

AUG 7 1994

Mr. Gary R. Sandberg
Elf Atochem N.A., Inc.
2000 Market Street
Agchem Division, 21st Floor
Philadelphia, PA 19103

Dear Mr. Sandberg:

Subject: Penncozeb Fungicide
EPA Reg. No. 4581-358
Your Submission of November 30, 1993

The amendment referred to above, submitted in connection with registration under section 3(c)(7)(A) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), is acceptable provided that you:

1. Submit/cite all data required for registration or reregistration of your product under FIFRA section 3(c)(5) or 4(a) when the Agency requires all registrants of similar products to submit such data.

2. Make the labeling changes listed below before you release the product for shipment bearing the amended labeling:

- a. Add the heading "Foliar Applications" above the section beginning "When EBDC Products Used ---". Following these sections, add the heading "Seed Treatment" under which you must add "In addition to the maximum number of foliar applications permitted by the formula stated above, a single application or seed treatment may be made on crops which have registered seed treatment uses".

- b. The amended labeling does not contain the required Worker Protection Standard labeling. Assure that the WPS labeling which was accepted for this product is incorporated into this label.

3. Submit five (5) copies of your final printed labeling before you release the product for shipment.

86

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

Sincerely yours,

SR
Steve Robbins
Acting Product Manager (21)
Fungicide-Herbicide Branch
Registration Division (7505C)

Enclosure

7505C:C.Grable:cg:8/17/94

elf atochem
ATO

386
ACCEPTED
with COMMENTS
In EPA Letter Dated

AUG 17 1994

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended for the pesticide
registered under EPA Reg. No.
4581-358

PENNCOZEB

Fungicide

**An 80% Coordination Product of Manganese and Zinc
and Ethylenebisdithiocarbamate**

ACTIVE INGREDIENT:

A coordination product of zinc ion and manganese ethylene

| | |
|--|-----|
| bisdithiocarbamate | 80% |
| Manganese + + | 16% |
| Zinc + + | 2% |
| Ethylenebisdithiocarbamate ion (C ₄ H ₆ N ₂ S ₄) | 62% |

INERT INGREDIENTS: 20%

TOTAL: 100%

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KEEP OUT OF REACH OF CHILDREN

CAUTION

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED, call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

IF ON SKIN, wash with plenty of soap and water. Get medical attention.

IF IN EYES, flush eyes with plenty of water. Call a physician if irritation persists.

See Inside Panel for Additional Precautionary Statements

EPA Registration No. 4581-358

EPA Establishment No. 33910-HL-01

NET CONTENTS 50 Lbs./22.6 Kg

Sold by
ELF ATOCHEM NORTH AMERICA, INC.—AGCHEM DIVISION
Philadelphia, PA

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS (AND DOMESTIC ANIMALS) CAUTION

May cause irritation of eyes. Harmful if swallowed, inhaled, or absorbed through skin. Avoid contact with eyes, skin, or clothing. Wash thoroughly with soap and water after handling.

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.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark, except as specified for the labeled use on cranberries. Do not contaminate water when disposing of equipment washwaters.

CHEMICAL HAZARDS

Do not allow to become wet during storage. This may lead to certain chemical changes which will reduce the effectiveness of the product as a fungicide and create vapors which may be flammable. Keep container closed when not in use.

GENERAL INFORMATION

PENNCOZEB is a wettable powder containing a coordination product of zinc ion and manganese ethylenebisdithiocarbamate, and is recommended for use as a spray for the control of many important plant diseases.

DIRECTIONS FOR USE

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

WORKER SAFETY RULES

Keep all unprotected persons, children, livestock, and pets away from treated area or where there is danger of drift.

Do not rub eyes or mouth with hands. See Statement of Practical Treatment.

PERSONAL PROTECTIVE EQUIPMENT

HANDLERS (MIXERS, LOADERS, AND APPLICATORS) AND EARLY REENTRY WORKERS MUST WEAR THE FOLLOWING PROTECTIVE CLOTHING AND EQUIPMENT: coveralls over long-sleeved shirt and long pants, shoes, socks, and chemical-resistant gloves. During mixing and loading, a chemical-resistant apron and goggles or a face shield must also be worn. For agricultural workers, where completely enclosed cabs with positive pressure filtration or an enclosed cockpit for aerial application are used, a long-sleeved shirt and long pants may be worn in place of the protective clothing described above. Chemical-resistant gloves must be available in the cab or cockpit and worn upon exiting. The gloves must be kept in an enclosed container in the cab or cockpit to prevent contamination of the inside of the cab or cockpit.

