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January 20, 2026

Dr. Nancy Beck
Principal Deputy Assistant Administrator
Office of Chemical Safety and Pollution Prevention
Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, DC 20460–0001

Re: NRCA's Comments on Draft Risk Evaluation of 1,2-Dichloroethane (EDC) under TSCA (CASRN 107-06-2); EPA-HQ-OPPT-2018-0427

Dear Dr. Beck:

The National Roofing Contractors Association (NRCA) expresses our support for the positions developed by the Vinyl Institute's (VI) Ethylene Dichloride Consortium (Consortium) on the draft scope of the U.S. Toxic Substances Control Act (TSCA) risk evaluation for 1,2-dichloroethane (EDC).

Established in 1886, NRCA is one of the nation's oldest trade associations and the voice of roofing professionals worldwide. Our nearly 4,000 member companies represent all segments of the industry, including contractors, manufacturers, distributors, consultants, and other employers in all 50 states and internationally. NRCA members are typically small, privately held companies with the average member employing 45 people and attaining sales of $4.5 million per year. The U.S. roofing industry is an essential $100 billion sector with nearly one million employees that provides critical materials and services to ensure home and business safety.

EDC has historically been used as an industrial solvent and as an intermediate in the manufacture of polyvinyl chloride (PVC), which is a material utilized extensively in many construction applications due to its durability, versatility, and cost-effectiveness. EDC has been used in the roofing industry primarily as a solvent and processing aid, not as a structural ingredient of roofing materials themselves. While its role is mostly indirect and historical, it nevertheless is a critically important ingredient in numerous materials used within the roofing industry. From a roofing and building-envelope perspective, it is important that EPA's evaluation clearly distinguish between legacy uses and current manufacturing practices.

In addition, NRCA would also like to reinforce and support many of the comments provided by the VI Consortium. Based on our collective review of the draft risk evaluation, there remain several key technical issues that EPA must address in revising and finalizing this risk evaluation.

## Procedural Issues

EPA should have issued a revised human health hazard assessment for the draft risk evaluation so that commenters could better understand how EPA made its conclusions and effectively comment on those conclusions.

The EDC risk evaluation differs in important ways from prior risk evaluations, such that EPA should have convened the SACC to review the risk evaluation, provide feedback to EPA, and provide an additional opportunity for public input.

## Overly Conservative Assumptions in the EDC Human Health Risk Assessment

### *Occupational Exposures*

In assessing occupational exposures, EPA made pivotal decisions with respect to both inhalation and dermal pathways that impacted EPA's ultimate unreasonable risk determinations. Data from the EDC TSCA test order, which was facilitated by the VI Consortium, was used to characterize inhalation exposures for four of the 14 occupational exposure scenarios (OES) evaluated. EPA, however, used only the full-shift personal breathing zone samples in calculating risk estimates, even though the VI Consortium also provided both short-term and task length exposure potential data.

Additionally, EPA failed to use demographic data specific to the occupational setting to calculate acute, intermediate, and chronic (non-cancer and cancer) inhalation risks. As part of the information generated from the test order, the VI Consortium provided EPA with demographic data. EPA instead relied on Bureau of Labor Statistics population studies to estimate number of working years.

With respect to dermal exposure assessment, EPA relied on the dermal absorption fraction (0.3%) extracted from the LabCorp OECD 428 dermal absorption study submitted by the VI Consortium in response to the Test Order. This estimate represents an upper bound estimate of dermal absorption fraction, based on testing of neat EDC, that is unlikely to represent typical exposure conditions. The average absorption of neat EDC across the samples tested in the OECD 428 study is 0.18%. By relying on an upper bound estimate of absorption, EPA overestimates dermal absorption of EDC for most individuals.

Furthermore, the OECD 428 study provided additional information on dermal absorption fraction from solutions containing EDC (1%, 10%, 50% in various solvents). The absorption fraction increased with increasing EDC concentration. In spite of availability of concentration-dependent absorption fractions, EPA relied only on data for neat EDC, even for occupational exposure scenarios (OESs) where assumptions of EDC weight fraction included solutions with less than 100% EDC.

Taken together, these assumptions result in an unscientifically conservative estimate of dermal exposure that overestimates actual conditions and overestimates risk from the dermal exposure.

