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Please see the attached comments.

July 14, 2023

Safer Products for WA
Hazardous Waste and Toxics Reduction Program
WA Department of Ecology
Olympia, WA 98504-7600

Submitted Electronically via Department of Ecology Public Comment Form

RE: CBC Comments on Draft Identification of Priority Chemicals Report to the Legislature: Safer Products for Washington Cycle 2, Implementation Phase 1

The American Chemistry Council Center for Biocide Chemistries (CBC)[1] appreciates the opportunity to provide comments on the Draft Identification of Priority Chemicals Report to the Legislature: Safer Products for Washington Cycle 2, Implementation Phase 1 (Draft Report). CBC reviewed the Draft Report from the perspective of registrants and formulators of antimicrobial pesticides (biocides).

Antimicrobial pesticides are subject to significant data requirements and regulatory review by the U.S. Environmental Protection Agency (U.S. EPA) and state regulatory agencies (including the Washington Department of Agriculture) before these products can be registered and sold. Antimicrobial pesticides (or biocides) are included in two of the proposed chemical classes: brominated and/or chlorinated substances and formaldehyde and formaldehyde releasers. While CBC offers specific comments on those proposed classes below, we encourage Ecology to rely upon the extensive evaluations of antimicrobial pesticides conducted by the U.S. EPA on the antimicrobial uses of these chemistries. EPA evaluates a robust set of data generated by registrants on the ecological and human health impacts of each chemistry for its registered uses and proposes mitigations, as necessary, to ensure that the pesticidal uses of these chemistries pose no unreasonable risk to human health or the environment.[2] [3]

CBC encourages Ecology to exclude the antimicrobial uses of those chemistries from the priority product categories. These uses are already extensively evaluated and addressed through federal and state regulations and decisions.

[1] ACC's Center for Biocide Chemistries represents 47 manufacturers and formulators of antimicrobial pesticides.
[2] See data requirements for registrants under FIFRA: https://www.epa.gov/pesticide-registration/data-requirements-pesticide-registration
[3] See summary of FIFRA: https://www.epa.gov/laws-regulations/summary-federal-insecticide-fungicide-and-rodenticide-act

I. Brominated and/or Chlorinated Substances

CBC has significant concerns with the proposed listing of brominated and/or chlorinated substances as a single chemical class. First, we note that Ecology's nomenclature for the class as "brominated and/or chlorinated substances" is misleading. The report defines the category as only those chemistries containing chlorine or bromine bonded to carbon. A more precise name for the chemistry class would include carbon or "organic" in the name of the class. Second, even with the more limiting class of only those chlorine and bromine-containing chemistries that are bonded to carbon, the chemistries included in this category are too diverse to be considered a single chemical class. The class is so broad and diverse that it is difficult for stakeholders to understand which chemistries would be included in this class, outside of those examples pointed to in the tables within the report, to provide meaningful comments. We are not aware of any other regulatory program that attempts to group these diverse chemistries into a single category.

Many of the generalizations made about the persistency, bioaccumulation potential, and toxicity of the "chlorinated and brominated chemistries class" are not broadly relevant to all the chemistries noted in Table 17, "data-rich brominated and/or chlorinated substances and their known and potential hazards." For example, in the discussion of structural similarities and shared hazards, the report notes that "the observed persistence of many chlorinated and brominated substances in the environment suggests this capacity is not sufficient to cope with the volume and complexity of these substances arising from anthropogenic sources. In general, chlorinated and/or brominated substances are not as easily degraded in the environment as chemicals that do not contain halogens." This is an over-broad generalization, when many of the chemistries listed do, in fact, degrade rapidly in the environment.

To further illustrate the broad generalizations made in the report, CBC reviewed Table 17 with a focus on those chemistries that function as U.S. Environmental Protection Agency-registered antimicrobials. We note that:

- **Folpet** is a dual use agricultural and antimicrobial pesticide. There are five end-use products (EUP) antimicrobial products that contain folpet and one manufacturing use (MUP) antimicrobial product. The EUPs are registered as industrial material preservatives in paints, coatings, adhesives, sealants, and various types of plastics. These products are not registered for use in toys, personal care items, or clothing.

  Both the U.S. EPA and the European Chemicals Agency (ECHA) recently evaluated the human health and ecological risks of folpet. While Ecology's report notes that the "chlorinated and brominated chemistries" are persistent and not easily degraded in the environment, folpet degrades rapidly and as ECHA notes, neither folpet nor its degradants (phthalimide (PI) and phthalic acid (PAL)) are considered to be persistent in the environment.[4]

[4] https://echa.europa.eu/documents/10162/cd49e424-c9c1-17ad-df43-2e1370f09280

Ecology makes the broad generalization that the chemistries in this "chlorinated and brominated chemistries" class "tend to accumulate in the fatty tissues of exposed organisms," EPA found no terrestrial or aquatic risks to species identified from the antimicrobial uses of folpet after examining significant data on acute and chronic toxicity for non-target organisms. ECHA notes, "Toxicity data are available that show that the metabolites of folpet are several orders of magnitude less acutely toxic to fish and invertebrates (which are both much more sensitive than algae) than the parent compound and it would be reasonable to expect that the metabolites are also substantially less toxic to aquatic biota than folpet following long-term exposure."[5]

CBC urges Ecology to exclude folpet from this class, noting it does not meet the characteristics identified in the structural similarities and shared hazards.

- **Methylchloroisothiazolinone** (CMIT) is an EPA-registered antimicrobial pesticide that is used in ppm quantities to preserve product or system integrity or as a disinfectant in a variety of applications. CMIT, in its evaluation by regulatory authorities, such as U.S. EPA and ECHA, is typically grouped with the related isothiazolinone compounds, not other chlorinated and brominated chemistries. Its general use and hazard/risk profile is more similar to isothiazolinones than the organic chlorinated and brominated chemistries listed in table 17.

