considered more hazardous than sulfuric acid because its ability to damage tissue to the bone. Unlike sulfuric acid, HF has a low boiling point and in the event of an accidental release, it can form a dense, ground-hugging cloud that could travel long distances potentially impacting nearby residents and schools.

The SCAQMD is the air pollution control agency for Orange County and major portions of Los Angeles, San Bernardino and Riverside counties.