

264-616

09/23/2008

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

OFFICE OF
PREVENTION, PESTICIDES, AND
TOXIC SUBSTANCES

September 23, 2008

Nang-Ly Chow, Ph.D.
Registration Manager
Bayer CropScience
2 T. W. Alexander Drive
Research Triangle Park, NC 27709

Subject: Phenmedipham Product Specific Data Call-In (PDCI)
Review of Product Chemistry and Acute Toxicity Data

Registration: Spin-Aid Herbicide (EPA Reg. No. 264-616)

Dear Dr. Chow:

The Agency has reviewed the storage stability and corrosion characteristics (MRID 47505102) and the acute dermal (MRID 47453401) data submitted to support the reregistration of EPA Reg. No. 264-616.

The Agency has determined that these storage stability and corrosion characteristics data are acceptable and satisfy the product chemistry data requirements for Guidelines 830.6317 Storage Stability and 830.6320 Corrosion Characteristics. Also, the acute dermal study is acceptable and satisfies the data requirements for Guideline 81-2. All of the product chemistry and acute toxicity data requirements are now fulfilled. Copies of the Agency's reviews are enclosed for your records. If you have any questions, please contact me at (703) 308-8047.

Sincerely,

A handwritten signature in black ink that reads "Karen Jones".

Karen Jones, Review Manager
Product Reregistration Branch
Special Review and Reregistration Division

Enclosures

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Spin-Aid® HERBICIDE

FOR AGRICULTURAL USE ONLY

Postemergence Herbicide for Control of Weeds in Spinach (Grown for Processing and Seed Only) and Red Beets

ACTIVE INGREDIENT: Phenmedipham* 15.9%

INERT INGREDIENTS: 84.1%

*3-methoxycarbonylamino-phenyl-3-methylcarbanilate

TOTAL 100.0%

Contains 1.3 lbs. active ingredient per gallon.

This product contains the toxic inert ingredient isophorone.

*CAS Number: 13684-63-4

EPA Reg No. 264-616

EPA Est. No. 407-IA-02

KEEP OUT OF REACH OF CHILDREN WARNING — AVISO

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

For MEDICAL And TRANSPORTATION Emergencies ONLY Call 24 Hours A Day 1-800-334-7577

For PRODUCT USE Information Call 1-866-99BAYER (1-866-992-2937)

FIRST AID

IF SWALLOWED:	- Immediately call a poison control center or doctor for treatment advice. - Do not induce vomiting unless told to do so by a poison control center or doctor. - Have person sip a glass of water if able to swallow. - Do not give anything by mouth to an unconscious person.
IF IN EYES:	- Hold eye open and rinse slowly and gently with water for 15-20 minutes. - Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. - Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING:	- Take off contaminated clothing. - Rinse skin immediately with plenty of water for 15-20 minutes. - Call a poison control center or doctor for treatment advice.
For MEDICAL Emergencies Call 24 Hours A Day 1-800-334-7577. Have the product container or label with you when calling a poison control center or doctor or going for treatment.	
NOTE TO PHYSICIAN: Empty stomach contents by gastric lavage. Avoid aspiration.	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

WARNING

HARMFUL IF SWALLOWED. MAY PRODUCE SEVERE IRRITATION OF EYES AND IRRITATION OF SKIN. AVOID BREATHING SPRAY MIST. AVOID CONTACT WITH SKIN AND EYES.

Do not apply when weather conditions favor drift from treated areas.

AVOID CONTAMINATION OF FEED AND FOODSTUFFS.

PERSONAL PROTECTIVE EQUIPMENT

Some materials that are chemical-resistant to this product are barrier laminate or butyl rubber ≥ 14 mils. If you want more options, follow the instructions for category B on an EPA chemical resistance category selection chart.

Mixers, loaders, applicators and other handlers must wear:

- Long-sleeved shirt and long pants,
- Shoes and socks, and
- Chemical-resistant gloves for mixers and loaders.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco.

Remove and wash contaminated clothing before reuse.

Remove clothing/PPE 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.

ENGINEERING CONTROLS STATEMENT

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS. Pilots must use an enclosed cockpit that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240(d)(6)].

