

201-14066

November 11, 2002

By Mail

Christine Todd Whitman, Administrator
US EPA
PO Box 1473
Merrifield, VA 22116

Attn: Chemical Right-to-Know Program – Test Plan Submission from HERTG
Registration Number

Dear Administrator Whitman:

The American Chemistry Council Petroleum Additives Panel (Panel) Health, Environmental, and Regulatory Task Group (HERTG) submits for review and public comment its test plan report, as well as related robust summaries, for the “*Zinc Dialkyldithiophosphate*” category of chemicals under the Environmental Protection Agency’s High Production Volume (HPV) Chemical Challenge Program. The HERTG understands that there will be a 120-day review period for the test plan report and that all comments generated by or provided to EPA will be forwarded to the HERTG for consideration.

The zinc dialkyldithiophosphates in this category, which are used as petroleum lubricant additives, are characterized by having structural similarities and limited reactivity, low biological activity, and limited water solubility. Based upon the data reviewed in the attached report, the HERTG concludes that the physicochemical and toxicological properties of the proposed zinc dialkyldithiophosphate category members are similar and follow a regular pattern as a result of structural similarity. Thus, HERTG believes these twelve chemicals meet the EPA definition of a chemical category and will test them in accordance with the test plan summarized in the attached report. The twelve chemicals in the zinc dialkyldithiophosphate category are as follows:

- Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-propyl) esters, zinc salts – (CAS # 84605-29-8), referred to as “mixed isopropyl and 1,3-dimethylbutyl derivative”
- Phosphorodithioic acid, mixed O,O-bis(iso-butyl and pentyl) esters, zinc salts – (CAS # 68457-79-4), referred to as “mixed isobutyl and pentyl derivative”
- Phosphorodithioic acid, mixed O,O-bis(sec-butyl and 1,3-dimethylbutyl) esters, zinc salts – (CAS # 68784-31-6), referred to as “mixed sec-butyl and 1,3-dimethylbutyl derivative”
- Phosphorodithioic acid, mixed O,O-bis(sec-butyl and isooctyl) esters, zinc salts – (CAS # 113706-15-3), referred to as “mixed sec-butyl and isooctyl derivative”
- Phosphorodithioic acid, O-(2-ethylhexyl) O-isobutyl ester, zinc salt – (CAS # 26566-95-0), referred to as “mixed isobutyl and 2-ethylhexyl derivative”

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- Phosphorodithioic acid, mixed O,O-bis(iso-butyl and isooctyl and pentyl) esters, zinc salts – (CAS # 68988-46-5), referred to as “mixed isobutyl, pentyl and isooctyl derivative”
- Phosphorodithioic acid, O,O-bis(1,3-dimethylbutyl) ester, zinc salt – (CAS # 2215-35-2), referred to as “1,3-dimethylbutyl derivative”
- Phosphorodithioic acid, O,O-bis(2-ethylhexyl) ester, zinc salt – (CAS# 4259-15-8), referred to as “2-ethylhexyl derivative”
- Phosphorodithioic acid, O,O-bis(isooctyl) ester, zinc salt – (CAS# 28629-66-5), referred to as “isooctyl derivative”
- Phosphorodithioic acid, O,O-diisodecyl ester, zinc salt – (CAS # 25103-54-2), referred to as “diisodecyl derivative”
- Phenol, dodecyl-, hydrogen phosphorodithioate, zinc salt – (CAS # 54261-67-5), referred to as “dodecylphenol derivative”
- Phenol, tetrapropenyl-, hydrogen phosphorodithioate, zinc salt – (CAS # 11059-65-7), referred to as, “tetrapropenylphenol derivative”.

Briefly, the test plan for the HERTG zinc dialkyldithiophosphate category includes the following tests and computer modeling:

- Water solubility – The solubility of the mixed isopropyl and 1,3-dimethyl derivative (CAS# 84605-29-8), 2-ethylhexyl derivative (CAS # 4295-15-8) and the tetrapropenylphenol derivative (CAS# 11059-65-7) will be measured. Results will be bridged to other members of the category.
- Photodegradation– UV absorption data will be collected on the mixed isopropyl and 1,3-dimethyl derivative (CAS# 84605-29-8) and the isooctyl derivative (CAS# 28629-66-5) to determine whether there is a potential for direct photodegradation.
- Fugacity modeling – Environmental partitioning data for members of this category will be calculated using a Mackay Level I equilibrium partitioning model and provided in robust summaries.
- Acute fish toxicity – Tests will be conducted on mixed isopropyl and 1,3-dimethylbutyl derivative (CAS# 84605-29-8), 2-ethylhexyl derivative (CAS# 4259-15-8), and tetrapropenylphenol derivative (CAS# 11059-65-7). Results will be bridged to other members of the category.
- Acute invertebrate toxicity – Tests will be conducted on mixed isopropyl and 1,3-dimethylbutyl derivative (CAS# 84605-29-8), 2-ethylhexyl derivative (CAS# 4259-15-8), and tetrapropenylphenol derivative (CAS# 11059-65-7). Results will be bridged to other members of the category.
- Alga toxicity - Tests will be conducted on mixed isopropyl and 1,3-dimethylbutyl derivative (CAS# 84605-29-8), 2-ethylhexyl derivative (CAS# 4259-15-8), and tetrapropenylphenol derivative (CAS# 11059-65-7). Results will be bridged to other members of the category.

As HERTG developed this test plan, HERTG considered carefully and tried to limit how many animals might be required for tests included in the proposed plan and conditions to

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which the animals might be exposed. As noted above, a minimal amount of animal testing is proposed. The HERTG believes that the concerns of some non-governmental organizations about animal welfare have been fully considered and that use of animals in this proposed test plan has been minimized.

Thank you in advance for your attention to this matter. If you have any questions regarding the test plan report or the robust summaries, or HERTG's activities associated with the Challenge Program, please contact Sarah McLallen at 703-741-5607 (telephone), 703-741-6091 (telefax) or Sarah_McLallen@americanchemistry.com (e-mail).

Sincerely yours,

Courtney M. Price
Vice President, CHEMSTAR

cc: HERTG members