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OPP Docket
Environmental Protection Agency
Docket Center (EPA/DC), (28221T)
1200 Pennsylvania Ave. NW
Washington, DC 20460-0001

July 12, 2019

Attention: EPA-HQ-OPP-2013-0726

Re: Registration Review: Draft Human Health and/or Ecological Risk Assessments for Several Pesticides (2,4-DP-p)

Dear Ms. Friedman:

On May 13, 2019, EPA released for public review draft human health, occupational and residential exposure, dietary, ecological, and drinking water risk assessments for 2,4-DP-p.[1] The Attorney General of California and the San Francisco Bay Regional Water Quality Control Board have reviewed the draft risk assessments for 2,4-DP-p and jointly submit these comments to the regulatory docket.

The draft risk assessments fail to adequately analyze 2,4-DP-p's human health and environmental impacts as required by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Three flaws in particular stand out. First, the draft risk assessments do not consider the cumulative risks of 2,4-DP-p and pesticides that share common degradants such as 2,4-D. Second, EPA did not model the effects of impervious surface runoff. Third, EPA proposes to move registration review forward despite significant gaps in the data it received. EPA should revise the risk assessments to address these issues and recirculate them for further public comment.

I. Pesticide Registration under FIFRA

All pesticides must receive regulatory approval before their use.[2] EPA registers pesticides pursuant to FIFRA, which includes several registration requirements. Most relevant here, EPA cannot register a pesticide unless it determines that the pesticide "will perform its intended function without unreasonable adverse effects on the environment," and that "when used in accordance with widespread and commonly recognized practice it will not generally cause unreasonable adverse effects on the environment."[3] These requirements are crucial to ensure that pesticides do not unreasonably harm public health or the environment.

[1] EPA-HQ-OPP-2013-0726-0020, -0021, -0023, -0024, -0025.
[2] 7 U.S.C. § 136a(a).
[3] 7 U.S.C. § 136a(c)(5)(C)-(D).

EPA must reevaluate pesticide registrations every 15 years.[4] As part of registration review, EPA may notify pesticide registrants of additional data needed to maintain the registration.[5] If a registrant fails to take appropriate steps to secure the required data, EPA may issue a notice of intent to suspend the registration.[6] Also prior to re-registering a pesticide, EPA releases updated risk assessments evaluating the pesticide's impacts on public health and the environment.[7] These documents form the basis for EPA's analysis of whether the pesticide will cause unreasonable adverse effects on the environment.

II. The Draft Risk Assessments Fail to Adequately Consider Cumulative Impacts.

EPA's draft risk assessments do not sufficiently evaluate 2,4-DP-p's human health and environmental impacts. Significantly, the risk assessments fail to analyze the cumulative impacts of exposure to 2,4-DP-p and related pesticides. 2,4-DP-p is an herbicide used for controlling certain types of weeds in residential and commercial grass, on golf courses, and on uncultivated areas such as roadsides, sidewalks, and rights-of-way. It belongs to a group of highly similar compounds, including 2,4-D and 2,4-DB. These closely-related herbicides share common degradants, such as 2,4-DCP. 2,4-DCP and its parent compounds thus may co-occur in water and other environmental settings that are exposed to more than one of these related pesticides. Together, 2,4-DP-p and its relatives present similar human health and environmental risks.

Consequently, to fully measure 2,4-DP-p's environmental impacts, EPA must consider 2,4-DP-p's effects cumulatively with other pesticides. EPA acknowledges this fact when setting pesticide residue tolerances on food, as its guidance requires it to consider cumulative risks from shared mechanisms of toxicity (i.e., where chemicals cause toxicity by similar pathways).[8] Yet, EPA ignores the same issue here. Despite 2,4-DP-p's shared mechanism of toxicity with 2,4-D and other similar pesticides, the draft risk assessments do not attempt to measure the cumulative risks of exposure to 2,4-DP-p along with other related pesticides.

