



March 21, 2016

Document Control Office (7407M)
Office of Pollution Prevention and Toxics (OPPT)
Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: Docket No. EPA-HQ-OPPT-2015-0789
Chlorinated Paraffins; Request for Available Information on PMN Risk Assessments

Dear Sir or Madam:

The Vinyl Institute (VI)¹ appreciates the opportunity to submit these comments in response to the U.S. Environmental Protection Agency's (EPA) Federal Register notice requesting more information on chlorinated paraffins under the Toxic Substances Control Act (TSCA).² At issue in the Federal Register notice are premanufacture notifications (PMNs) filed for certain medium chain chlorinated paraffins (MCCP), which EPA defines as chlorinated paraffins with carbon chain length C₁₄₋₁₇, and long chain chlorinated paraffins (LCCP), which EPA defines as chlorinated paraffins with carbon chain length C₁₈₋₂₀.³ EPA stated in the Federal Register notice that "it does not believe that manufacture of these PMN substances should commence...or continue" without additional information sufficient to evaluate the environmental effects of the PMN substances.⁴

In general, the VI supports the comments of the Chlorinated Paraffins Industry Association. The VI offers the following comments in addition, which the VI believes demonstrate that use of MCCP and LCCP in vinyl compound formulations does not

¹ The Vinyl Institute, founded in 1982, is a U.S. trade association representing the leading manufacturers of vinyl chloride monomer, PVC resin, vinyl additives and modifiers, and vinyl compounds in North America. The Vinyl Institute is dedicated to promoting the benefits of vinyl products.

² *Chlorinated Paraffins; Request for Available Information on PMN Risk Assessments*, 80 Fed. Reg. 79,886 (Dec. 23, 2015).

³ See, e.g., TSCA New Chemicals Review Program Standard Review Risk Assessment on Medium-Chain Chlorinated Paraffins (PMN P-12-0453) and Long-Chain Chlorinated Paraffins (PMN P-12-0433), Docket Document No. EPA-HQ-OPPT-2015-0789-0015 at 7.

⁴ 80 Fed. Reg. at 79,887.

present an unreasonable risk to human health or the environment because environmental releases are negligible.

Existing Uses of MCCPs and LCCPs

Medium chain chlorinated paraffins (MCCP) and long chain chlorinated paraffins (LCCP) are critical chemical components of certain flexible vinyl compound formulations. Some flexible vinyl compounds use MCCP and LCCP to deliver key performance attributes (e.g. softness, durability) and meet fire safety regulations and standards requirements for certain wire and cable products, industrial coated fabrics, and certain upholstered products. Due to the time and expense necessary to robustly test and qualify products that use MCCPs and LCCPs, these substances cannot easily or quickly be replaced, even if substitutes become available.

For example, formulations for plenum cables require enough flexibility for installation in confined spaces and yet must also pass the UL-910 (NFPA 262) test.⁵ Other flammability tests often used on flexible PVC wire and cable products include: the UL-VW-1 Vertical Wire Flame Test; the Oxygen Index Test (ASTM D2863); the UL-94 Test run in the horizontal or vertical modes; the UL Vertical Tray Flame Test (UL 1581 for tray cables); and the UL-1666 Test for riser cables.⁶ Industrial coated fabrics are used in many applications, including flexible air ducting and brattice cloth for mines and coverings for athletic mats. Mine ducting and brattice cloth must comply with US Department of Labor's Mine Safety and Health Administration (MSHA) flame test, 30 CFR 7.27. Coated fabrics used indoors must meet flame and smoke development tests such as ASTM E84. For certain upholstery materials used in transportation interiors, vinyl products must meet the DOT FMVSS 302 requirements, yet retain their durability, softness, and clean-ability requirements. Other flame resistance standards for interior furniture upholstery include CAL TB 117-2013 and NFPA 260A/UFAC Class 1.

