

PR 119

19713 50

1871 File



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

MAR 14 1993

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Barbara Brown  
DREXEL CHEMICAL CO.  
BOX 9306  
MEMPHIS, TN 38109

Subject: Label Amendment Submission of 09/30/93 in Response to PR Notice 93-7  
EPA Reg. No. 19713-50  
DREXEL CARBARYL 80S

**IMPORTANT NOTICE: This Letter Requires You to Submit a Notification to the Office of Compliance Monitoring within 20 Days.**

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is accepted subject to the comments listed on the enclosed sheet. A copy of your proposed labeling stamped "ACCEPTED WITH COMMENTS" is enclosed.

**SERIOUS ERROR(S) ON SUBMITTED LABELING:**

EPA has determined that one or more of the errors on the labeling you submitted to the Agency is categorized as "serious" as defined in PR Notice 93-11. In general, serious errors are those that may create a potential for harm to workers, handlers, other persons, or the environment; or those that prevent the achievement of the basic goals of the Worker Protection Standard (WPS) or FIFRA.

**YOU MUST NOT SELL OR DISTRIBUTE (INCLUDING RELEASE FOR SHIPMENT) ANY PRODUCT BEARING THE SUBMITTED LABELING.** Sale or distribution of any product with the incorrect labeling is a violation of FIFRA that could result in initiation of an action for civil penalties and/or cancellation of your product. This matter has been referred to the Office of Compliance Monitoring (OCM) for further action.

**YOU MUST SUBMIT A NOTIFICATION TO THE OFFICE OF COMPLIANCE MONITORING WITHIN 20 DAYS OF THE DATE OF THIS LETTER.**



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Printed with Soy/Canola Ink on paper that  
contains at least 50% recycled fiber

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Each notification must include the following information:

1. Registrant's name and address.
2. EPA Registration number of the product for which the labeling was submitted.
3. Whether any product already has been sold or distributed (this includes released for shipment) bearing the submitted labeling.

In addition, the notification must include the following information, IF you have already sold or distributed any product bearing the submitted labeling:

1. Quantity of the product that has been sold or distributed.
2. EPA Producing Establishment number.
3. Location of the product, if known.
4. Proposed plan for assuring that product with the incorrect labeling in your control, as well as that in the hands of dealers/distributors/users, will be corrected. The plan must include your proposal for assuring that the labeling is corrected as soon as possible.

Submit the notification to:

Michael Wood, Director  
Compliance Division, (7203)  
Worker Protection Notification  
Office of Compliance Monitoring  
U.S. Environmental Protection Agency  
401 M Street SW  
Washington, DC 20460

Failure to submit a notification also may result in initiation of an action under FIFRA for civil penalties, if you sold or distributed (this includes released for shipment) product bearing the incorrect labeling.

3-821

**IN ADDITION, YOU SHOULD CONTACT IMMEDIATELY THE PERSONS TO WHOM YOU SOLD OR DISTRIBUTED YOUR PRODUCT AND INFORM THEM NOT TO SELL OR DISTRIBUTE ANY PRODUCT WITH THE INCORRECT LABELING.**

**WHAT THIS ACCEPTANCE MEANS:**

Based on your certification, the Agency has accepted the labeling changes that are necessary to comply with the WPS labeling requirements of 40 CFR part 156, subpart K, described in PR Notices 93-7 and 93-11. Any other labeling changes submitted in connection with this amendment application but not directly related to compliance with the WPS have neither been reviewed nor accepted by the Agency. If you wish to make such changes, you must submit a separate amendment application proposing them. If your product is currently suspended, the acceptance of this labeling amendment does not affect the suspension in any way.

**WHAT YOU NEED TO DO NEXT:**

Submit the required notification. Then by the next label printing make all the specified changes to your labeling. Send to EPA one (1) copy of the final printed labeling:

- **BEFORE** selling or distributing any product bearing the final printed labeling as amended

**AND**

- **WITHIN** one year from date of this acceptance.

Submit the final printed labeling via the U.S. Postal Service to:

Document Processing Desk (FIN-LABEL)  
Office of Pesticide Programs (7505C)  
U.S. Environmental Protection Agency  
401 M Street, SW  
Washington, D.C. 20460-0001



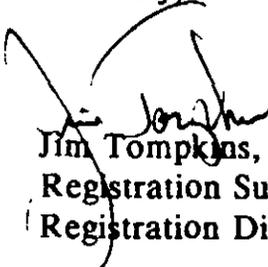
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Hand or courier deliveries of final labeling may be made to:

Document Processing Desk (FIN-LABEL)  
Office of Pesticide Programs  
Room 266A, Crystal Mall 2  
1921 Jefferson Davis Highway  
Arlington, VA 22202

Sincerely,



Jim Tompkins, Deputy Chief  
Registration Support Branch  
Registration Division (7505W)

Attachment

cc: Office of Compliance Monitoring

11821

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Office of Pesticide Programs  
Registration Division

Barbara Brown  
DREXEL CHEMICAL CO  
BOX 9306  
MEMPHIS TN 38109

Comment for: EPA Reg Nr.19713-50  
DREXEL CARBARYL 80S

The following specific comments pertain to your WPS labeling submission concerning the product cited above:

Add the following statement to the "Personal Protective Equipment" section of your label: "Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them." The exact location ofr this statement is shown in Section A on Part 1 of the Product Worksheet in Supplement Three-A to PR Notice 93-7.

The respirator requirement for "applicators and other handlers" in the "Personal Protective Equipment" section on your proposed labeling is missing or incorrect. Remove the incorrect requirement (if any) and add "Dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C)." The exact location is shown in Sections A and B on Part I of the Product Worksheet in Supplement Three-A to PR Notice 93-7.