EPA's failure to consider 2,4-DP-p's cumulative impacts infects all of the draft risk assessments. Over a million pounds of 2,4-D and other pesticides related to 2,4-DP-p were sold in California in 2018,[9] and monitoring data reveals that these pesticides are found in a majority of California waters sampled.[10] Because 2,4-DP-p is applied less often than 2,4-D, EPA's

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[4] 40 C.F.R. § 155.40(a).
[5] 7 U.S.C. § 136a(c)(2)(B).
[6] *Id*.
[7] 40 C.F.R. § 155.53.
[8] *See* Pesticide Cumulative Risk Assessment: Framework for Screening Analysis Purpose, EPA-HQ-OPP-2015-0422-0019; *see also* 21 U.S.C. § 346a(b)(2)(D)(v) (requiring EPA to consider cumulative risks when setting pesticide residue tolerances on food).
[9] California Department of Pesticide Regulation, Reports of Pesticide Sold in California, 2018 Pounds Sold listed by Chemical Name, *available at* https://www.cdpr.ca.gov/docs/mill/nopdsold.htm.
[10] Ensminger, M., *Ambient Monitoring in Urban Areas in Northern California for FY 2016-17*, Study Number 299 at 4 (2017), *available at*

conclusions rely on assumptions that humans and the environment will be exposed only to a small amount of 2,4-DP-p, its degradants, and related compounds. Analyzing 2,4-DP-p's incremental impacts in isolation therefore severely underestimates its overall adverse effects.

A comprehensive understanding of 2,4-DP-p's cumulative effects is especially paramount given the controversial evidence that 2,4-D could act as a carcinogen in humans.[11] At minimum, the draft risk assessments must consider the cumulative risks of exposure to 2,4-DP-p and all related compounds. However, to fully evaluate whether 2,4-DP-p will adversely affect the environment, EPA should consider the cumulative impacts of *all* pesticides that may have additive toxicities to 2,4-DP-p.

III. The Draft Risk Assessments Do Not Model Impervious Surface Runoff.

The draft risk assessments also fail to model the effects of impervious surface runoff. Impervious surface runoff occurs when a pesticide is sprayed on a surface like a sidewalk or road, and then reaches the water system by runoff into a storm drain or body of water. In the San Francisco Bay Regional Water Quality Control Board's experience, impervious surface runoff is the primary way that pesticides contaminate water systems in urban areas. This is especially likely to be true of 2,4-DP-p, which is often sprayed in sidewalk cracks or adjacent to roads to eliminate weeds. Furthermore, 2,4-DP-p has relatively high water solubility and can easily runoff into surface waters. Indeed, in 2016-17 California Department of Pesticide Regulation studies, 2,4-DP-p's relative, 2,4-D, was the most frequently detected herbicide in urban waterways across Northern California (82% of samples)[12] and the second-most detected herbicide in Southern California urban waterways (61% of samples).[13]

However, the draft risk assessments fail to model impervious surface runoff. The other scenarios modeled by EPA, including spray drift to aquatic environments and turf applications, do not account for this significant pathway for 2,4-DP-p to reach surface water. They therefore cannot account for human or environmental exposure to 2,4-DP-p resulting from runoff into

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https://www.cdpr.ca.gov/docs/emon/pubs/ehapreps/report_299_fy16-17.pdf; Budd, R., *Urban Monitoring in Southern California Watersheds FY 2015-2016*, Study Number 270 at 3 (2016), *available at* https://www.cdpr.ca.gov/docs/emon/pubs/ehapreps/report_270_budd_fy_15_16.pdf; DaSilva, A., *Surface Water Monitoring for Pesticides in Agricultural Areas of Northern California*, Study Number 306 at 2 (2016), *available at* https://www.cdpr.ca.gov/docs/emon/pubs/ehapreps/report_306_dasilva.pdf.

[11] World Health Organization, International Agency for Research on Cancer, Monographs on the Evaluation of Carcinogenic Risks to Humans: DDT, Lindane, and 2,4-D, at 477–80 (2018), a*vailable at* https://monographs.iarc.fr/wp-content/uploads/2018/07/mono113.pdf (reviewing the evidence in great detail and concluding that 2,4-D "is possibly carcinogenic to humans").

[12] Ensminger, M., *Ambient Monitoring in Urban Areas in Northern California for FY 2016-17*, Study Number 299 at 4 (2017), *available at* https://www.cdpr.ca.gov/docs/emon/pubs/ehapreps/report_299_fy16-17.pdf.

