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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
PESTICIDES AND TOXIC SUBSTANCES

SEP - 6 1989

MEMORANDUM

**SUBJECT:** 89-CA-28. Section 18 Specific Exemption for the use of Diazinon (D.Z.N. Diazinon 14G®) on the Soil Beneath Fruit and Nut Trees, Grape, and Caneberry Plantings. (No MRID #, DEB # 5687).

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**THRU:** Leung Cheng, Acting Section Head *L. Cheng*  
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**To:** D. Stubbs/L. Pemberton, PM Team 41  
Emergency Response Section  
Registration Support Branch  
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and  
Toxicology Branch  
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The California Department of Food & Agriculture requests the re-issuance of a Section 18 quarantine exemption for the use of diazinon (trade name: D.Z.N. Diazinon 14G), on the soil beneath fruit and nut trees, grape and caneberry plantings, grown as home garden crops to control the Japanese beetles, Topillia japonica.

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D.Z.N. Diazinon 14G, EPA Reg. No. 100-469, is a registered pesticide of Ciba-Geigy; the diazinon (O,O)-diethyl O-[6-methyl-2(1-methylethyl)4-pyrimidinyl]phosphorothioate) is the active ingredient.

The Residue Chemistry chapter of Registration Standard was issued on 8/8/86, and Guidance for the Reregistration of Pesticide Products Containing Diazinon as the Active Ingredient was issued on December 1988.

Permanent tolerances have been established (CFR 40 180.153) for diazinon in or on numerous commodities including (but not limited to) the following fruits, and nuts.

commodity	ppm
Almonds	0.5
Almond, hulls	3.0
Apples	0.5
Apricot	0.5
Blackberries	0.5
Boysenberries	0.5
Cherries	0.75
Citrus	0.7
Dewberries	0.5
Grapes	0.75
Loganberries	0.75
Nectarines	0.5
Pears	0.5
Peaches	0.7
Pecans	0.5
Plums	0.5
Raspberries	0.5
Walnuts	0.5

#### Proposed use

The proposed use (Section 18 exemption, 84-CA-36) calls for a maximum of three applications at a rate of 5.6 lbs ai/A and a minimum of ten day intervals in late summer and again three applications in following spring. The granules would be applied with ground equipment and then thoroughly watered in a manner to prevent puddling. Commodities produced under this exemption (soil beneath fruit trees, nut trees, grape, and caneberry plantings) may not enter commercial distribution channels. There is no pre-harvest interval. This Section 18 quarantine exemption becomes effective from September 26, 1989 through September 25, 1992.

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Registration Standard Guidance Document 12/88, for diazinon requires additional plant metabolism study. For the purposes of this Section 18 exemption only, we consider the residue of concern in plants to be diazinon, per se.

GC and GLC analytical Method II(C) in PAM II is adequate for (diazinon, per se) enforcement purposes.

### Residue Data

No residue data for this proposed use (multiple and high concentration applications on soil) were submitted.

Several Section 18 and Section 24(C) (ie CA-830056) have been issued for the use of diazinon on beneath fruits, and nut trees, grapes, vegetables, and caneberry plantings (80-DA-10, 80-DA-11, R. J. Hummel, 7/17/81, and CA-830056, R. Loranger, 10/15/83).

Most of the available data reflect foliar applications, of a different formulation. In summary, 1-8 foliar treatments (of Diazinon 50 W and Diazinon AG500 at an application rate of 0.5-1 lb ai/100 gal water with PHI 10-21 day) on nuts and fruits, 1-2 foliar treatment at 1 lb ai/A on berries, and several treatment at the rate of 0.6 lb ai/A on grapes.

Residue data for (apple and citrus) Diazinon 14G on soil beneath fruit and nut trees, grape, and caneberries plantings were submitted previously by CA Dept of Food and Agriculture in support of a Section 18 exemption (see M. L. Loftus, memo dated 10/3/84). These data reflecting (the same proposed use) one sample each for apple and citrus indicated non-detectable residue (<0.01 ppm) 28 and 78 day PHI respectively. No other data were submitted.

Based on above data DEB concluded that the residues of diazinon in or on nuts and fruits will not exceed the established tolerances (see M. L. Loftus memo, dated 10/3/84).

No data is available reflecting high rate soil <sup>applications</sup> in grapes.

Residue data reflecting one foliar treatment of grapes at the rate of 1 lb ai/A indicated the residue ~~data~~ declined from 0.58-1.80 ppm at 0 day to 0.06 - 0.28 ppm at 7 day PHI ( see J. Shaughnessy's memo, dated 7/5/66 diazinon file).

Based on above data DEB concluded that the residues of diazinon in or on grapes are not likely to exceed 2 ppm as a result of the proposed use (M. L. Loftus, memo dated 10/3/84).

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No data is available reflecting high rate soil applications in berries.

Residue data submitted in connection with PP#363/Acc#114139 reflecting one foliar treatment on blackberries, boysenberries and raspberries at rate of 0.5-1 lb ai/A indicated that the residue declined from 2.5-4.93 ppm at 0 day PHI to non-detectable to 0.22 ppm at 14 days PHI.

Based on available data DEB concluded that residues of diazinon in or on berries will not exceed 2 ppm as a result of the proposed use (M. L. Loftus, memo dated 10/3/84).

Based on the available residue data, we estimate that the level of diazinon is not likely to exceed 2 ppm in or on grapes and berries as a result of the proposed use.

#### Meat, Milk, Poultry, and Eggs:

No animal feed items are associated with this use. There is no problem with secondary residues in meat, milk, poultry and eggs.

#### Conclusions:

1. Plant metabolism study is required by Registration Standard 8/8/86, and Guidance Document 12/88. For the purposes of this Section 18 only, we consider the residue of concern in plants to be diazinon, per se.
2. The analytical method for determination of the parent diazinon is adequate for enforcement purposes (Methods II (C) PAM II). However if plant or animal metabolism study indicates a metabolite of toxicological significance, then appropriate analytical method must be developed.
3. Residues of diazinon per se are not likely to exceed the established tolerances in or on nut and fruits as a result of this proposed use. Residues of diazinon are not likely to exceed 2 ppm in or on grapes, and berries. However, additional data are required for Section 3 registration.
4. Since none of the treated crops will enter commercial channels, there will be no problem with secondary residues in meat, milk, poultry, and eggs.

5. Analytical reference standards are available from the pesticide and Industrial Chemical Repository, RTP, NC.

Recommendations:

Tox consideration\$permitting, we have no objection to the quarantine exemption use described in 89-CA-28.

cc: Diazinon S.F., R.F., Section 18, Circ., TAS R. Tomerlin, F. Toghrol, PMSD/ISB.  
RDI: L. Cheng Acting Section Head (9/5/89): E Zager, Deputy Branch Chief (9/6/89):  
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