



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

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MEMORANDUM

OFFICE OF TOXIC SUBSTANCES

SUBJECT: Section 18 exemption to use carbaryl (Sevin 4 oil) on small grains and alfalfa in connection with the USDA grasshopper control program.

FROM: Charles Frick  
Toxicology Branch, HED (TS-769) *for Frick*

TO: Ms. P. Critchlow  
Emergency Response Section

THRU: William Burnam, Acting Chief  
Toxicology Branch, HED (TS-769) *WLB 6.16.80*

Action Request:

Treatments will be made in the following states: North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Texas, New Mexico, Colorado, Wyoming, Montana, Idaho, Utah, Arizona, California, Oregon, Nevada and Washington. As noted in RCB review, the product to be used is Sevin 4 oil and will be applied at a rate of 0.5 lbs a.i./acre. It was noted that treatments in this grasshopper program are primarily for rangeland and this section 18 request will allow for some over spray into adjacent fields of alfalfa and small grains. Therefore, only a small portion of any alfalfa or small grain field will be treated.

There is currently a tolerance of 100 ppm for carbaryl residues on alfalfa and on the forages and straws of small grains at 100 ppm.

Residue Chemistry Branch has concluded that carbaryl residues on the grains will not exceed 3 ppm and that the granting of this action will not change the current situation with regards to meat, milk, poultry and eggs.

Recommendation:

Toxicology Branch does not envision any overt hazard associated with the implementation of this action.

Toxicology Data Summary

This chemical was reviewed by Dr. R. Engler on 5/12/77. He summarized the available toxicity data as follows:

Rat Oral LD<sub>50</sub> - 510 mg/kg (390-670)

- Rat Teratology - 375 mg/kg - No Teratogenic effects.
- Guinea Pig Teratology - 300 mg/kg - No teratogenic effects/toxic to mothers.
- Dog Teratology - 3 mg/kg - No effect/terata at higher levels.
- Rhesus Monkey Teratology - 20 mg/kg - No terata.
- Two-Year Rat Feeding - NEL = 400 ppm (20 mg/kg)
- One-Year Dog Feeding - NEL = 400 ppm (10 mg/kg)
- 18-Month Mouse Oncogenic Study = Negative at 400 ppm.
- 18-Month Mouse Oncogenic Study = Negative at 14 ppm (Bionetic Study).
- 3-Generation Rat Reproduction - NEL = 200 mg/kg/day
- Marak Report - No oncogenic effects.

Dominant Lethal Mutagenicity (Rat) = Negative (200 mg/kg/day).

TOX/HED:th:CFRICK:6-13-80