Eliminating or replacing MCCP and LCCP from product formulations would require extensive research and development, without any guarantee the reformulated products would continue to meet not only the aforementioned flame resistance standards but also other beneficial properties required of the application. Given the unique procedural and legal aspects of EPA's current actions, which resemble a TSCA section 6 action, it would be irresponsible if EPA did not consider the costs of restricting or eliminating current uses of MCCPs and LCCPs in certain wire, cable, and vinyl upholstery applications in the Agency's assessment.

⁵ Wilkes et al., PVC Handbook, Hanser Publications at 328.

⁶ *Ibid* at 328.

Environmental Discharge Estimates

EPA stated that it “expects releases of the PMN substances to water during processing and all of the substances' intended uses to result in surface water concentrations that may present an unreasonable risk of adverse effects to aquatic and sediment-dwelling organisms.”⁷ However, the VI believes these projections to be inaccurate for the vinyl compounding uses described in these comments.

In its engineering report on environmental releases, EPA estimates releases for plastics compounding and converting operations of 2% for daily equipment clean out, 3% for clean out of delivery packaged in drums, and 0.2% for delivery packaged in tote, tank truck, or rail car.⁸ These releases are indicated as water, incineration, or landfill. VI believes these estimates are erroneous, as explained for each application below.

- A. Vinyl Wire and Cable, and Industrial Coated Fabrics - As an initial matter, vinyl resins used in the compounding step for wire and cable and industrial coated fabrics absorb MCCP/LCCP when those substances are added, such that the mix is a dry blend. Specially designed high porosity vinyl resins are used for these products and as a result, there are no liquid residuals in blending or compounding equipment. Furthermore, water is considered to be a contaminant in these operations, and as a result clean out using water is not practiced nor is it necessary. Liquid lines feeding compounding equipment are always blown back to the source package, e.g., tote or tank, so there is no loss of raw material. Any losses or releases would be negligible from this type of compounding operation, such that a 2% daily loss from clean out is entirely unrealistic.

- B. Upholstery – Vinyl resins used in the compounding step for upholstery are designed to be converted into a plastisol. High speed mixers are used to disperse the resin particles into the liquid. This equipment is typically not cleaned out after every batch. Rather, batches are sequenced so that the plastisol remnant in the equipment is compatible with next batch to be added to the mixer. On the rare occasions when clean out is performed, it is usually accomplished by rinsing the mixer with plasticizer, which is then collected and used in a wide-spec product. Under this type of operation, there would be little if any chlorinated paraffin loss and a 2% daily loss from clean out is entirely unrealistic.

⁷ 80 Fed. Reg. at 79,887.

⁸ See, e.g., EPA Initial Review Engineering Report for Premanufacture Notice (PMN) (August 8, 2012), Docket Document No. EPA-HQ-OPPT-2015-0789-0009 at 9–16.

- C. Delivery Container Clean Out – As mentioned above, liquid lines are typically blown back to the source container, once the addition of MCCP/LCCP is completed. The material returned to the source container is then used in the next batch. When a delivery container is empty, some facilities use a general plasticizer to rinse out the container, which is recovered for a wide-spec product as in the examples above. Other facilities will gravity drain out any remnant from the delivery container into a separate container for complete use of the delivered amount. These work practices are followed in order to minimize and practically eliminate any loss of the MCCP/LCCP from containers that leave the compounding facility. Where MCCP/LCCP deliveries are by rail car or bulk tanker truck, there are no empty delivery containers to dispose of.
- D. PVC Converting – Once compounded with PVC resins, release of MCCP or LCCP to the environment is very unlikely as the substance is bound in the PVC matrix through sorptive and coating characteristics of the resin particles. As EPA’s own engineering report states, “the PMN [substance] is entrained in pellet sized product” after compounding.⁹ Thus, any assumption of a release to water of MCCP/LCCP from “Use 2: PVC Converting” for PVC compound pellets or other form of PVC compound is inappropriate.

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VI appreciates the opportunity to submit these comments. Please contact me at if you have any questions.

Sincerely,

Richard P. Krock
Vice President, Regulatory and Technical Affairs
e-mail: rkrock@vinylinfo.org

⁹ See, e.g., *id.* at 15.