***The EDC Hazard and Dose Response Assessment***

The draft hazard and dose response assessment of EDC fails to reflect the best available science or the scientific weight of evidence. This is particularly apparent in EPA's selection of inhalation toxicity studies to characterize both chronic non-cancer and cancer dose response.

With respect to cancer, EPA continues to treat EDC as a non-threshold carcinogen, despite substantial scientific evidence to the contrary. The VI previously submitted comments to the Agency summarizing key studies on the mode of action of EDC carcinogenicity, including reference to a negative OECD 488 in vivo mutagenicity study conducted in transgenic rats. This study, supported by regulatory agencies and frameworks as a key study type to assess carcinogenicity and potential for thresholds, combined with other available literature regarding potential in vivo activity of EDC, including LeBaron, et al. (2021), and negative in vivo genotoxicity testing of EDC, support a threshold mode of action.

Even in the absence of identification of key events for the carcinogenicity for EDC, the current weight of evidence supports a threshold mode of action. The chronic benchmark, therefore, should be based on tumor formation, relying on BMCL10s derived based on Nagano, et al. (2006) combined with appropriate uncertainty factors. We estimate this approach would result in a change in acceptable benchmarks for EDC of at least 3-orders of magnitude (e.g. >1000-fold).

With respect to chronic non-cancer inhalation, EPA based the benchmark on the key effect of reduced sperm concentration observed in Zhang, et al. (2017). However, other studies were available to contribute to overall weight of evidence regarding reproductive toxicity, all negative, and specific studies evaluating sperm parameters were similarly negative. One of these studies, WIL Research (2015) included a companion pharmacokinetic evaluation to correlate exposures in drinking water to inhalation concentration (Sweeney and Gargas, 2016). This pharmacokinetic study suggested that the NOAEL for effects on sperm was at least an order of magnitude higher than the point of departure selected by the Agency based on Zhang, et al. (2017).

Relying on cancer as the key endpoint for chronic toxicity for EDC would likely utilize a point of departure that is protective of the effect identified for Zhang, et al. (2017), but with reduced uncertainty due to the chronic nature of testing under Nagano, et al. (2006).

**Overly Conservative Assumptions in the EDC Environmental Risk Assessment**

The environmental risk assessment conducted by EPA for EDC is similarly flawed, both as it relates to the hazard/dose response assessment and exposure assessment. EPA relied on both empirical data on EDC as well as read-across data from analogs to identify benchmarks for different species. EPA used four tools: AIM, OECD QSAR Toolbox, GenRA, and Cheminformatics Modules, to identify chemical analogs for read-across. EPA also developed a flowchart to assist with analog selection. Ultimately, EPA selected three analogs (1,1-dichloroethane, 1,2-dichloropropane, and 1,1,2-trichloroethane) to assess EDC's environmental hazard. Although the tools and framework used by EPA were appropriate, the process lacked transparency regarding tool settings and analog selection criteria. Moreover, a broader set of

analogs with similar properties and toxicity could have been considered, highlighting the need for clearer documentation and justification.

There are also significant flaws with the environmental exposure assessment, particularly as it relates to assumptions of releases to the environment and parameters used to predict environmental concentrations. These concerns are most striking in the estimates of releases to water representative of a storm event to characterize the manufacturing condition of use, coupling high release estimates with assumptions of very low (drought-like) water flow.

Reliance on more realistic estimates of releases (through facility data from years without major storm events) and/or more realistic estimates of water flow (such as from site-specific information) likely would reduce the predicted water concentrations by at least 500-fold and dramatically impact EPA's environmental risk determinations. Similarly, there are highly conservative and/or generic assumptions regarding releases and parameters around environmental modeling for all key pathways of exposure to the environment, including sediment and air, that could be improved with site-specific and/or more realistic, readily available data.

NRCA is long history of commitment to the safety of our workers, customers and other stakeholders within the roofing industry, whether it be in the area of fall protection and other worksite hazards as well as the need for clean air, clean water, and safe building materials. We also want commonsense regulations that take into consideration the scientific weight of evidence. We value the opportunity to partner with the EPA in this TSCA evaluation and strongly encourage the agency to use sound science and submitted data as noted above for informing the EDC risk evaluation.

Thank you for considering our organization's comments on this critical issue. If you have questions or need more information, please contact Brad Stine (BStine@nrca.net) in our Washington, D.C. office at (202) 400-2591.

Sincerely,

McKay Daniels
Chief Executive Officer
National Roofing Contractors Association