Add "N-Methyl Carbamate" to your label in one of the locations shown in Section E on Part 2 of the Product Worksheet in Supplement Three-A to PR Notice 93-7.

The eyewear requirement on your proposed labeling is not required.

Delete the crossed-out statements on your proposed label. They are redundant statements or phrases.

Correct the typographical errors circled on your proposed label.

**CARBARYL 80S**  
A Wettable Powder for Control of Insect Pests

**ACTIVE INGREDIENT:**

Carbaryl (1-Naphthyl N-methylcarbamate).....80%  
**INERT INGREDIENTS:**.....20%  
**TOTAL:**.....100%

**KEEP OUT OF REACH OF CHILDREN**  
**WARNING/AVISO**

~~PRECAUCION-AL-USUARIO-Si-usted-no-lee-ingles,-no-use-este  
producto-hasta-que-la-etiqueta-le-haya-sido-explicado  
ampliamente-~~

~~Si usted no entiende la etiqueta, busque a alguien para que se la  
explique a usted en detalle. (If you do not understand the label,  
find someone to explain it to you in detail.)~~

EPA Reg. No. 19713-50  
EPA Est. No. 728-AL-1

WPS DELETIONS/REVISION - 9/17/93

Manufactured by:  
Drexel Chemical Company  
P.O. Box 9306  
Memphis, TN 38109

**STATEMENT OF PRACTICAL TREATMENT**

**IF SWALLOWED:** Induce vomiting by placing finger on back of throat. Call a physician. Never give anything by mouth to an unconscious person.

**IF ON SKIN:** ~~Remove contaminated clothing and~~ wash skin with soap and plenty of water. If irritation develops get medical attention.

**IF IN EYES:** Immediately flush eyes with plenty of water. If irritation develops get medical attention.

**NOTE TO PHYSICIAN:** Carbaryl is a moderate, reversible, cholinesterase inhibitor. Atropine is antidotal. DO NOT use 2-PAM, opiates or cholinesterase inhibiting drugs.

ACCEPTED  
with COMMENTS  
in EPA Letter Dated

MAR 14 1994

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.

19713-50

**PRECAUTIONARY STATEMENTS****HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**WARNING:** May be fatal if swallowed. Avoid breathing vapors. Avoid contact with eyes, skin or clothing. Wash thoroughly after handling. Do not use this product in commercial food areas or food handling establishments, restaurants, or other places where food is prepared or processed.

~~Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons.~~

**PERSONAL PROTECTIVE EQUIPMENT**

Applicators and other handlers must wear:

Long-sleeved shirt and long pants  
Waterproof gloves  
Shoes plus socks  
Protective eyewear

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**USER SAFETY RECOMMENDATIONS**

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS**

This product is extremely toxic to aquatic and estuarine invertebrates. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark, except under the forest canopy and use on rice. Discharge from rice fields may kill aquatic and estuarine invertebrates. Do not contaminate water by cleaning of equipment or disposal of wastes.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

**FARM-WORKER-SAFETY-STATEMENTS**

Do-not-enter-treated-areas-without-protective-clothing-until sprays-have-dried.-Because-certain-states-may-require-more restrictive-reentry-intervals-for-various-crops-treated-with-this product,-consult-your-State-Department-of-Agriculture-for-further information.

Written-or-oral-warnings-must-be-given-to-workers-who-are expected-to-be-in-a-treated-area-or-in-an-area-about-to-be treated-with-this-product.-Oral-warnings-must-inform-workers-of areas-or-fields-that-may-not-be-entered-without-specific protective-clothing-until-sprays-have-dried-and-appropriate actions-to-take-in-case-of-accidental-exposure,-as-described under-Precautionary-Statements-on-this-label.-When-oral-warnings are-given,-warnings-shall-be-given-in-a-language-customarily understood-by-the-workers.-Oral-warnings-must-be-given-if-there is-reason-to-believe-that-written-warnings-cannot-be-understood by-workers.

**WARNING:**-Area-treated-with-Carbaryl-on-(date-of-application).-Do not-enter-without-appropriate-protective-clothing-until-sprays have-dried.-In-case-of-accidental-exposure,-flush-eyes-or-skin with-plenty-of-water.-Call-physician-if-irritation-persists.- Remove-and-wash-contaminated-clothing-before-reuse.

**APPLICATION PROCEDURES**

Carbaryl 80S is a dry powder for dispersion in water and application as an insecticidal spray in hydraulic sprayers, mist blowers, low gallonage, ground equipment and aircraft.

USE IN STRICT ACCORDANCE WITH LABEL DIRECTIONS AND CAUTIONS.

**Special Directions for Preparing low gallonage Spray** In low gallonage ground equipment: Use 50-mesh or coarser screens in entire system, nozzles should be cone type, number 3 or larger. Use clean equipment. Put about 3/4 of the required water volume in the spray tank. Close off booms, start pump and maintain moderate by-pass agitation while slowly adding the proper amount of Carbaryl 80S. Add remaining water and continue to recirculate until suspension is uniform, then apply using at least 3 gallons per acre of the prepared spray. After spraying, flush tank and lines with clear water.

**For Aircraft Application:** For preparing spray in mixing or storage tank, follow above directions. To maintain uniform suspension, recirculate at intervals and before pumping into aircraft tank. For best results, use clean equipment and apply at least 1 gallon per acre of the prepared spray. After spraying, flush tanks and lines with clear water.

