



Department of Pesticide Regulation



Brian R. Leahy
Director

MEMORANDUM

Edmund G. Brown Jr.
Governor

TO: Dr. Marylou Verder-Carlos
Assistant Director
Pesticide Programs Division

FROM: Lisa Ross, Ph.D. *[Original signed by L. Ross]*
Environmental Program Manager II
Chief, Worker Health and Safety Branch
(916) 324-4116

DATE: December 7, 2015

SUBJECT: COMPLETION OF HYDRAMETHYLNON MITIGATION

The attached memorandum from the Worker Health and Safety Branch describes our findings in regards to the need for mitigation of hydramethylnon exposures. In January 2004, the Department of Pesticide Regulation (DPR) completed a Risk Characterization Document (RCD) for hydramethylnon (Lim 2004). The RCD did not identify any exposure scenarios of concern.

In 2003, the EPA approved a residue tolerance for hydramethylnon on pineapple. DPR subsequently issued a Risk Management Directive (RMD) requesting that staff base future scientific evaluations on the dietary exposure limits identified in the RCD (Gosselin 2004). From 2009-2012, approximately 3,400 produce samples were analyzed for hydramethylnon by the Federal Food and Drug Administration's (FDA) residue monitoring program. The FDA detected hydramethylnon once, in 2009, on Chinese cabbage. Hydramethylnon is not tested for by California's residue monitoring program. On November 15, 2015, DPR's Human Health Assessment Branch evaluated the FDA's trace detection (<10 parts per billion) of hydramethylnon on Chinese cabbage and determined it was not at a level which would cause a human health concern (Duncan 2015).

Based on DPR's 2004 RCD, and the fact that hydramethylnon has only been detected once at a level not of concern to human health, I conclude there are no mitigation measures needed for the use of hydramethylnon in California at this time. We will continue to monitor pesticide residues on produce and evaluate any future detections that arise.

cc: Kevin Solari, Environmental Program Manager I
Leslie Crowl, Environmental Scientist

Attachment

APPROVAL

[Original signed by M. Verder-Carlos]
Marylou Verder-Carlos, Assistant Director

December 8, 2015
Date





Department of Pesticide Regulation



Brian R. Leahy
Director

MEMORANDUM

Edmund G. Brown Jr.
Governor

TO: Lisa Ross, Ph.D.
Environmental Program Manager II
Chief, Worker Health and Safety Branch

Via: Kevin Solari *[Original signed by K. Solari]*
Environmental Program Manager I (Supervisory)
Worker Health and Safety Branch

FROM: Leslie Crowl *[Original signed by L. Crowl]*
Environmental Scientist
Worker Health and Safety Branch
(916) 445-4201

DATE: December 7, 2015

SUBJECT HYDRAMETHYLNON MITIGATION
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Summary

This memorandum presents the facts that support a determination that no additional mitigation measures are needed for the insecticide hydramethylnon. In January 2004, the Department of Pesticide Regulation (DPR) completed a Risk Characterization Document (RCD) for hydramethylnon (Lim 2004). The RCD did not identify any exposure scenarios of concern. In 2003, the EPA approved a residue tolerance for hydramethylnon on pineapple. DPR subsequently issued a Risk Management Directive (RMD) requesting that staff base future scientific evaluations on the dietary exposure limits identified in the RCD (Gosselin 2004). From 2009-2012, approximately 3,400 produce samples were analyzed for hydramethylnon by the Federal Food and Drug Administration's (FDA) residue monitoring program. The FDA detected hydramethylnon once, in 2009, on Chinese cabbage. Hydramethylnon is not tested for by California's residue monitoring program. DPR's Human Health Assessment Branch evaluated the FDA's trace detection (<10 parts per billion) of hydramethylnon on Chinese cabbage and determined it was not at a level which would cause a human health concern (Duncan 2015). Based on DPR's 2004 RCD, and the fact that hydramethylnon has only been detected once at a level not of concern to human health, I conclude there are no mitigation measures needed for the use of hydramethylnon in California.

Hydramethylnon Classification and Usage

Hydramethylnon is a Category III (Caution) pesticide covered under Proposition 65 due to evidence of reproductive toxicity. Hydramethylnon is a slow-acting stomach-toxicant insecticide registered for use against ants, cockroaches, crickets, earwigs, silverfish, and termites. Its formulations include: granules, pellets, gels, impregnated or dry materials, and child proof bait stations (Lim 2004). Hydramethylnon is registered for use in and around domestic dwellings and



commercial establishments. Its outdoor use is restricted to broadcast applications, granular formulations to the soil, or bait stations and its indoor use is restricted to crack and crevice treatments or bait stations in areas inaccessible to children or pets. However, its products are primarily used across the United States in: non-crop lands such as lawns, turf, and non-bearing nursery stock; and for agricultural use on grasses and rangelands intended for livestock feed, and in pineapple orchards. However, pineapple is not grown in California and California prohibits the use of hydramethylnon on pasture and rangeland grasses.

Recent Regulatory History

In 1998, the EPA completed their Reregistration Eligibility Decision (RED) for hydramethylnon and determined it was eligible for reregistration. From 1998-2002 there was a Section 18 emergency exception for its use on pineapples in Hawaii. In 2003, the EPA completed its Human Health and Environmental Risk Assessment in response to the request for permanent use on pineapples. Based on this assessment, the EPA determined there were no additional risks from the use of hydramethylnon on pineapples and assigned a residue tolerance value of 50 ppb.