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic organisms. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to fish and aquatic organisms in adjacent aquatic sites. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in original container and keep closed. Store in a cool, dry place. Do not use or store near heat or open flame.

PESTICIDE DISPOSAL: Do not contaminate water, food or feed by storage or disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Triple rinse (or equivalent), then offer for recycling or reconditioning; or puncture and dispose of in a sanitary landfill; or by other procedures approved by State and local authorities.

DO NOT REUSE THIS CONTAINER**DIRECTIONS FOR USE**

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

Read the entire Directions for Use before using this product.

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. 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 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
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

GENERAL INFORMATION

SPIN-AID® is a selective postemergence herbicide for use in spinach (grown for processing and seed) and red (table) beets.

Note: Use SPIN-AID® Herbicide on spinach only when temperatures are below 75°F in order to prevent possible injury. SPIN-AID® is effective for control of the following weeds:

Wild mustard	<i>Brassica kaber</i>
Common lambsquarters	<i>Chenopodium album</i>
Shepherdspurse	<i>Capsella bursa-pastoris</i>
London rocket	<i>Sisymbrium irio</i>
Nettleleaf goosefoot	<i>Chenopodium murale</i>
Groundcherry	<i>Physalis lanceifolia</i>
Coast fiddleneck	<i>Amsinckia intermedia</i>
Common chickweed	<i>Stellaria media</i>
Purslane	<i>Portulaca oleracea</i>
Common ragweed	<i>Ambrosia artemisiifolia</i>
Annual sowthistle	<i>Sonchus oleraceus</i>

For best results, spray when the weeds are at the two-leaf stage.

USE PRECAUTIONS

DO NOT APPLY THIS PRODUCT THROUGH ANY TYPE OF IRRIGATION SYSTEM.

DO NOT APPLY SPIN-AID® TO SPINACH LATER THAN 21 DAYS PRIOR TO HARVEST. DO NOT APPLY SPIN-AID® TO RED BEETS LATER THAN 60 DAYS PRIOR TO HARVEST.

DO NOT ROTATE WITH CEREAL GRAIN CROPS FOR 120 DAYS FOLLOWING POST-EMERGENCE APPLICATION OF SPIN-AID®.

SPIN-AID® MAY CAUSE INJURY IF THE CROP IS UNDER STRESS FROM ONE OR MORE OF THE FOLLOWING CONDITIONS:

- Rapid climatic changes from cool, overcast days, to hot (75°F or over), bright days. Windy conditions or drought
- Use of a preplant or preemergence herbicide or other chemicals
- Insect or disease injury
- Close cultivation

Not all cultivars/varieties for processing or seed production have been tested for sensitivity to SPIN-AID®. Consult with your seed provider, your local Bayer CropScience representative and/or other knowledgeable agricultural professionals for advice on varietal tolerance before applying SPIN-AID®. If the tolerance of a variety is not known, apply SPIN-AID® to a small area to first determine if this variety is tolerant prior to spraying large acreages of that variety.

If stress conditions are present, delay application in order to give plants a chance to recover.

If extreme weather conditions are of short duration, delay spraying until the end of such a period.

If SPIN-AID® applications must be made on days with extreme temperature and/or brightness, delay spraying until evening.

DO NOT OVERTREAT: The use of higher than recommended rates may cause injury.

Do not spray while dew is present.

Rainfall within 6 hours of spraying may reduce weed kill. Do not allow spray drift to contact adjacent crops which may be injured by spray drift.

IMPORTANT

SPIN-AID® Herbicide may cause temporary growth retardation and/or chlorosis or tip-burn. Crops usually resume normal growth within 10 days.

When used as directed, SPIN-AID® at full rates is selective in spinach and red beets past the 4 to 6 true-leaf stage. Crops may be severely injured if treated before the 4 to 6 true-leaf stage at the full rates of 3 to 6 pints per acre. For using alternative lower rates on smaller spinach see directions for split applications under the rate of application section below.

The stage of growth of the weeds is very important for satisfactory control.

