CARBON TETRACHLORIDE (CTC); REGULATION UNDER THE TOXIC SUBSTANCES CONTROL ACT (TSCA)

Office of Pollution Prevention and Toxics
United States Environmental Protection Agency

AMERICAN FUEL & PETROCHEMICAL MANUFACTURERS AND AMERICAN PETROLEUM INSTITUTE SUPPLEMENTAL COMMENTS

Attention: EPA–HQ–OPPT–2020-0592; FRL-8206-01-OCSPP

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I. Introduction

The American Fuel & Petrochemical Manufacturers ("AFPM") and American Petroleum Institute ("API") respectfully submit this supplemental information regarding the Environmental Protection Agency's ("EPA" or "the Agency") Federal Register notice titled, "Carbon Tetrachloride (CTC); Regulation Under the Toxic Substances Control Act (TSCA)" ("Proposed Rule" or "Proposal"). In its Federal Register notice, EPA is proposing a broad ban for CTC and the Proposed Rule does not consider, or even mention, any uses related to petroleum refining in closed systems.[1]

II. Unintended Consequence of the CTC Proposed Rule

CTC is an impurity found in trace amounts in perchloroethylene ("PCE"). AFPM and API members use PCE as a chloriding agent to regenerate catalysts that help make EPA-compliant fuels. If EPA moves forward with a broad ban of CTC and no exemptions for impurities, as outlined in the Proposed Rule, AFPM and API members will no longer be allowed to use PCE as a catalyst regenerator at petroleum refineries. The alternative chloriding agents, with the exception of chlorine gas, are also TSCA high-priority chemicals that EPA has determined present an unreasonable risk. The combined impact of EPA's proposed CTC and trichloroethylene ("TCE") rules would affect AFPM members' ability to use isomerization and reforming processes, the products of which go into around half the gasoline pool.

III. Production of PCE

In general, the production of chlorinated light hydrocarbons (those with only one or two carbons in the molecule), also referred to as chlorinated C1 – C2, is primarily through chlorination (reacted with chlorine gas) or oxychlorination (reacted with hydrochloric acid and oxygen). To minimize hazardous wastes, the residues from closed-system, chlorinated light hydrocarbon production processes are recycled and used as feedstocks (inputs) for other chlorinated C1 – C2 processes. That is the case with all PCE produced in the United States.[2]

PCE was initially produced as a byproduct of carbon tetrachloride manufacturing in the early 1900s.[3] The current production methods are chlorination of C1 – C3 recycled chlorinated residues from other hydrocarbon chlorination processes and oxychlorination of ethylene dichloride and recycled C2 chlorinated residues.[4] The resulting product stream in the PCE production unit are fractions of various chlorinated C1 – C2 substances, such as methylene chloride, TCE, CTC, ethylene dichloride, etc., the individual components of which are separated. The separated individual component substances contain trace amounts of the other chlorinated substances found in that particular fraction.

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[1] See *88 Fed. Reg. 49180*, "Carbon Tetrachloride (CTC); Regulation Under the Toxic Substances Control Act (TSCA)." EPA-HQ-OPPT-2020-0592; FRL-8206-01-OCSPP, published July 28, 2023.
[2] *Directory of Chemical Producers*, S&P Global Commodity Insight, accessed August 30, 2023.
[3] C. Barton, in *Encyclopedia of Toxicology* (Third Edition), 2014. Accessed through ScienceDirect.com on August 30, 2023.
[4] *Directory of Chemical Producers*, S&P Global Commodity Insight, accessed August 30, 2023.

IV. Challenges to Determining Concentration Levels of Impurities and Byproducts

After submitting comments to the docket, AFPM and API members continued their discussions of a *de minimis* exemption and concluded that it would be difficult to verify compliance for impurities at trace amounts because of the processes used to manufacture PCE. Because of the recycled inputs, the impurities and their concentration levels in PCE can vary. This would make establishing a consistent *de minimis* concentration level for any subsequent impurity very challenging. Because the impurities are also chloriding agents and are consumed in the isomerization and reforming processes, and that PCE will already be tightly regulated under its own risk management rule, AFPM and API members determined that a different exemption would be more practical.[5]

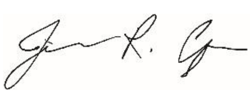
V. Request for Explicit Regulatory Exemption

AFPM and API members reviewed exemption options and found that an explicit regulatory exemption for impurities and byproducts for the particular use of CTC in catalyst regeneration at petroleum refineries would simplify both implementation of and compliance with the rule. One way this could be accomplished is a clear, concise statement that the CTC proposed ban does not apply to its use when present as an impurity, byproduct, or other contaminant of PCE that is used as a catalyst regenerator in a closed system at petroleum refineries.

VI. Conclusion

AFPM and API appreciate the opportunity to further discuss potential options to establish an exemption in the risk management rule for CTC, which would allow the continued use of PCE as a catalyst regenerator at petroleum refineries.

Sincerely,



James Cooper
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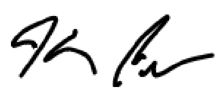

Keith Petka
Director Refining and Health, Environment, & Safety
API

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[5] EPA has proposed to allow the continued use of PCE as a catalyst regenerator at petroleum refineries. As part of this allowance, EPA has proposed strict regulations that cover training, the use of personal protective equipment ("PPE"), record-keeping, and reporting, as well as establishing a new workplace threshold. Since CTC is an impurity in PCE, it too will be subject to those regulations.