IMPORTANT! Before removing gloves, wash them with soap and water. Always wash hands, face, and arms with soap and water before eating, smoking or drinking. Always wash hands and arms with soap and water before using the toilet.

After work take off all clothes and shoes. Shower using soap and water. Wear only clean clothes. Do not use contaminated clothing. Wash protective clothing and protective equipment with soap and water after each use. Personal clothing worn during use must be laundered separately from household articles. Clothing and protective equipment heavily contaminated or drenched with PENNCOZEB must be destroyed according to state and local regulations. **HEAVILY CONTAMINATED OR DRENCHED CLOTHING CANNOT BE ADEQUATELY DECONTAMINATED.**

During aerial application, human flaggers are prohibited unless in totally enclosed vehicles.

REENTRY STATEMENT

Do not enter treated areas without protective clothing within 24 hours after application. 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. When oral warnings are given, such 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 the workers. Written warnings must include the following information: "CAUTION. Area treated with PENNCOZEB Fungicide on (date of application)." Do not enter without protective clothing within 24 hours of application.

After sprays have dried do not enter or allow entry into treated areas until the 24-hour reentry interval has expired unless wearing the personal protective equipment listed on this label.

INSTRUCTIONS FOR APPLICATION

FOR AIR APPLICATION use at the rate indicated in sufficient water for thorough coverage, a minimum of 2 gallons per acre for field crops and 10 gallons per acre for orchard crops.

Use a Spreader Sticker at rate of 4 fl. oz. per 100 gallons spray if needed. Add product slowly to water in the spray tank with agitation, or premix thoroughly in separate holding tank for concentrate or aircraft sprayers. Continuous agitation is required to keep the product in suspension.

When dosage ranges are given, use the higher rate and shorter intervals under severe disease pressure, but do not exceed the maximum rate or apply more frequently than the minimum interval given in the directions for that crop.

Where EBDC Products Used Allow The Same Maximum Poundage of Active Ingredient Per Acre Per Season

If more than one product containing an EBDC active ingredient (maneb, mancozeb, or metiram) is used on a crop during the same growing season and the EBDC products used allow the same maximum poundage of active ingredient per acre per season, then the total poundage of all such EBDC products used must not exceed any one of the specified individual EBDC product maximum seasonal poundage of active ingredient allowed per acre.

Where EBDC Products Used Allow Different Maximum Poundage of Active Ingredient Per Acre Per Season

If more than one product containing an EBDC active ingredient is used on a crop during the same growing season and the EBDC products used allow different maximum poundage of active ingredient per acre per season, then the total poundage of all such EBDC products used must not exceed the lowest specified individual EBDC product maximum seasonal poundage of active ingredient allowed per acre.

FIELD CROPS

| CROPS | DISEASES | RATE LBS./ACRE | DIRECTIONS |
|---|---|-------------------|--|
| Field Corn and Corn Grown for Seed | Common Rust Helminthosporium Leaf Blight | 1.0-1.5 | Start application at the onset of disease and repeat as needed. Do not apply more than 12 lbs. active ingredient per season (15 lbs. product). Do not apply within 40 days of harvest. |
| Cotton | Rust | 1.5-2.0 | Start applications at the onset of disease. Apply as needed. Do not apply more than 6.4 lbs. active ingredient per season (8.0 lbs. product). Do not apply within 60 days of harvest (or after boll opening). |
| Peanuts | Cercospora Leaf Spot Rust | 1.0-2.0 | Begin applications when disease first appears and repeat at 7- to 14-day intervals, using shorter intervals during humid weather. Do not feed treated vines to livestock. Do not use more than 12.8 lbs. active ingredient (16 lbs. product) per acre per season. Do not apply within 14 days of harvest. |
| Sugarbeets | Cercospora Leaf Spot Rust | 1.5-2.0 | Begin applications when disease first threatens and repeat at 7- to 10-day intervals. Do not apply more than 12.8 lbs. active ingredient (16 lbs. product) per acre per season. Do not apply within 14 days of harvest. |
| Wheat Barley Oats Rye | Helminthosporium Leaf Spot Septoria Leaf Spot Septoria Glume Blotch Leaf Rust Tan Spot | 1.5-2.0 | Start application at onset of disease or when plants are entering jointing stage and repeat at 7- to 10-day intervals. Do not make more than 3 applications per season. Do not apply more than 4.5 lbs. active ingredient (6.0 lbs. product) per acre per crop. Do not apply within 26 days of harvest. Do not graze livestock in treated areas prior to harvest. Do not apply after heading (around 10-5 leaves). |