Combination spray mixtures in low gallongage equipment and aircraft: Physical compatibility of Carbaryl 80S with other pesticides in low gallongage mixtures is not fully know. Before preparing large amounts, combinations should be tested by fully dispersing Carbaryl 80S, then adding the other pesticide and the remaining portion of water. DO NOT USE MIXTURES THAT CURDLE OR PRECIPITATE. Incompatibility will reduce insect control and may cause mechanical difficulties or plant injury. Use caution when applying concentrate spray mixtures. Under adverse growing conditions combinations of Carbaryl 80S with some phosphate pesticides may cause foliar injury.

#### COMPATIBILITY

1. Carbaryl 80S has been effectively used without plant injury with most common insecticides, miticides, fungicides, nutrients, adjuvants and with petroleum oil as used on citrus.
2. Compatibility can be affected by water in your locality, various surfactants and other formulation ingredients. Possible plant injury may occur under adverse conditions such as high humidity, drought, improper fertilization, etc.
3. Do not mix Carbaryl 80S with nutrients, adjuvants and other pesticides unless your experience indicates that the mixture is effective and will not result in plant injury. If uncertain, prepare a small amount of the mixture and test on a representative portion of the crop.
4. Unstable under highly alkaline conditions. Not effective if used with alkaline materials such a Bordeaux, lime, lime sulfur and casein-lime spreaders.

#### GENERAL CAUTIONS

1. To avoid possible injury on tender foliage, do not apply when foliage is wet or when rain or excessive humidity is expected during the next 2 days.
2. Does not control spider mites but is compatible with most common miticides.

#### IMPORTANT PRE-HARVEST AND GRAZING USE INFORMATION AND LIMITATIONS

Tolerances established under the Federal Food, Drug and Cosmetic Act permit the sale of crops bearing probable Carbaryl 80S residues when Carbaryl 80S is used in accordance with label directions. Pre-harvest and grazing use limitations are listed at the end of the directions for each crop use. Where no pre-harvest or grazing time limitations are stated, application can be made to the day of harvest and crops can be grazed without time delay if directions for use on the crops are followed.

If Carbaryl 80S Insecticide is used in accordance with label directions, forage and feed crops, including almond hulls, bean vines, carrot tops, citrus pulp, cotton forage, cowpea hay, peanut hay, pea vines, rice straw, soybean hay and sugar beet tops, may be grazed or harvested for use as feed for dairy and meat animals without resulting in residues in milk or meat.

**DIRECTIONS FOR USE**

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

Coveralls  
Waterproof gloves  
Shoes plus socks

Subsequent planting of food and feed crops in treated soil must be made with crops on this or other carbaryl labels.

**IMPORTANT:** The directions on this label are based on tests and field experience relating to (a) effectiveness; and (b) possible injury to plants and animals; and (c) residues in food, feed, meat and milk. Follow directions for most effective use.

**FORAGE, FIELD AND VEGETABLE CROP CONTROL**

Recommended dosages refer to pounds of Carbaryl 80S per acre. Where a dosage range is indicated, use lower rate on young plants, higher rates on mature plants. Use sufficient spray gallonage to obtain full coverage. This will usually vary from 3 to 40 gallons per acre depending on equipment, degree of insect infestation, and stage of crop growth. Keep spray mixtures well agitated. Apply when insect or their damage appears and repeat at 7 to 14 day intervals or as necessary unless shorter intervals are specified below. See specific directions below for grasshopper control.

Alfalfa and Clovers - Use 2/3 to 1-1/4 pounds for blister beetles and Mexican bean beetle. Use 1-1/4 pounds for alfalfa caterpillar, bean leaf beetle, cucumber beetles, green cloverworm, Japanese beetle, leafhoppers, three cornered alfalfa hopper, thrips and velvetbean caterpillar. Use 1-1/4 to 1-7/8 pounds for armyworm, corn earworms, stink bugs and webworms. Use 1-1/4 pounds (Western United States) and 2 pounds (Eastern United States) for control of alfalfa weevil larvae in the spring. If pre-treatment damage is extensive, cut the alfalfa and make the application to the stubble. Use 1-7/8 pounds for cutworm control. On clovers in Texas use 2 pounds for clover head weevil. To avoid possible injury on tender foliage, do not apply when foliage is wet or when rain or excessive humidity is expected during the next 2 days.

ALFALFA - Do not apply within 3 days of harvest.

CLOVER - Apply up to day of harvest.

Asparagus - Use 1-1/4 to 2-1/2 pounds for asparagus beetle on seedlings or spears. Use 2-1/2 to 5 pounds for asparagus beetle and Apache cicada on ferns or brush growth in the post-harvest period. Do not apply more often than once every 3 days. Do not apply within 1 day of harvest.

Beans (such as dry beans, green beans, lima beans, navy beans, snap beans and southern peas including crowder and black-eyed peas).

Use 2/3 pound for Mexican bean beetle, 1-1/4 pounds for bean leaf beetle, cucumber beetles, flea beetles, Japanese beetle, leafhoppers, velvetbean, caterpillar and western bean cutworm. Use 1-1/4 to 1-7/8 pounds for armyworm, cutworms, corn earworm, stink bugs and tarnished plant bugs. In California use 2-1/2 pounds for corn earworm, lima bean pod borer, lygus and stink bugs.

Cabbage, Broccoli, Brussels Sprouts, Cauliflower and Kohlrabi - Use 2/3 to 1-1/4 pounds for flea beetles and harlequin bug. Use 1-1/4 to 2-1/2 pounds for armyworm, imported cabbageworm and corn earworm. Do not apply within 3 days of harvest.

