



August 4, 2020

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**SUBJECT: U.S. ENVIRONMENTAL PROTECTION AGENCY PESTICIDE
REGISTRATION REVIEW; DRAFT ECOLOGICAL RISK ASSESSMENT FOR FIPRONIL
(EPA-HQ-OPP-2011-0448-0071)**

The purpose of this letter is to provide the United States Environmental Protection Agency (U.S. EPA) feedback on the draft Ecological Risk Assessment (ERA) for Registration Review of fipronil (EPA-HQ-OPP-2011-0448-0071). The California Department of Pesticide Regulation (CDPR) has conducted a comprehensive and detailed review of the fipronil ERA. In California, fipronil is only registered for use in urban structural pest control, baits, and pet products. Therefore, CDPR's review does not address agricultural use scenarios. CDPR generally agrees with U.S. EPA's conclusions that the registered uses of fipronil may lead to exposure of non-target aquatic organisms to fipronil and its degradates and result in adverse effects to the survival, growth, and reproduction of these organisms. However, we believe the associated ecological risks are greatly underestimated due to certain omissions in the risk characterization.

In 2017, CDPR, registrants, and U.S. EPA worked together to add California Use Restrictions on all California registered labels for fipronil-containing structural control products to address the potential risk to non-target aquatic organisms. CDPR developed mitigation measures based on robust modeling efforts to characterize the offsite transport of fipronil associated with specific application practices. The efficacy of application restrictions were confirmed with subsequent field trials (Budd and Luo, 2016, Budd et al., 2017). Use restrictions in place include (a) only applying 0.03% finished dilution, (b) no application to garage door or driveway, (c) only applying bandwidth 6 inches up and out from foundation, and (d) no applications allowed during rainy season (November 1st to February 28th). We believe the scientific approach to the modeling scenarios and results of field trials may be of use to U.S. EPA as it considers ecological risk and subsequent mitigation solutions (Budd and Luo, 2016, Budd et al., 2017).

Specific to the U.S. EPA ERA, we provide the following recommendations.

1. We recommend inclusion of pet products (e.g., spot-on, shampoos) in down-the-drain modeling scenarios for fipronil and all future risk characterizations where pet products are involved. CDPR has previously commented on the omission of pet products in U.S.

EPA's pyrethroids and imidacloprid ERA. The current ERA does not consider pet products and the resulting down-the-drain transport stating that pet products are unlikely to result in appreciable exposure to the environment (p. 5). In a more recent risk determination, the proposed interim decisions for pyrethroids, U.S. EPA has acknowledged the potential for down-the-drain transport but has not yet provided mitigation to address. Pet uses (mainly spot-on products) result in down-the-drain transport of fipronil to wastewater treatment plants and eventually to surface waters (Sadaria et al., 2017). Fipronil residues have been measured from routine bathing of treated pets up to 28-d post application (Teerlink et al., 2017). Fipronil-containing spot-on treatments are a confirmed source entering wastewater, and fipronil and degradates are frequently detected in treated wastewater at concentrations of toxicological concern to non-target aquatic organisms (Sutton et al., 2018). CDPR believes it is of vital importance to include pet uses in any ERA with down-the-drain concerns.

2. We recommend including rainy season applications to better characterize EECs. In the current urban/residential perimeter treatment modeling scenario, U.S. EPA simply assumes the application occurs on March 1st or April 1st (p. 34, Section 8.1.1 Modeling). The model uses California weather data, and thus the scenario only represents dry season applications without consideration of rainy season (i.e., from November to February in California). The exclusion of rainy season applications likely leads to an underestimation of EECs. CDPR modeling to support California Use Restrictions shows fipronil applications for all 12 months, using the 1st day of each month as application date. Model results indicate that applications during the rainy season likely result in higher risks to aquatic organisms (Budd and Luo, 2016, Budd et al., 2017).
3. The ERA does not clearly show how the impervious surface is modeled in the use scenario of building perimeter treatment for fire ants. Footnote E of Table 8-3 (p. 38) indicates that the model assumed 1% impervious surface and 9.95% pervious area in the watershed, and that the simulated EECs were post-processed by adjusting for these percentages. There is no further explanation of how the assumption of 1% impervious surface was made and how the post-processing worked. A clarification is necessary for readers to follow the modeling process.
4. CDPR recommends U.S. EPA use the most recent monitoring data available. The data cited in the ERA from CDPR's SURF database were from 2008–2013. CDPR's fipronil

Darius Stanton
August 4, 2020
Page 3

monitoring in urban waterways is a continuous, ongoing effort and the data is updated annually (SURF, available at <https://www.cdpr.ca.gov/docs/emon/surfwtr/surfddata.htm>).

5. There is a typo on p. 11, Section 2 Introduction. The reference for additional information on listed species is missing.
6. There is an error in Table 8-3 (p. 38). EECs for 21-day, 60-day water column and 1-day pore water were printed incorrectly.

CDPR anticipates that these comments will strengthen the scientific integrity of the fipronil ERA and improve the clarity of the report. A comprehensive ecological risk assessment is essential to accurately identifying the risks from fipronil use. We appreciate the opportunity to comment. If you have any questions, please contact Jennifer Teerlink of my staff by phone 916-445-3195 or email Jennifer.Teerlink@cdpr.ca.gov.

Sincerely,


Edgar Vidrio (Aug 5, 2020 10:53 PDT)

Edgar Vidrio, Chief
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References:

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- Budd, R., Y. Luo and N. Singhasemanon. 2017. Addendum: Evaluation of Alternative Fipronil Use Scenarios: Modeling Results, Runoff Trials, and Product Efficacy (https://www.cdpr.ca.gov/docs/emon/pubs/ehapreps/analysis_memos/fipronil_addendum_6-26-17_update.pdf). California Department of Pesticide Regulation, Sacramento, CA.
- Sadaria, A., Sutton, R., Moran, K., Teerlink, J., Brown, J., and R. Halden. 2017. Passage of fiproles and imidacloprid from urban pest control uses through wastewater treatment plants in Northern California, USA. *Environmental Toxicology and Chemistry*, 36(6): 1473-1482.
- Sutton, R., Y. Xie, K.D. Moran and J. Teerlink. 2018. Occurrence and Sources of Pesticides to Urban Wastewater and the Environment. *Pesticides in Surface Water: Monitoring, Modeling, Risk Assessment, and Management*. ACS Symposium Series, American Chemical Society: Washington, DC, Vol. 1308. Chapter 5.
- Teerlink, J., J. Hernandez and R. Budd. 2017. Fipronil washoff to municipal wastewater from dogs treated with spot-on products. *Sci. Total Environ.* 599: 960-966.