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VEGETABLE CROPS

| CROPS | DISEASES | RATE LBS/ACRE | DIRECTIONS |
|---|--|------------------|---|
| Tomatoes | Rust Cercospora Leaf Spot | 2 0 | Begin applications when rust first appears and repeat at 10 day intervals as needed. Use only on ferns after spears have been harvested. Do not apply more than 6.4 lbs. active ingredient (8 lbs. product) per acre per season. Do not apply within 180 days of harvest. (In California and Arizona the PHI is 120 days) |
| Sweet Corn Popcorn Sweet Corn used for seed production | Common Rust Helmintosporium Leaf Blight | 1 0 1 5 | East of the Mississippi (including Arkansas & Louisiana) Apply in sufficient water for thorough coverage. Start applications when disease first appears and repeat at 4-7 day intervals. Do not apply within 7 days of harvest. Do not feed treated forage (plant stalk and leaves) to livestock. Do not apply more than 18 lbs. active ingredient (22.5 lbs. product) per acre per crop. |
| | | 1 0 1 5 | West of the Mississippi (except Arkansas & Louisiana) Apply in sufficient water for thorough coverage. Start applications when disease first appears and repeat at 4-7 day intervals. Do not apply within 7 days of harvest. Do not feed treated forage (plant stalk and leaves) to livestock. Do not apply more than 6.0 lbs. active ingredient (7.5 lbs. product) per acre per crop. |
| Cucumbers | Alternaria (Macrosporium) Leaf Spot Angular Leaf Spot Anthracnose Downy Mildew Pythium Fruit Rot | 1 5 3 0 | Begin when disease threatens or plants begin to run. Spray on a 7-10 day interval using higher rate and/or shorter intervals under severe disease pressure. Do not apply more than 19.2 lbs. active ingredient (24 lbs. product) per acre per season. Do not apply within 5 days of harvest. |
| Fennel | Early Blight Late Blight | 1 5 2 0 | Apply when disease threatens. Make applications as needed on a 7-10 day interval. Do not use more than 12.8 lbs. active ingredient per season (16 lbs. product). Do not apply within 14 days of harvest. |
| Melons including cantaloupes casabas creshaws honeydews watermelons | Alternaria Leaf Spot Anthracnose Cercospora Leaf Spot Downy Mildew Gummy Stem Blight | 2 0 3 0 | Apply as soon as plants begin to run or when disease threatens. Spray on a 7-10 day interval as necessary using higher rate and/or shorter intervals under severe disease pressure. Do not apply more than 19.2 lbs. active ingredient (24 lbs. product) per acre per season. Do not apply within 5 days of harvest. |
| Onions (Dry Bulb) | Botrytis Leaf Blight Downy Mildew Neck Rot Purple Blotch | 2 0 3 0 | Begin applications when diseases are first reported in the area. Repeat at 7 day intervals throughout the season. Do not apply within 7 days of harvest, do not apply to exposed bulbs. Do not apply more than 24.0 lbs. active ingredient (30 lbs. product) per acre per crop. |
| (Furrow Drench) | Smut | 3 0 | Apply as a furrow drench at time of planting onion seeds. Use 75 to 125 gallons of water per acre. Do not use more than 2.4 lbs. active ingredient (3.0 lbs. product) per 29,000 linear feet of row (18 inch spacing). Do not use in California. |
| Potatoes | Early Blight Late Blight | 1 0 2 0 | Begin applications when plants are 4-6 inches high, and repeat at 5-10 day intervals, (more frequently under severe disease conditions) throughout the season. Do not apply more than 11.2 lbs. active ingredient (14 lbs. product) per acre per crop. Do not apply within 14 days of harvest (except in Connecticut, Florida, Maine, Massachusetts, New Hampshire, New York, Pennsylvania, Vermont, Wisconsin, when a 3 day PHI is allowed). It is recommended that this product be used within a Integrated Pest Management Program. Vine kill should occur 14 days before harvest. |
| Potato Tuber Treatment | Fusarium Seed Piece Decay | | Dry whole or cut seed pieces in mixture of 1 1/4 lbs. of product per 50 gallons of water, drain and plant immediately. If seed pieces are to be held before planting, spread out to dry in a cool place. Do not use treated seed pieces for food or feed purposes. |
| Squash (Summer) | Anthracnose Downy Mildew | 2 0 3 0 | Begin when plants start to run. Spray on a 7-10 day interval as needed using higher rate and/or shorter intervals under severe disease pressure. Do not apply more than 19.2 lbs. active ingredient (24 lbs. product) per acre per season. Do not apply within 5 days of harvest. |