[13] Budd, R., *Urban Monitoring in Southern California Watersheds FY 2015-2016*, Study Number 270 at 3 (2016), *available at* https://www.cdpr.ca.gov/docs/emon/pubs/ehapreps/report_270_budd_fy_15_16.pdf.

water systems. As impervious surface runoff is a major—and perhaps even the primary—route of general public and environmental exposure to 2,4-DP-p, its omission means that the draft risk assessments inadequately consider the herbicide's adverse environmental impacts. Accordingly, EPA must revise the draft risk assessments to include impervious surface runoff modeling.

IV. The Draft Risk Assessments Suffer From Significant Data Gaps.

Finally, the California Attorney General and San Francisco Bay Regional Water Quality Control Board object to EPA moving 2,4-DP-p's registration review forward without addressing significant gaps in toxicity data. In the data call, EPA required the registrants to submit 21 ecotoxicological studies to secure continued registration.[14] Of those 21 studies, only 14 were submitted.[15] Seven studies—a full third of those requested—were either not performed or withheld from EPA.[16] As mentioned above, 7 U.S.C. § 136a(c)(2)(B) requires registrants to heed EPA's data calls. If registrants do not submit the required studies, EPA may suspend the pesticide registration.[17] Here, however, EPA proposes to continue toward re-registration despite the significant data gaps.

The seven studies missing from EPA's data set are significant omissions. Five of the missing studies relate to 2,4-DP-p's effects on pollinators. Bees are a keystone species in ecosystems throughout California, and they play a critical role in pollinating many of the crops grown by California's world-renowned farmers. During this registration review, only one new study of 2,4-DP-p's effects on bees was submitted, and it showed that 2,4-DP-p is acutely toxic to larval honeybees.[18] Prior studies showing that the related herbicide, 2,4-D, harms bees are further cause for concern.[19] The registrant's omission of five required studies of 2,4-DP-p's effects on pollinators—especially in light of the one new study showing toxicity—results in a gaping hole in EPA and public knowledge of 2,4-DP-p's environmental impacts.

The other two studies that the registrant failed to submit relate to salt-water invertebrates and salt-water fish. In addition to species along California's vast coastline, these studies would evaluate impacts to species in California's numerous estuarial systems like the San Francisco Bay-Delta. Without the results of these and the pollinator studies, EPA cannot adequately measure 2,4-DP-p's environmental effects or conclude that 2,4-DP-p is safe.

Lastly, EPA's practice of registering pesticides based on partial safety data not only jeopardizes public and environmental health, but it also creates perverse incentives for pesticide

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[14] Draft Ecological Risk Assessment for Registration Review, EPA-HQ-OPP-2013-0726-0024, at 7.
[15] *Id*.
[16] *Id*.
[17] 7 U.S.C. § 136a(c)(2)(B).
[18] Draft Ecological Risk Assessment for Registration Review, EPA-HQ-OPP-2013-0726-0024, at 29 (noting acute exposure risks to honeybee larvae).
[19] *See, e.g.*, Morton and Moffett, *Ovicidal and Larvicidal Effects of Certain Herbicides on Honey Bees*, Environmental Entomology vol. 1, no. 5 at 611-14 (1972); Almer-Jones, *Effect on honey bees of 2,4-D*, New Zealand Journal of Agricultural Research, 7:3, 339-42 (1964).

registrants. If a registrant expects a study to show dangers to a pesticide that would support restrictions or registration denial, it can simply not perform the study. And if a study indicates that a pesticide may be dangerous, EPA's failure to require the data to actually be submitted incentivizes the registrant to withhold the study's results. These outcomes are not only contrary to FIFRA, they are unacceptable as a matter of public health and environmental policy.[20]

V. Conclusion

The California Attorney General's Office is committed to protecting all Californians' health and preserving California's exceptional natural resources. Similarly, the San Francisco Bay Regional Water Quality Control Board's mission is to maintain water quality to safeguard public health and the environment within its jurisdiction. For the reasons discussed above, the draft risk assessments for 2,4-DP-p fall short of demonstrating that 2,4-DP-p "will not generally cause unreasonable adverse effects on the environment" "when used in accordance with widespread and commonly recognized practice."[21] The Attorney General of California and San Francisco Bay Regional Water Quality Control Board thus urge EPA to revise the draft risk assessments to correct the issues identified in this comment and recirculate the revised risk assessments for further public comment.

Sincerely,

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[20] *See* 7 U.S.C. § 136a(c)(2)(B).
[21] 7 U.S.C. § 136a(c)(5).