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Assembly
California Legislature



STANDING COMMITTEES:
CHAIR: ENVIRONMENTAL SAFETY
AND TOXIC MATERIALS
APPROPRIATIONS
PUBLIC SAFETY
REVENUE AND TAXATION
UTILITIES AND ENERGY

September 21, 2018

Dr. Clark E. Parker, Sr
Chair, Refinery Committee
South Coast Air Quality Management District

As Chair of the South Coast Air Quality Management District's Refinery Committee, I understand you are interested in the efficacy of modified hydrogen fluoride (MHF). In 2017 Assembly Bill 1645 (Muratsuchi) regarding HF used in the oil refining process, came before the Assembly Environmental Safety and Toxic Materials Committee, which I chair. To make an informed decision, I read many scientific papers and other information on HF and MHF.

I understand that you Chair the South Coast Air Quality Management District's refinery committee and your committee has held several workshops and public meetings. I want to thank you and your staff for all of time that has put into this important issue. Given that the California State Assembly is also interested in the safe us of MHF at refineries I wanted to share with you what I've learned from my research on this topic.

As a physicist, I reviewed and analyzed research performed by subject matter experts describing MHF testing and modeling information from the 1990's. This information showed that the bonding interactions between HF, the proprietary additive, and water molecules effectively reduce the potential for dense vapor cloud formation in the event of an accidental release by limiting flash atomization and promoting rainout. The positive impact of the bonding interactions appeared to occur in a wide range of additive and water concentrations, including those in use at the Torrance Refinery.

In addition to MHF chemistry, water has been proven by multiple scientific studies to absorb airborne HF when applied appropriately by engineered mitigation systems. Both water cannons and sprays effectively reduce the potential exposure of both workers and the public from a potential MHF/HF release. This technology is used throughout industry to successfully respond to release scenarios and I personally observed these mitigation systems at the Torrance Refinery.

Based on my reading and interpretation of several research papers, I believe water can be successfully used in preventing the atomization of hydrogen.

I hope you find this information helpful in your ongoing review of MHF. If you would like to discuss MHF with me, please feel free to contact me at (916) 319-2020.

Sincerely,

A handwritten signature in black ink that reads "Bill Quirk". The signature is written in a cursive, slightly slanted style.

Bill Quirk
Assemblymember, 20th District

bq: jt/td