VEGETABLE CROPS continued

| CROPS | DISEASES | RATE LBS/ACRE | DIRECTIONS |
|----------|--|------------------|---|
| Tomatoes | Anthracnose Early Blight Late Blight Gray Leaf Mold Gray Leaf Spot Scythia Leaf Spot | 1 5 3 0 | East of the Mississippi Begin applications when seedlings emerge or transplants are set and repeat at 7-10 day intervals throughout the season. Do not apply within 5 days of harvest. Do not apply more than 16.8 lbs. active ingredient (21 lbs. product) per acre per crop. |
| | | 1 5 2 0 | West of the Mississippi Apply on a 7-10 day interval as needed. Do not apply more than 6.4 lbs. active ingredient (8 lbs. product) per acre per season. Do not apply within 5 days of harvest. |

FRUIT CROPS

| CROPS | DISEASES | RATE LBS/ACRE | DIRECTIONS |
|--|---|--|--|
| FOR POME FRUITS Use either the "Pre-Bloom" or "Extended Application" schedules. DO NOT COMBINE OR INTEGRATE THE TWO TREATMENT SCHEDULES. | | | |
| Apples, Crab- apples, Pears Quince | Rusts (including Cedar apple) Fabrea Leaf Spot Fyspeck Scab Sooty Blotch | 6 0 or (1.5 lbs. per 100 gal. in dilute spray) | PRE-BLOOM: Begin applications at 1/4 to 1/2 inch green tip and continue on a 7- to 10 day application schedule through bloom. Do not apply more than 19.2 lbs. active ingredient (24 lbs. product) per acre per year. Do not graze livestock in treated areas. |
| | | 3 0 or (0.75 lbs. per 100 gal. in dilute spray) | EXTENDED APPLICATION OR TANK MIX: For implementation of IPM programs, applications based on tree row volume or for use as a resistance management tool. Begin applications at 1/4 to 1/2 inch green tip and continue applications on a 7- to 10-day schedule through the second cover spray or to within 77 days of harvest. Do not apply within 77 days of harvest. Do not apply more than 16.8 lbs. active ingredient (21 lbs. product) per acre per year. Do not graze livestock in treated areas. It is recommended that this product be used in an Integrated Pest Management Program. |
| Bananas | Sigatoka | 2 0 3 0 | Apply when leaves first appear and repeat as needed on a 14-21 day interval. Do not apply more than 24 lbs. active ingredient (30 lbs. product) per acre per season. May be applied up to the day of harvest. |
| Cranberries | Fruit Rot | 3 0 6 0 | Begin applications at mid-bloom and repeat at 7- to 10-day intervals. Do not apply within 30 days of harvest. Do not apply more than 14.4 lbs. active ingredient (18 lbs. product) per acre per season. |
| Grapes | Black Rot Bunch Rot Deadarm Downy Mildew | 1 5 4 0 or (0.375- 1.0 lbs. per 100 gal. in a dilute spray) | East of the Rocky Mountains Apply when shoots are 1 to 1 1/2 inches long. Continue at 7-10 day intervals. Do not apply within 66 days of harvest. Do not apply more than 19.2 lbs. active ingredient (24 lbs. product) per acre per season. |
| | | 1 5 2 5 or (0.375- 0.625 lbs. per 100 gal. in a dilute spray) | West of the Rocky Mountains Apply when shoots are 1/2 to 1 1/2 inches long. Continue at 7-10 day intervals. Do not apply within 66 days of harvest. Do not apply more than 6.0 lbs. active ingredient (7.5 lbs. product). California — Do not apply after bloom. |
| Papayas | Anthracnose Phytophthora Fruit Rot Black Spot (Cercospora) | 1 5 2 5 or (0.375- 0.625 lbs. per 100 gal. in a dilute spray) | Apply first when disease pressure threatens and continue on a 14-21 day interval. Do not apply more than 28 lbs. active ingredient (35 lbs. product) per acre per season. Applications can be made up to the day of harvest. |