Chinese Cabbage, Collards, Hanover Salad, Horseradish, Kale, Mustard Greens, Radishes, Rutabagas and Turnips -

Use 2/3 to 1-1/4 pounds for the flea beetles, harlequin bug and leafhoppers. Use 1-1/4 to 1-7/8 pounds in a 5 to 7 day schedule for aster leafhoppers. Use 1-1/4 to 2-1/2 pounds for armyworm, imported cabbageworm, corn earworm, tarnished plant bug and stink bugs.

Do not apply within 3 days of harvest of horseradish, radishes, rutabagas and turnips (roots). Do not apply within 14 days of harvest of Chinese cabbage, collards, Hanover salad, kale, mustard greens and turnips (tops).

Carrots, Parsnips and Parsley - Use  $2/3$  to  $1-1/4$  pounds for flea beetles and leafhoppers. Use  $1-1/4$  to  $1-7/8$  pounds in a 5 to 7 day schedule for aster leafhopper. Use  $1-1/4$  to  $2-1/2$  pounds for armyworm, corn earworm, tarnished plant bug and stink bugs. No time limitation on carrots. Do not apply within 3 days of harvest of parsnips. Do not apply within 14 days of harvest of parsley.

Corn (Field, Sweet and Pop) - Use  $1-1/4$  to  $2-1/2$  pounds for corn earworm, corn rootworm adults. European corn borer, fall armyworm, flea beetles, Japanese beetle, sap beetles and leafhoppers. For larvae in whorl (budworm damage) and foliage feeders, apply to entire plant. Repeat as necessary. For insects attacking silks and ears, apply at 1 to 6 day intervals starting when first silks appear and continuing until silks begin to dry. Three or more applications may be required depending on severity of infestation. Timing and good coverage are absolutely essential for effective control.

Use  $2-1/2$  pounds in at least 15 gallons of water for cutworm control. Spray in 12 inch band over the corn row to insure adequate stalk coverage. Use proportionate amounts for narrower bands or broadcast. Application of Carbaryl 80S to the tassel region of corn during the pollen shed period will seriously reduce bee population.

Cotton - Use  $2/3$  to  $1-1/4$  pounds for early season thrips, flea beetles, cotton fleahoppers, striped blister beetle and cotton leafworm. Use  $1-1/4$  to  $2-1/2$  pounds depending on the size of the cotton and insect population level, for mid and later season boll weevil, bollworms, fall armyworm, cotton leaf perforator, leafrollers, leafhoppers, and tarnished plant bug and for light-to-moderate infestations of lygus bugs in Western irrigated cotton. Application should be made every 5 to 7 days as long as control is necessary. For improved bollworm control, add 1 gallon of blackstrap molasses (feed grade) per acre in a spray volume not to exceed 20 gallons per acre.

To avoid staining lint, do not use molasses after bolls open. Use  $1-7/8$  to  $3-1/2$  pounds for pink bollworm on a 5 to 7 day schedule depending on the size of the cotton and the degree of infestation. Use  $2-1/2$  pounds for stink bugs and saltmarsh caterpillar. Aphid populations will be suppressed by repeated applications of this insecticide. May be applied after bolls open. Pre-harvest interval is 7 days.

Cowpeas - Use  $2/3$  to  $1-1/4$  pounds for blister beetles and Mexican bean beetle. Use  $1-1/4$  pounds for alfalfa caterpillar, bean leaf beetle, cucumber beetles, flea beetles, green cloverworm, Japanese beetle, leafhoppers, three cornered alfalfa hopper, thrips and velvetbean caterpillar.

Use  $1-1/4$  to  $1-7/8$  pounds for armyworm, corn earworm, cutworms, stink bugs and webworms. Use  $2-1/2$  pounds for cowpea curculio.

Apply 4 applications beginning at first bloom and at 5 day intervals thereafter. In California, use 2-1/2 pounds for corn earworm, lima bean pod borer, lygus and stink bugs. To avoid possible injury on tender foliage, do not apply when foliage is wet or when rain or excessive humidity is expected during the next 2 days. Pre-harvest interval is 3 days.

Cucumber, Melons, Pumpkin and Squash - Use 2/3 to 1-1/4 pounds for pickleworm and melonworm, 1-1/4 pounds for cucumber beetles, flea beetles, leafhoppers and squash bug. Avoid excessive applications. To avoid possible injury on tender foliage, do not apply when foliage is wet or when rain or excessive humidity is expected during the next 2 days.

Dandelion, Endive (Escarole), Lettuce and Salsify - Use 2/3 to 1-1/4 pounds for flea beetles, harlequin bug and leafhoppers. Use 1-1/4 to 1-7/8 pounds in a 5 to 7 day schedule for aster leafhopper. Use 1-1/4 to 2-1/2 pounds for armyworm, imported cabbageworm, corn earworm, tarnished plant bugs and stink bugs. For optimum control of corn earworm after lettuce heads begin to form, use 2-1/2 pounds in a 5 to 7 day schedule.

To avoid possible injury on lettuce, do not apply when foliage is wet or when rain or excessive humidity is expected during the next 2 days. Do not apply within 3 days of harvest of head lettuce or salsify (roots). Do not apply within 14 days of harvest of dandelion, endive (escarole), leaf lettuce and salsify (tops).

Forage Grasses and Pasture - Use 1-1/4 to 1-7/8 pounds for armyworm and thrips. For thrips control in grasses grown for seed, high spray pressure may help penetration into boot. Use 2 to 2-1/2 pounds for white grubs (green June beetles).