For best results, spray when the weeds are at the two true-leaf stage. Best results are obtained when the weeds are actively growing and are not under water or heat stress.

MIXING THE SPRAY: MAKE SURE THE SPRAYER IS CLEAN.

SPIN-AID® is an emulsifiable concentrate. The formulation contains sufficient wetting agents for optimum coverage. Do not add additional wetting agents or other spray adjuvants. Add sufficient water to fill the lines. Then add the desired amount of SPIN-AID® and

the remaining quantity of water with the bypass agitator running. Bypass agitation is sufficient. Mechanical agitation is not necessary. Only use freshly prepared spray emulsions.

Always spray immediately after preparing the spray solution. Prepare only enough spray solution to last less than four hours.

RATE OF APPLICATION

- **By Ground:** Apply SPIN-AID® at the rate of 3 to 6 pints per acre to spinach at the 4-true leaf stage or larger in 10 to 20 gallons of water on a broadcast basis.
- For band application, see dosage chart. TOO MUCH WATER MAY CAUSE PRECIPITATION.

DOSAGE CHART FOR BAND APPLICATIONS

Band Rate		
Broadcast Equivalent	Band Width	Row Spacing 26"
3 pints/acre	5"	9.2 fl. oz.
	7"	12.9 fl. oz.
6 pints/acre	5"	18.5 fl. oz.
	7"	25.8 fl. oz.

- **By Air:** Apply SPIN-AID® at the rate of 3 to 6 pints per acre to spinach at the 4-true leaf stage or larger using 5 to 20 gallons of spray per acre.

SPLIT APPLICATION METHOD USING REDUCED RATES

SPIN-AID® can be applied as a split application for weed control. The first application of only 2 ½ to 3 pints per acre can be applied at the 2 to 4-leaf stage of spinach (instead of the 4 to 6 true-leaf stage) followed by a sequential application of only 3 pints, 4 to 6 days later. Use a maximum of 6 pints per acre per year total with the split application method.

Avoid phytotoxic spray drift to nontarget crops during application of SPIN-AID®.

DO NOT APPLY WHEN WIND SPEED IS OVER 10 MILES PER HOUR. AVOID APPLICATIONS WHEN CONDITIONS FAVOR DRIFT.

PRACTICES TO LOWER THE POTENTIAL FOR SPRAY DRIFT

Avoiding spray drift at the application site is the responsibility of the applicator and the grower. The interactions of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

1. The distance of the outer most nozzles on the boom must not exceed $\frac{3}{4}$ the length of the wingspan or rotor.
2. Nozzles must always point backward, parallel with the air stream, and never be pointed downward more than 45 degrees.

Where States or Tribes have more stringent regulations, they should be observed.

The applicator should be familiar with, and take into account, the information covered in the following section: "Aerial Drift Reduction Advisory Information".

AERIAL DRIFT REDUCTION ADVISORY INFORMATION

Information On Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions. (See *Wind, Temperature and Humidity*, and *Temperature Inversions*.)

Controlling Droplet Size:

- **Volume** – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** – Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** – Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** – Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.

- **Nozzle Type** – Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length:

The boom length must not exceed 70% of the wingspan or 85% of the rotor blade diameter.

Application Height:

Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment:

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

Wind:

Drift potential is lowest between windspeeds of 2 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity:

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions:

Do not make any type of application into temperature inversions. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light-to-no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if the fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas: The pesticide should be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, nontarget crops) is minimal (e.g., when wind is blowing away from sensitive areas).

IMPORTANT: READ BEFORE USE

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

CONDITIONS: The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Bayer CropScience. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPSCIENCE MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, THAT EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. No agent of Bayer CropScience is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPSCIENCE DISCLAIMS ANY LIABILITY WHATSOEVER FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

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NET CONTENTS: 2.5 gallons

Spin-Aid® is a registered trademark of Bayer

Produced for



Bayer CropScience

**Bayer CropScience LP
P.O. Box 12014, 2 T.W. Alexander Drive
Research Triangle Park, North Carolina 27709
1-866-99BAYER (1-866-992-2937)**

Spin-Aid Herbicide (PENDING) EPA PDCI 10/19/07.