

MAY 15 1991

Ms. Anne Mueller
ICI America, Inc.
Agricultural Products - R & RA
Concord Pike and New Murphy Road
Wilmington, DE 19897

Dear Ms. Mueller:

Subject: Captan 80-WP
EPA Registration No. 10182-164
Letters Requesting Removal of Recommendations for
the Use of Karathane if "Powdery Mildew is a Problem"
in Apple Use Directions, Dated April 19, 1991 and
May 2, 1991

The subject labeling submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) as amended is acceptable provided that you:

Submit five (5) printed copies of the final printed label before releasing the product for shipment.

If this condition is not complied with, the registration will be subject to cancellation in accordance with FIFRA, Section 6(e). Your release for shipment of the product constitutes acceptance of this condition.

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

Sincerely yours,

Joanne I. Miller
Product Manager (23)
Fungicide-Herbicide Branch
Registration Division (H-7505C)

Enclosure



2 of 13

Captan 80-WP

A Fungicide For Plant Disease Control

ACTIVE INGREDIENTS

*Captan	78.3%
Related Derivatives	1.8%
INERT INGREDIENTS	<u>19.9%</u>
TOTAL	100.0%

*N-Trichloromethylthio-4-cyclohexene-1,2-dicarboximide

Captan 80-WP is a microfine wettable powder for use in water as a spray for the control of certain fungal diseases of fruit, and ornamental crops, and as a soil treatment for the control of certain seed roots and damping-off diseases.

KEEP OUT OF REACH OF CHILDREN

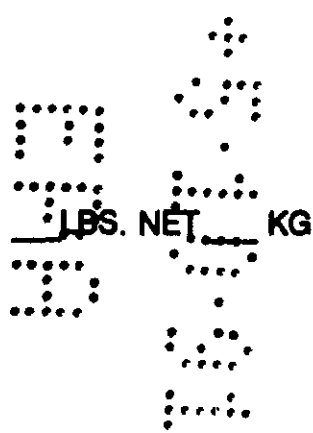
**DANGER
PELIGRO**

PRECAUCION AL USUARIO:

Si usted no lee ingles, no usu este producto hasta que la etiqueta le haya sido explicada ampliamente.

CAUSES IRREVERSIBLE EYE DAMAGE

EPA Reg. No. 10182-164
EPA Est. No.



Made in U.S.A. By
ICI Agricultural Products
ICI Americas Inc.
Wilmington, DE 19897

ACCEPTED
with COMMENTS
in EPA Letter Dated

May 15, 1991

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

10182-164

STATEMENT OF PRACTICAL TREATMENT

FIRST AID

If a known exposure occurs or is suspected, immediately start the procedures given below and contact a POISON CENTER, PHYSICIAN, OR THE NEAREST HOSPITAL. Describe the type and extent of exposure, the victim's symptoms and follow the advice given.

IF IN EYES: Flush with plenty of water. Call a physician.

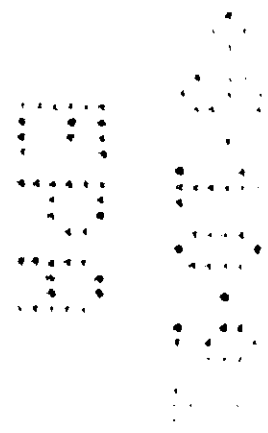
IF SWALLOWED: Drink promptly a large quantity of milk, egg whites, gelatin solutions, or if these are not available, drink large quantities of water. Avoid alcohol.

IF INHALED: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

IF ON SKIN: Wash with plenty of soap and water. Get medical attention if abnormal reaction occurs.

FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE CALL 1-800-F-A-S-T-M-E-D (327-8633)

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident call CHEMTREC 1-800-424-9300.



PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

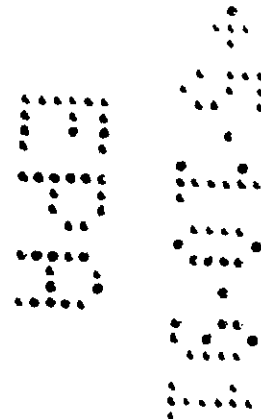
Causes irreversible eye damage. Harmful if swallowed or inhaled. May cause allergic skin reactions. Do not get in eyes. Wear goggles or face shield when handling. Avoid contact with skin and clothing. Avoid inhalation of dust or spray mist. Remove and separately launder clothing before reuse.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish. Do not apply directly to water or wetlands (swamps, bogs, marshes, and potholes). Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not clean equipment or dispose of equipment washwater in a manner that will contaminate water resources.

STORE IN COOL, DRY PLACE -- PROTECT FROM EXCESSIVE HEAT

This product is sold only for uses stated on its label. No express or implied license is granted to use or sell this product under any patent in any country except as specified: Country: United States



DIRECTIONS FOR USE

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

Read all precautions and directions for use before using. Use only for claims listed and only as specified on this label.

In order that pesticide residues on food and forage crops will not exceed federal tolerances, use only at recommended rates and intervals, and do not apply closer to harvest than specified. Do not apply or allow to drift to adjoining food, fiber or pasture crops.

Consult State Agricultural Experiment stations or State Agricultural Extension Service for additional information, as the time of applications needed will vary with the local conditions.

COMPATIBILITY AND PLANT SAFETY: Captan 80-WP can be combined safely and effectively at recommended dosage rates with most commonly used fungicides and insecticides, with the exception of oil and strongly alkaline materials. Alkaline materials such as spray lime, lime-sulfur and bordeaux mixture will reduce the fungicidal activity of Captan 80-WP. Do not apply Captan in combination with or immediately before or closely following oil sprays. The time factor governing the safe interval between Captan and oil sprays varies due to general climatic conditions, therefore, consult local agricultural spray programs and authorities to determine the proper timing. The use of spreaders which cause excessive wetting is not advised. Combinations with solvent formulations of organic phosphates should not be used. Combinations of Captan and sulfur should not be used on crops sensitive to sulfur. Used at high rates or in drenching sprays, Captan may cause a necrotic spotting of tender, immature leaves of certain varieties of apples, peaches, plums and cherries. This type of injury is most likely to occur in the early cover sprays during long periods of warm, cloudy, humid weather. To avoid the hazard of leaf spotting under such conditions, use Captan and other spray materials at lowest recommended rates and avoid drenching trees.

Applications can be made by aircraft (except not for apricots, cherries, nectarines, plums and fresh prunes) or ground power equipment (including concentrate and semi-concentrate equipment). Pour recommended amount of this material into nearly filled spray tank. Add balance of water. Maintain agitation during filling and spraying operations. Do not allow mixture to stand. Do not combine with emulsifiable liquids or wettable powders unless previous experience has proven them to be physically compatible and safe to plants. (Read compatibility and plant safety information).

For aerial or concentrate spray applications, apply the same amount of Captan 80-WP per acre as would normally be applied for dilute spray applications. Apply aerial or concentrate sprays in sufficient water for coverage. Use spray volumes of 5 to 20 gallons per acre for aerial applications.

Do not apply this product through any type of irrigation system.

USE PRECAUTIONS

Wear goggles or face shield when handling. Wash thoroughly with soap and water after handling. Remove contaminated clothing and separately launder clothing before reuse.

A dust mask must be worn when mixing and loading this product. Mixers/loaders when mixing and loading this product must wear a long-sleeved shirt and long pants or a coverall that covers all parts of the body except the head, hands and feet. Wear chemical resistant gloves, goggles or a face shield and a chemically resistant apron.

Field workers and harvesters must wear chemical resistant gloves if entering treated areas within 4 days following applications. Leather or fabric gloves are not acceptable.