Garden Beet, Spinach and Swiss Chard - Use 2/3 to 1-1/4 pounds for flea beetles, harlequin bug and leafhoppers. Use 1-1/4 to 2-1/2 pounds for armyworm, corn earworm, tarnished plant bug and stink bugs. Do not apply within 3 days of harvest of garden beets (roots). Do not apply within 14 days of harvest of garden beets (tops).

Okra - Use 1-1/4 to 2-1/2 pounds for corn earworm and stink bugs. Repeat at 5 to 7 day intervals or as necessary.

Peanuts - Use 2/3 to 1-1/4 pounds for blister beetles and Mexican bean beetle. Use 1-1/4 pounds for alfalfa caterpillar, bean leaf beetle, cucumber beetles, green cloverworm, Japanese beetle, leafhoppers, three-cornered alfalfa hopper, thrips and velvetbean caterpillar. Use 1-1/4 to 1-7/8 pounds for armyworm, corn earworm, stink bugs and webworms. To avoid possible injury on tender foliage, do not apply when foliage is wet or when rain or excessive humidity is expected during the next 2 days.

Peas - Use 1-1/4 pounds for leafhoppers and Colorado potato beetle. Use 1-1/4 to 1-7/8 pounds for armyworm. Use 3 pounds for alfalfa looper in Washington State only. Repeat as necessary.

Potato, Tomato, Eggplant and Pepper - Use 2/3 to 1-1/4 pounds for Colorado potato beetle, flea beetles and leafhoppers. Use 1-1/4 to 2-1/2 pounds for European corn borer, fall armyworm, lace bugs, tomato fruitworm, tomato hornworm, tarnished plant bug and stink bugs on potato, tomato and eggplant. Use 2-1/2 pounds for cutworm control.

Rice - In the Mississippi Delta and Texas use 1-1/4 to 1-7/8 pounds for armyworm and stink bugs. In California use 2-1/2 pounds for armyworm, leafhoppers and tadpole shrimp. For optimum tadpole shrimp control apply to the water when the pest first appears.

Do not use on rice fields in which crayfish and/or catfish farming is included in the cultural practice.

Warning! To avoid injury to rice, do not apply propanil (such as "STAN F-34" or "ROGUE") within 15 days before or after Carbaryl 80S application.

Do not apply within 14 days of harvest.

Sorghums (such as milo, grain sorghum, sweet sorghum and hybrids) - Use 1-1/4 to 2-1/2 pounds for armyworm, corn earworm, stink bugs and webworms. Use 1-7/8 pounds for sorghum midge. Use 2-1/2 pounds for cutworms. For optimum insect control on grain sorghum, direct spray into the forming heads. Treat for sorghum midge 3 to 4 days after heads have emerged from boot.

Do not apply within 21 days of harvest of grain. No time limitations on sorghums used for forage.

Soybeans - For light to moderate populations in Southeastern States only, use 2/3 pound for velvetbean caterpillar, green cloverworm, bean leaf beetle, cucumber beetles and Mexican bean beetle. Use 2/3 to 1 pound for corn earworm.

For clean up of existing populations: Use 2/3 to 1-1/4 pounds for blister beetles and Mexican bean beetle. Use 1-1/4 pounds for alfalfa caterpillar, bean leaf beetles, cucumber beetles, green cloverworm, Japanese beetle, leafhoppers, three-cornered alfalfa hopper, thrips and velvetbean caterpillar. Use 1-1/4 to 1-7/8 pounds for armyworm, corn earworms, webworms and stink bugs.

Warning! Do not apply a combination of Carbaryl 80S and 2,4-DB herbicide (such as "BUTYRAC" 175 or "BUTOXONE" SB) to soybeans.

Sugar Beets - Use 1-1/4 to 2-1/2 pounds for armyworm, flea beetles, leafhoppers and webworms. Do not apply within 14 days of harvest.

Tobacco - In Plant Beds: For tobacco flea beetle, use 2-1/2 level tablespoons per gallon or 1-1/4 pounds per 50 gallons, and apply

6 gallons per 100 square yards. For green June beetle grubs, use 2/3 pound per 100 gallons of water when insects or their damage appear. Apply only to areas that larvae have uprooted by sprinkling as a drench with 50 to 100 gallons per 100 square yard. May be applied before or after seeding. Avoid excessive application as plant injury may result.

In Fields: For budworms, flea beetles, Japanese beetle, June beetles and hornworms, use 1-1/4 to 2-1/2 pounds per acre in sufficient water for full coverage of plants. Use lower rate on young plants up to knee high, higher rate on mature plants. Use at least 10 gallons per acre of the prepared spray. Begin treatments when worms are small. Avoid excessive application in bud of plant as injury may result. Treated fields may be entered immediately after foliage has dried. If late applications are necessary, allow 3 days before priming or cutting.

Grasshoppers - Apply 2/3 to 1-7/8 pounds as often as necessary to control grasshoppers on the above forage, field and vegetable crops. Follow pre-harvest and grazing use limitations listed for each of the above crops. A 2/3 to 1-1/4 pound rate is suggested for nymphs on small plants or sparse vegetation in wasteland, rangeland, ditchbanks and borders. A 1-1/4 to 2-1/2 pounds dosage should be used when grasshoppers are mature or material is applied to crops requiring greater coverage.

#### TREE FRUIT AND NUT INSECT CONTROL

Recommended dosages refer to pounds of Carbaryl 80S per 100 gallons of dilute spray in conventional hydraulic-type sprayers. Apply dilute sprays for full coverage. Spray gallonage will vary according to tree size, density, planting distance and stage of growth. With concentrate and aerial sprays, where lower volumes of spray are applied per acre, the concentration of Carbaryl 80S should be increased in the spray mixture so that the amount of Carbaryl 80S applied per acre is equivalent to a full coverage dilute spray. Keep spray mixtures well agitated.