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136

CHEMIGATION NOT FOR THIS USE IN CALIFORNIA GENERAL INSTRUCTIONS

Apply this product only through sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Do not connect chemigation system to any public water system. Public water system means a system for the provision of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

SYSTEM REQUIREMENTS

Systems utilizing a pressurized water and pesticide injection system must meet the following requirements

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

INSTRUCTIONS FOR SPRINKLER (OVERHEAD) IRRIGATION:

Observe the requirements in the System Requirements section above.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Apply PENNCOZEB only through systems containing anti-siphon and check valves designed to prevent water source contamination or overflow of the mix tank and containing interlocking controls between the metering device and the water pump to insure simultaneous shut-off.

Maintain a gentle continuous agitation in mix tank during mixing and application to assure a uniform suspension.

Greater accuracy in calibration and distribution will be achieved by injecting a larger volume of a more dilute suspension per unit time.

Application of more than recommended quantities of irrigation water per acre may result in decreased product performance.

Do not apply when wind speed favors drift, when system connections or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product cannot be flushed and must be dismantled and drained. In a center pivot system, block the nozzle set nearest the well/pivot/injection unit to prevent spray being applied to this area.

Where sprinkler distribution patterns do not overlap sufficiently, unacceptable disease control may result.

Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water.

PENNCOZEB may be applied in conjunction with chemically neutral liquid fertilizers. Application in conjunction with highly alkaline fertilizers, such as aqueous ammonia, may cause a degradation of the pesticide, resulting in reduced performance and should be avoided.

Check local restrictions and requirements regarding sprinkler irrigation applications, as they may vary from state to state.

SPRAY PREPARATION

Remove scale, pesticide residues, and other foreign matter from the chemical tank and entire injector system. Flush with clean water.

Prepare a suspension of PENNCOZEB in a mix tank. Fill the tank with $\frac{1}{2}$ or $\frac{3}{4}$ the desired amount of water. Start mechanical or hydraulic agitation. Slowly add the required amount of PENNCOZEB and then the remaining volume of water.

APPLICATION INSTRUCTIONS

Set sprinkler system to deliver 0.1 to 1.25 inches of water per acre. Volumes of water higher than this may reduce efficacy. Start sprinkler and then uniformly inject the suspension of PENNCOZEB into the irrigation water line so as to deliver the desired rate per acre. The suspension of PENNCOZEB should be injected with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing.

NOTE: When treatment with PENNCOZEB has been completed, do not irrigate the treated area for 24 to 48 hours to prevent washing the chemical off the crop.

STORAGE AND DISPOSAL

STORAGE INSTRUCTIONS: Store in the original container in a dry area. If allowed to become wet the product will deteriorate and represent a fire hazard. Keep away from sources of ignition (e.g., sparks and open flame). Close bag when not in use. Do not store in a manner where cross-contamination with other pesticides, fertilizers, food or feed could occur. If spilled during storage or handling sweep up spillage and dispose of in accordance with the Pesticide Disposal Instructions listed below.

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

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

WARRANTY AND DISCLAIMER

Elf Atochem North America warrants that this material conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions for Use, subject to the risks referred to therein. ELF ATOCHEM MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. IN NO CASE SHALL ELF ATOCHEM OR SELLER BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, BUSINESS REPUTATION, OR CUSTOMERS, LABOR COST, OR OTHER EXPENSES INCURRED IN PLANTING OR HARVESTING.

Elf Atochem and seller offer this product and the buyer and user accept it subject to the foregoing conditions of sale and warranty which may be varied only by agreement in writing signed by a duly authorized representative of Elf Atochem.

Made and Printed in Holland

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