During application only, from a tractor with a completely enclosed cab or from an aircraft with an enclosed cockpit, a long sleeved shirt and long legged pants must be worn. Chemically resistant gloves must be available in the cab or cockpit and worn while exiting.

Only the applicator is permitted to be in the greenhouse during application of Captan. Open vents to greenhouse during application and for at least 1 hour after application.

Workers planting in Captan-treated soil must wear chemical resistant gloves.

AFTER WORK: Take off all clothes and shoes. Shower using soap and water. Do not wear contaminated clothing. Wash protective clothing and 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 Captan must be destroyed according to state and local regulations.

RE-ENTRY

- 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.
- Do not allow persons to enter treated areas within 4 days following application unless a long-sleeved shirt and long pants or a coverall that covers all parts of the body except the head, hands and feet and chemically resistant gloves are worn. Conspicuously post reentry information at site of application.
- 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 be given if there is reason to believe that written warnings cannot be understood by workers.

USE PRECAUTIONS

Except as specified, begin applications before or at first sign of disease and repeat as needed to maintain control, but observe use limitations. Unless otherwise specified, application can be made on the day of harvest. Apply the high rate when climatic conditions most favor disease(s) and the low rate when climatic conditions least favor disease(s). If you are unaware of the climatic conditions favorable for disease(s) claimed for the specific use sites, you must consult with your State Agricultural Extension Service to learn of these conditions.

IMPORTANT: Read label carefully. Although most of the directions on this label may be followed nationwide, a few are limited to either the eastern or western U.S. Follow those directions for your growing area where specified.

FRUIT AND NUT CROPS

ALMONDS: Brown rot twig and blossom blight, shothole, scab, leaf blight – Apply 5-2/3 pounds Captan 80-WP per acre in 20 to 300 gallons of water using ground equipment. Apply at popcorn, bloom and petal fall stages and up to 5 weeks after petal fall. Do not apply within 30 days of harvest. Hulls may be fed to livestock. Subsequent applications may be made up to 12 days of harvest in accordance with pest infestations and state agricultural extension service recommendations, provided the hulls are not fed to dairy animals or animals being finished for slaughter.

APPLES (Eastern U.S.): Primary scab, black rot (frog-eye), botrytis blossom-end-rot – Apply 3-3/4 pounds Captan 80-WP per acre in 20 to 400 gallons of water using ground equipment. Apply at 5 to 7 day intervals as needed to maintain control in prebloom, bloom, petal fall and first cover sprays.

Secondary scab, Brooks fruit spot, sooty blotch, fly speck, black rot, black pox, botryosphaeria rot, bitter rot – Apply 2½ to 3-3/4 pounds Captan 80-WP per acre in 20 to 400 gallons of water using ground equipment. Apply at 10 to 14 day intervals in second and later cover sprays. Do not apply within 14 days of harvest. Do not apply more than 37.5 pounds of Captan 80-WP per acre per year.

Powdery mildew – If powdery mildew is a problem add, 6 to 12 pounds sulfur per acre to all postbloom sprays until foliage matures. **CAUTION** – Do not use Captan 80-WP in combination with or closely following, or in alternation with wettable sulfur products on sulfur sensitive varieties of apples such as Red Delicious, Staymen, Baldwin, King, etc. as severe injury and defoliation may occur.

APPLES (Western U.S.): Primary scab – Apply 3-3/4 pounds Captan 80-WP per acre in a high volume application for preblossom sprays. In mid-summer, the dosage may be reduced to 2½ pounds per acre in high volume applications. (Pacific northwest) - Bull's eye rot, Botrytis rot -
- Apply 3-3/4 pounds Captan 80-WP per acre in 20 to 400 gallons of water using ground equipment. Make 1 or 2 applications with late cover sprays and 1 final spray prior to harvest. Do not apply within 14 days of harvest. Do not apply more than 37.5 of Captan 80-WP per acre per year.