Almond - Use 1-1/4 pounds for peach twig borer, San Jose scale and fruit tree leafroller. Apply in "popcorn" or petal fall stages and again when the May brood of the peach twig borer begins to hatch or thereafter as needed. Allow a 28 day pre-harvest interval.

Apples and Pears - Application of Carbaryl 80S within 30 days after full bloom may provide apple thinning, to avoid this, delay use until at least 30 days after bloom. Foliar injury may result from combination with summer oils west of the Rocky Mountains, or when used before second cover on York and McIntosh apples east of the Rocky Mountains.

West of the Rocky Mountains: Use 1 to 1-1/4 pounds for apple sucker, apple aphid, woolly apply aphid, bagworms, California pearslug (pear sawfly), codling moth, apple rust mite, pearleaf blister mite, pear rust mite, eyespotted bud moth, green fruit worm, lygus bugs, orange tortrix, pear psylla, tentiform leafminers, lecanium scales, oystershell scale, and San Jose scale. For optimum scale control apply when crawlers are present. When heavy aphid infestations are present, repeated applications may be necessary for optimum control.

East of the Rocky Mountains: Use 2/3 pound for apple mealybug, apply aphid, codling moth and white apple leafhopper. When heavy aphid infestations are present, repeated applications may be necessary for optimum control.

Use 1-1/4 pounds for apple maggot, bagworms, eastern tent caterpillar, European apple sawfly, eyespotted bud moth, fruit tree leafroller, green fruitworm, Japanese beetle, pear psylla, periodical cicada, plum curculio, redbanded leafroller, rosy apple aphid, woolly apple aphid, apple rust mite, pearleaf blister mite, pear rust mite, tarnished plant bug, tentiform leafminers, Forbes scale, lecanium scales, oystershell scale, and San Jose scale. For optimum scale control, apply when crawlers are present. To control rosy apple aphids, apply before leaves are curled.

Do not apply within 1 day of harvest of apples and pears.

Apple Thinning - Many factors influence the degree of apple thinning obtained with Carbaryl 80S. These include tree age, variety, nutrition, previous crop, pruning, degree of set, bloom, weather and use of other chemical thinners. When any of these favor reduced fruit set, caution should be observed in applying Carbaryl 80S so that excessive thinning and possible yield reduction will not occur. Recommended dosages refer to pounds of Carbaryl 80S per 100 gallons dilute spray.

Concentration: Use 1/3 to 2/3 pound on easily-thinned varieties. Apply for full coverage. On hard-to-thin varieties, use 2/3 to 1-1/4 pound.

Timing: Apply in one spray timed between 10 to 25 days after full bloom.

Varietal Response: Easily-thinned varieties include Cortland, Grimes, Jonathan, McIntosh, Orleans, Rome Beauty, Puritan, Red Delicious, Winesap, and Yellow Newton. Difficult-to-thin varieties include Baldwin, Ben Davis, Dutchess, Early McIntosh Golden Delicious, Lady Apple, Northern Spy, Rhode Island Greening, Steele Red, Turley, Wealthy, Yellow Transparent, and York Imperial.

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Citrus Fruits (such as grapefruit, lemons, limes, oranges, tangelos, tangerines, citrus citron, kumquats and hybrids): Use 1-1/4 pounds for California orange dog citrus cutworm, fruit tree leafroller, orange tortrix and western tussock moth. Use 1 to 1-1/4 pounds for black scale, brown soft scale, California red scale, citricola scale, citrus snow scale and yellow scale.

Apply lower dosage early in the season or against light infestation and the higher dosage rate in the season or against heavy infestation and situations involving infested fruit. May be used with petroleum oil as used in common practice on citrus. Do not apply more than 25 pounds of Carbaryl 80S per acre per application. Do not apply less than 10 gallons of dilute spray mixture per mature tree.

Do not apply within 5 days of harvest of these crops.

Filbert - Use 1-1/4 pounds for filbert aphid, filbert leaf-roller and filbertworm. Apply when leafroller eggs are hatching. Repeat on first appearance of adult filbert moths and again 3 to 4 weeks later. With dilute sprays, 400 gallons per acre is suggested.

Olive - Use 1 to 1-1/4 pounds with 1-1/2 gallons of summer oil, in sprays for olive scale control. For optimum scale control, apply when crawlers are present. A maximum of 2 applications is permitted.

Do not apply more than 18-3/4 pounds of Carbaryl 80S per acre per application.

Peaches, Apricots and Nectarines - Use 1-1/4 pounds for codling moth, cucumber beetles, European earwig, Japanese beetle, apple pandemis, June beetles, lesser peachtree borer, orange tortrix, oriental fruit moth, peach twig borer, periodical cicada, plum curculio, fruittree leafroller, redbanded leafroller, variegated leafroller, tarnished plant bug, tussock moths, lecanium scale, San Jose scale and olive scale. For optimum scale control, apply when crawlers are present. For lesser peach tree borer control, spray limbs and trunk thoroughly, weekly during moth flight.

Do not apply more than 7-1/2 pounds of Carbaryl 80S per acre per application on apricots.

Do not apply within 1 day of harvest of peaches.

Do not apply within 3 days of harvest of apricots and nectarines.

Pecans - Use 1-1/2 to 3 pounds for pecan weevil and pecan nut casebearer. Do not apply more than 9 pounds of Carbaryl 80S per acre per application.