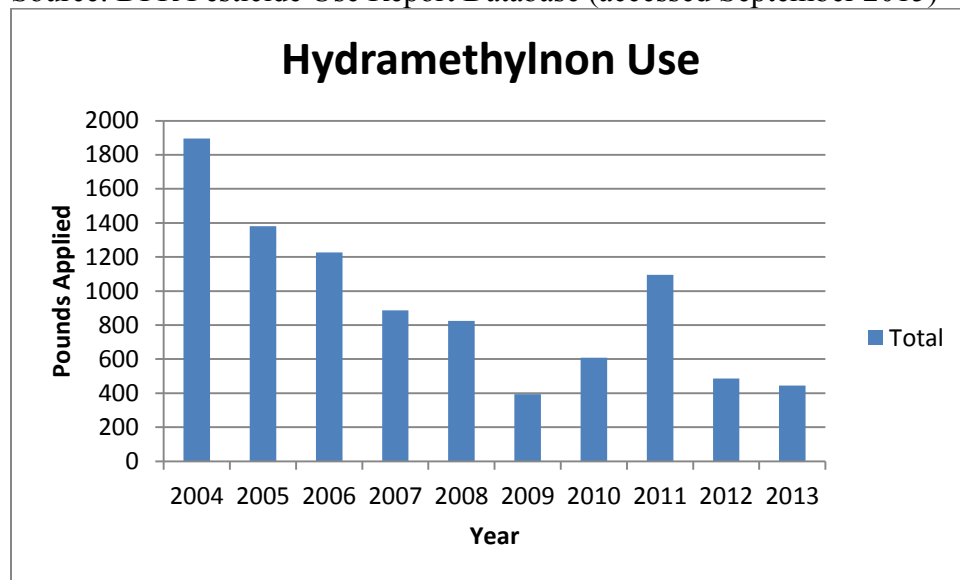
In 2004, DPR evaluated the human health risk potential from the use of hydramethylnon in California and published a RCD (Lim 2004). The worker exposure scenarios evaluated included workers involved in aerial, ground, and hand applications as well as harvesters and fieldworkers who may contact treated foliage. The general public scenarios evaluated included exposure to treated surfaces. DPR concluded that human exposure to hydramethylnon was relatively low due to the physical and chemical properties and few uses. The RCD concluded the risk associated with all current use scenarios was considered acceptable.

Use in California

As of September 2015, there are 35 products registered in California with the active ingredient hydramethylnon. Hydramethylnon is registered in California for institutional and home use as well as use in agricultural non-crop areas. According to DPR's Pesticide Use Reporting Database, from 2004-2013, approximately 97% of hydramethylnon use in California was structural.

Figure 1: Reported Hydramethylnon Use in California 2004-2013

Source: DPR Pesticide Use Report Database (accessed September 2015)



Environmental Fate

As stated in DPR’s 2004 RCD, “Hydramethylnon is not expected to be of environmental concern due to its physical and chemical properties. It has a low vapor pressure, low Henry’s Law constant, and is solid at room temperature. It is insoluble in water and adsorbs to soil.”

Therefore, hydramethylnon is unlikely to leach from the soil into ground water or be found in the air.

California Illness Data

From 1993 through 2013, there have been 12 illnesses/injuries reported in DPR’s illness database as possibly or probably associated with hydramethylnon exposure (California Pesticide Illness Query, accessed September 2015). All reported cases were due to structural pest control use.

Three of the 12 exposures were due to young children accidentally ingesting hydramethylnon applied within their homes through bait stations or ant stakes, and in the other nine cases bystanders experienced a variety of symptoms after reentering buildings treated with multiple pesticides, including hydramethylnon. In those nine cases it is possible that exposure symptoms were due to other active ingredients since hydramethylnon is most commonly applied indoors as a bait.

Dietary Exposure

Outside of California, hydramethylnon is used in pasture and rangeland grasses to control ants. The EPA has determined that there is no reasonable expectation of hydramethylnon residues of concern in the milk, meat, and meat byproducts of ruminants as a result of hydramethylnon use on pastures or rangeland grasses. In 2003, the EPA approved use of hydramethylnon on

pineapples and established a food residue tolerance of 50 ppb. From 2009-2012 the FDA, which is the only organization currently testing produce for hydramethylnon residues, sampled approximately 3,400 items of produce for hydramethylnon and only detected hydramethylnon once in 2009 at trace levels (below 10 ppb) on Chinese cabbage from Mexico. (FDA website: accessed September 2015). On November 15, 2015, DPR's Human Health Assessment Branch evaluated this trace detection and determined it was not at a level which would cause a human health concern (Duncan 2015).

Conclusion

In January 2004, DPR completed a RCD for hydramethylnon which did not identify any exposure levels of concern associated with the application of hydramethylnon. However at the time the RCD was published DPR did not have any dietary exposure data associated with the EPA's recent approval of hydramethylnon use on pineapples. Therefore, DPR issued a RMD directing staff to base future scientific evaluations on the dietary exposure limits identified in the RCD.

On November 15, 2015, DPR's Human Health Assessment Branch reviewed the FDA's hydramethylnon detection value from 2009 and determined it was not at a level which would cause a health concern (Duncan 2015). Therefore, based on DPR's 2004 RCD, and the fact that hydramethylnon has only been detected once at a level not of concern to human health, I conclude there are no mitigation measures needed for the use of hydramethylnon in California.

References

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