APRICOTS: Brown rot (twig blight), jacket rot – Apply 3-1/8 pounds Captan 80-WP per acre in 20 to 250 gallons of water using ground equipment. Apply in red bud, bloom, 75% petal fall, and cover sprays. Do not apply by aerial application to apricots.

BLUEBERRIES (Western U.S.): Botrytis gray mold or berry rot, mummy berry - Apply 1½ pounds Captan 80-WP per acre in sufficient water for thorough coverage. Begin at mid-bloom, repeat at 7 to 10 day intervals until maturity.

BLUEBERRIES (Eastern U.S.): Botrytis gray mold or berry rot, mummy berry - Apply 3-1/8 pounds Captan 80-WP per acre in sufficient water for thorough coverage. Start spray program when buds swell and earliest buds have loose scales. Repeat at 7 day intervals through blossom period. Repeat at 7 to 10 day intervals from late bloom.

CHERRIES (Eastern U.S.): Brown rot, leaf spot, Botrytis rot – Apply 2½ pounds Captan 80-WP per acre in 20 to 200 gallons of water using ground equipment. Apply in prebloom, bloom, petal fall, shuck, cover and pre-harvest sprays. Applications at 3 to 4 day intervals may be necessary during bloom to control blossom blight. Repeat applications at 7 to 10 day intervals as needed to maintain control up to start of harvest. If powdery mildew is a problem, add 6 lbs. sulfur per acre to the petal fall, shuck or early cover sprays. If sulfur is added, Captan 80-WP may be reduced to 1½ pounds per acre in these sprays. Post harvest sprays: leaf spot -
- Apply 2½ pounds Captan 80-WP per acre in 20 to 200 gallons of water using ground equipment. Apply immediately after harvest and repeat application in 10 to 14 days. Do not apply by aerial application to cherries.

CHERRIES (Western U.S.): Brown rot blossom blight, brown rot (fruit), leaf spot – Apply 2½ pounds Captan 80-WP per acre in 20 to 200 gallons of water using ground equipment. Apply in prebloom, bloom, petal fall, shuck, cover and preharvest sprays. Do not apply by aerial application to cherries.

GRAPES (U.S., except California): Black rot, downy mildew – Apply 2½ pounds Captan 80-WP per acre in 20 to 200 gallons water using ground equipment. Make first application just before bloom, repeat just after bloom and at 10 to 14 day intervals for 1 to 3 additional applications depending upon the susceptibility of the grape variety. Dead Arm (current season infection) – Apply 1½ to 2½ pounds Captan 80-WP per acre in 20 to 200 gallons of water using ground equipment. Apply first application when shoots are ½ to 1 inch long. Repeat application when shoots are 4 to 6 inches long. Do not apply more than 15 pounds of Captan 80-WP per acre per year.

GRAPES (California): Bunch rot (*Botrytis*) – Apply 2½ pounds Captan 80-WP per acre in 20 to 200 gallons of water using ground equipment. Make 2 applications before bloom and 1 immediately after bloom. Repeat periodically making 3 cover applications before the bunches close. Dead Arm (current season infection) – Apply 2 to 2½ pounds Captan 80-WP per acre in 20 to 200 gallons of water using ground equipment. Apply 2½ pounds Captan 80-WP per acre in 7 to 20 gallons of water by aircraft. Apply first spray when green tissue begins to show but before shoots are 1 inch long and repeat application when shoots are 6 to 8 inches long. Do not apply more than 15 pounds of Captan 80-WP per acre per year.

NECTARINES: Brown rot, scab – Apply 5 pounds Captan 80-WP per acre in 20 to 250 gallons of water using ground equipment. Apply in full pink, bloom, petal fall, shuck, cover and preharvest sprays. Applications at 3 to 4 day intervals may be necessary during bloom to control blossom blight. Repeat application at 7 to 14 day intervals as needed to maintain control. Continue applications throughout harvest if conditions favor brown rot. If powdery mildew is a problem, add 7½ pounds sulfur per acre to the petal fall, shuck and early cover spray. If sulfur is added, Captan 80-WP may be reduced to 2½ pounds per acre in these sprays.