Plums, Prunes and Cherries - Use 1-1/4 pounds for black cherry aphid, mealy plum aphid, cherry maggot, cherry fruitworm, eyespotted bud moth, fruit tree leafroller, redbanded leafroller, Japanese beetle, lesser peachtree borer, peach twig borer, plum curculio, prune leafhopper, brown soft scale, Forbes scale, lecanium scales, oystershell scale, and San Jose scale. For optimum scale control, apply when crawlers are present. For

lesser peach tree borer control spray limbs and trunk thoroughly, weekly during moth flight.

Use 1 pound for eastern tent caterpillar, codling moth, orange tortrix, and tussock moths.

Do not apply more than 7-1/2 pounds of Carbaryl 80S per acre per application. Do not apply within 1 day of harvest of these crops.

Walnut - Use 2/3 pound for codling moth, frosted scale, European fruit lecanium, calico scale, fiberworm and fruit tree leafroller. Apply 1000 gallons of dilute spray per acre for complete coverage. In concentrate spray, use 5 pounds in at least 200 gallons per acre. For codling moth, apply first spray when average cross sectional diameters of developing nuts reach 1/2 to 3/4 inch. Repeat during middle or late June as needed. Use 2-1/2 pounds for European earwig. Spray tree trunks to point of runoff.

#### SMALL FRUIT INSECT CONTROL

Recommended dosages refer to pounds of Carbaryl 80S per acre. Keep spray mixtures well agitated. Apply when insects or their damage appear. Repeat at 7 to 10 day intervals or as necessary.

Blackberries, Raspberries and Dewberries (Including Boysenberries and Loganberries) - Use 2-1/2 pounds for Japanese beetle, leafrollers, leafhoppers and European raspberry aphid. In California, use 2-1/2 pounds for omnivorous leafroller and raspberry sawfly. With dilute spray, 100 to 200 gallons per acre is suggested. Do not apply within 7 days of harvest.

Blueberries - Use 3 to 6 pounds for blueberry maggot, cherry and cranberry fruitworms, European fruit lecanium and Japanese beetle. Apply 3 weeks before harvest and repeat 10 days later or as necessary. With dilute sprays, 125 to 150 gallons per acre is suggested.

Cranberries - Use 1-7/8 to 3-3/4 pounds for cutworms, cranberry fireworms, fruitworms, Japanese beetle and leafhoppers. Apply in late bloom and as needed at 7 to 10 day intervals. With dilute sprays, 300 gallons per acre is suggested. Do not apply within 1 day of harvest.

Grapes - Use 1-1/4 to 2-1/2 pounds for European fruit lecanium, grape leafroller, grape leafhoppers and western grapeleaf skeletonizer. Apply just before first brood leafroller larvae emerge from rolls and as needed for leafhoppers. Use 2-1/2 pounds for cutworms, grape berry moth, Japanese beetle, June beetle, orange tortrix, omnivorous leafroller and redbanded leafroller. With dilute sprays, 200 gallons per acre is suggested.

Strawberries - Use 1-1/4 to 2-1/2 pounds for meadow spittlebug, and strawberry weevil. Carbaryl 80S may injure Early Dawn and Sunrise varieties on Delmarva Peninsula. With dilute sprays, 100 to 200 gallons per acre is suggested. Do not apply within 1 day of harvest.

Lawn and Area Insect Control - Use 1-1/4 pounds of Carbaryl 80S in 150 to 200 gallons of water for each 5000 square feet (2-1/2 tablespoonfuls in 3 to 4 gallons of water for each 100 square feet) of established lawn area for the control of ants, bluegrass billbug, chinch bugs, cutworms, earwigs, European chafer, fall armyworm, fleas, green June beetle, leafhoppers, millipedes, mosquitoes, sod webworm (lawn moths).

In Florida use 1-1/2 pounds for chinch bugs control. Use garden hose sprayers or pressure type equipment. Insure good penetration of turf. For best results, mow lawn and apply immediately after rain or watering. Repeat 2 to 3 weeks later if necessary.

Shade Tree and Ornamental Insect Control - Use 1-1/4 pounds per 100 gallons of water (1-1/4 tablespoonfuls per gallon) when insects or their damage appears. Repeat weekly or as needed. Carbaryl 80S injures Boston Ivy, Virginia creeper and maidenhair fern.

Use on herbaceous annual, biennial and perennial plants (such as carnations, chrysanthemum, gladioli and zinnia) to control: blister beetles, flea beetles, boxelder bug, Japanese beetle, June beetles, lace bugs, leafhoppers leafrollers, mealybugs, plant bugs, psyllids, rose aphid, thrips (exposed). Use on shrubs, trees and woody plants (such as arborvitae, azalea, birch, dogwood, elm, hydrangea, juniper, lilac, maple, oak, pine and rose) to control: apple aphid, bagworms, birch leafminer, boxelder bug, boxwood leafminer, cankerworms, cooley spruce gall, eastern spruce gall aphid, elm leaf aphid, elm leaf beetle, eriophyid mite, gypsy moth, Japanese beetle, June beetles, lace bugs, leafhoppers, leafrollers, mealybugs, mimosa webworm, oak leafminer, orange tortrix, periodical cicada, puss caterpillar, plant bug, thorn bug, thrips (exposed), willow leaf beetles. Carbaryl 80S does not control spider mites but is compatible with most common miticides.