  EPA is still completing its proposed interim decision on the class of isothiazolinones, which may include mitigations to address any human health and/or ecological concerns identified in antimicrobial pesticide applications. CMIT is not considered environmentally persistent by EPA or ECHA[6][7]. CMIT does not share similarities in hazards with the other organic chlorinated and brominated chemistries noted in the Draft Report.

  CBC urges Ecology to exclude CMIT from this class, noting that this compound does not meet the criteria for inclusion.

- There are many other brominated and chlorinated antimicrobial pesticides that may fall into this class of chemistry though they do not fit the structural similarities or use profiles discussed in the Draft Report. These include some brominated biocides, including **halohydantoins**, that can be used as critical water disinfectants. As with Folpet and CMIT, EPA recently evaluated halohydantoins and noted the substances are not

[5] IBID, 28.
[6] "Regarding persistency DCOIT rapidly biodegrades primarily in aquatic simulation tests with a half-life of 1.6 days in surface water at 12°C. None of the major metabolites can be considered persistent." http://dissemination.echa.europa.eu/Biocides/ActiveSubstances/0022-21/0022-21_Assessment_Report.pdf
[7] "In the environment, C(M)IT and MIT rapidly dissipate to compounds which are in turn quickly biodegraded, indicating that persistence in the environment should be minimal." https://echa.europa.eu/documents/10162/876cd394-8bf9-ad59-ba68-d1cf3f04033d

persistent or bioaccumulative.[8] Haloydantoins rapidly degrade and their degradants, DMH or EMH, are "practically non-toxic and thus pose minimal risks to nontarget organisms."[9] CBC urges Ecology to exclude organic brominated biocides from this class of chemistry.

Should Ecology move forward with the recommendation to include chlorinated and brominated chemistries as a class of priority chemicals, Ecology must be more specific in which chemicals fit the criteria to be included in this class. The structural similarities and shared hazards are not broadly applicable across all organic chlorinated and brominated substances and the use patterns and properties of these chemistries are too varied to be lumped into a single chemical class for consideration.

II. Formaldehyde and Formaldehyde Releasers

CBC supports the comments provided on formaldehyde submitted by the American Chemistry Council Formaldehyde Panel. Additionally, CBC has significant concerns with the proposed class of formaldehyde and formaldehyde releasers.

Ecology relies on its information presented on the hazards of formaldehyde to justify the inclusion of the broad proposed class of formaldehyde releasers as part of the proposed priority product class. This is inappropriate as these chemistries only release a finite amount of formaldehyde under specific conditions. The level of formaldehyde released varies by chemistry and application, posing vastly different hazards and potential human health and ecological impacts. CBC strongly encourages Ecology to consider these differences, should it move forward with formaldehyde and formaldehyde releasers as a priority chemical class.

Further, **bronopol** should not be considered a formaldehyde releaser. As noted by the EU, "The activity of bronopol is actually not dependent on formaldehyde release but in microbial cells is mostly based on the reaction of the bronopol molecule with thiol groups and by the formation of oxygen radicals." Due to this mode of action, it was agreed that bronopol was excluded from the group of FA releasers.[10] Although formation of formaldehyde following degradation of bronopol is stoichiometrically possible, in practice existence of formaldehyde is many orders of magnitude lower and transitory, since any formaldehyde formed following break-down of bronopol is rapidly converted to methanediol, paraformaldehyde or any number of intermediate reservoirs as determined by the composition into which bronopol was added (second order reactions). Formaldehyde emission studies are being conducted for the Bronopol Task Force (BTF) to substantiate this concept. Preliminary results show that formaldehyde release from an applied surface coating initially containing 500 ppm of bronopol (which was later verified to be completely degraded) was below 5 ppb up to 24 hours post application, and below the

[8] EPA-HQ-OPP-2013-0220 Halohydantoins Interim Registration Review Decision and Risk Assessment
[9] EPA-HQ-OPP-2013-0220 Halohydantoins Interim Registration Review Decision and Risk Assessment
[10] European Chemicals Agency. (2017, March 15). Investigation report -Formaldehyde and Formaldehyde Releasers. https://echa.europa.eu/documents/10162/13641/annex_xv_report_formaldehyde_en.pdf/58be2f0a-7ca7-264d-a594-da5051a1c74b

quantifiable limit at 48 hours post-application. This represents a maximum of 0.0033% of the theoretical maximum formaldehyde that could be released.

CBC urges Ecology to remove bronopol from the proposed class of formaldehyde and formaldehyde releasers.

Should Ecology move forward with formaldehyde and formaldehyde releases are a priority class, we urge Ecology to consider that EPA is currently evaluating the pesticidal uses of formaldehyde and formaldehyde donor chemistries as part of the Registration Review process under its Federal Insecticide Fungicide and Rodenticide Act (FIFRA) obligations. As part of this review, EPA is conducting a risk assessment and may pose risk management mitigations to address any unreasonable risk posed to human health or the environment by these chemistries.

As noted above, we strongly encourage Ecology to exclude the EPA-registered uses of these antimicrobial chemistries from the scope of its Safer Products Program and the Draft Report. These chemical classes are overly broad and capture distinct chemistries that do not share similar hazard profiles or use patterns.

CBC appreciates your consideration of our comments. Please contact me with any questions (202-249-6505; Anastasia_Swearingen@americanchemistry.com).

Sincerely,

Anastasia Swearingen
Executive Director
ACC Center for Biocide Chemistries