Forest Trees Insect Control (Including Shade Trees, Shelter Belts, Forests, Plantations, Parks and Recreational Areas) - Use 1-1/4 pounds of Carbaryl 80S per acre by aircraft or hydraulic mist blower for gypsy moth, elm spanworm, saddled prominent spring and fall cankerworm, forest tent caterpillar and Great Basin tent caterpillar. Apply when larvae are in early instars. Keep spray mixtures well agitated. Addition of a sticker may improve residual controls.

Adult Mosquitoes - On pastures, rangelands and non-agricultural lands such as yards, parks, recreation areas, logging camps, military posts and adjacent forested lands or wastelands, use 1/3 to 2/3 pound per acre in mist blowers, 2/3 to 1 pound per acre in aerial sprays, or 1-1/4 pounds per acre in suitable low pressure ground equipment. Apply in sufficient spray gallonage to effectively cover area to be treated. For optimum control, apply in early morning or evening when air is calm and adult mosquitoes

are active. Use 1-1/4 pounds per 100 gallons in hydraulic sprayers or 2 tablespoonfuls per gallon in hand sprayers for treating backyards or other limited areas. Thoroughly cover lower shade tree foliage, shrubbery, flower beds and shaded areas around buildings where adult mosquitoes congregate. Repeat at 7 to 10 day intervals.

**CAUTION:** May kill shrimp and crabs. Do not use in areas where shrimp and crabs are important resources.

**Pest Control In and Around Buildings (For use by Pest Control Operators Only)** in and around buildings (such as homes, apartments, warehouses, barns, and municipal and recreation areas) - For cockroaches and ants use 1 pound of Carbaryl 80S per 4 gallons of water. For brown dog tick, earwigs and millipedes, use 1 pound of Carbaryl 80S per 10 gallons of water. Apply as a coarse wet spray or with a paint brush and thoroughly treat cracks and crevices, baseboards, corners, walls, door sills and window frames, sleeping quarters of household pets, ant trails, outside perimeter of dwellings and other areas where insects tend to congregate. Do not use as a space spray. Repeat when necessary, but not more often than twice a week.

**On Interior and Exterior Wall Surfaces, Ceilings, Eaves and Roofs or Dwellings Constructed of Wood, Bamboo, Metal, Cement, Brick, Thatch or Whitewashed Clay** - For residual control of adult mosquitoes in subtropical and tropical regions, use 1 pound of Carbaryl 80S per 4 gallons of water and apply the prepared spray per 2000 square feet of surface area. Repeat in 3 to 6 months or when necessary. **NOTE:** Do not use in edible products area of food processing plants, restaurants or other areas where food is commercially prepared or processed. Do not use in serving areas while food is exposed. Fresh bedding should be placed in animal quarters following treatment. Do not spray animals. Do not spray kennels or other animal areas until animals have been removed. See **CAUTION**. Do not treat rugs, carpets, drapes and other fabrics as staining may result. Avoid application to structural surfaces where visible spray residue and water stains are objectionable.

**Poultry Insect Control (Chickens, Ducks, Game Birds, Geese, Pigeons and Turkeys)** - Direct Mist Spray on Birds: Control northern fowl mite, chicken mite, lice and fleas by:

1. Misting with Electric Fog Machine: Mix 3/8 pound (6 ounces) of Carbaryl 80S in 1 gallon of spray. Use 1-1/2 gallon per 1000 hens in cages, on litter on slatted floor. Repeat in 4 weeks if necessary, or
2. Spraying with Knapsack or Cylinder Type Compressed Air Sprayer: Mix 1/4 pound (4 ounces) of Carbaryl 80S in 5 gallons of spray. Use 1 gallon per 100 hens in cages, on litter or on slatted floor. Repeat in 4 weeks if necessary. Direct mist spraying for chicken mite and fleas is a supplement to spraying roosts and buildings for control of these pests. Spray Roost and Buildings with conventional power spray or knapsack equipment. Control chicken mite, fleas and

bedbugs by mixing 1-1/2 pounds per 25 gallons and applying 1 to 2 gallons per 100 square feet of wall litter or roost surface. Increase dosage to 5 pounds per 25 gallons for fowl tick control. Force spray into cracks and crevices. Repeat as needed. Ventilate while spraying. Avoid contamination of nests, eggs and feeding and watering troughs. Do not apply to poultry and game birds or to their premises within 7 days of slaughter.

#### STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

#### STORAGE INSTRUCTIONS:

Storage should be under lock and key and secure from access by unauthorized persons and children. Storage should be in a cool dry area away from any heat or ignition source. Do not allow storage in a damp or humid area. Do not stack over 2 pallets high. Move bags carefully so as not to tear or puncture. Do not move from one area to another unless they are securely sealed to prevent dust from escaping. Keep container tightly sealed when not in use. Keep away from any puncture source. Avoid storage near water supplies, food, feed and fertilizer to avoid contamination. Avoid contamination with acids and alkalis. Store in original containers only. If the contents are leaking or material is spilled follow these steps while wearing protective equipment.

1. Collect and place in suitable containers for disposal.
2. Wash area with water and soap to remove remaining pesticides.
3. Follow washing with clear water rinse.
4. Do not allow run off to enter sewer or contaminate water supplies.
5. Dispose of waste as indicated below:

**PESTICIDE WASTE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL:** Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

#### WARRANTY - CONDITION OF SALE

OUR RECOMMENDATIONS FOR USE of this product are based upon tests believed reliable. Follow directions carefully. Timing and method of application, weather and crop conditions, mixtures with other chemicals not specifically recommended, and other influencing factors in the use of this product are beyond the control of the seller. Buyer assumes all risks of use, storage and handling of this material not in strict accordance with directions given herewith. The foregoing is a condition of sale by Drexel Chemical Company and is accepted as such by the Buyer.