Coryneum blight (peach blight, shothole) – Apply 5 pounds Captan 80-WP per acre in 20 to 250 gallons of water using ground equipment. Apply in pink bud, full bloom, petal fall and cover sprays as necessary and as a post harvest spray (but before leaves drop). Do not apply by aerial application to nectarines.

PEACHES: Brown rot, scab – Apply 5 pounds Captan 80-WP per acre in 20 to 400 gallons of water using ground equipment. Apply in full pink, bloom, petal fall, shuck stages and in cover and preharvest sprays. Applications at 3 to 4 day intervals may be necessary during bloom to control blossom blight. Repeat application at 7 to 14 day intervals as needed to maintain control. Continue applications through harvest if conditions favor brown rot. If powdery mildew is a problem, add 12 pounds sulfur per acre to the petal fall, shuck and early cover spray. If sulfur is added, Captan 80-WP may be reduced to 2½ pounds per acre in these sprays. Coryneum blight (peach blight, shothole) – Apply 5 pounds Captan 80-WP per acre in 20 to 400 gallons of water using ground equipment. Apply in pink bud, full bloom, petal fall stages and cover sprays as necessary and as a post harvest spray (but before leaves drop).

PEACHES (NURSERY STOCK) (California only): Preventative preplant dip treatment for crown gall. Use 2½ pounds Captan 80-WP plus 3.2 pints diluted sodium hypochlorite (5.25% household bleach) per 100 gallons water. Wash nursery trees to remove soil from roots. Cut off all dormant buds and suckers in crown area and prune root system if necessary. Submerge the entire dormant tree for 5 minutes. Recharge dip during operation as necessary to maintain a proper concentration of 200 ppm chlorine. Check the concentration frequently using a chlorine test kit.

PLUMS, FRESH PRUNES (Eastern U.S.): Brown rot – Apply 3-3/4 pounds Captan 80-WP per acre in 20 to 300 gallons of water using ground equipment. Apply in full pink, bloom and petal fall sprays. Repeat applications at 7 to 14 day intervals as needed to maintain control. Continue

applications through harvest if conditions favor brown rot. The addition of a neutral spreader has improved coverage. Do not apply by aerial application to plums or fresh prunes.

PLUMS, FRESH PRUNES (Western U.S.): Brown rot – Apply 3-3/4 pounds Captan 80-WP per acre in 20 to 300 gallons of water using ground equipment. Apply at green bud, popcorn, bloom and petal fall stages. Repeat in cover sprays as conditions warrant. Prune russet scab (lacy scab) (in California only) – Apply 3-3/4 pounds Captan 80-WP per acre in 20 to 300 gallons of water using ground equipment. Apply at full bloom. Do not apply by aerial application to plums or fresh prunes.

STRAWBERRIES: Botrytis (gray mold), leaf spot – Apply 3-3/4 pounds Captan 80-WP per acre in sufficient water for thorough coverage. Begin applications when new growth starts in the spring and before fruit starts to form. Repeat at weekly intervals. Under conditions favorable to fruit rot, continue applications through harvest period treating immediately after each picking.

SPECIAL USES

POST HARVEST DIP: For control of various molds and storage rots (Botrytis, Gleosporium, Rhizopus). Use as a post harvest dip or wash on the following fruits: Apples, Cherries, Pears -
- Use 1-3/5 pounds Captan 80-WP per 100 gallons of water. Apply as a spray or in a dip tank. When used as a dip, recharge wash solution periodically when tank volume is reduced by 25%. Bring water back to volume and add 5/8 pound Captan 80-WP for each 25 gallons added. At end of every 8 hour shift, empty tank, flush and charge with fresh dilution. Do not allow dip tank solution to stand overnight. Maintain continuous agitation during dipping operation.

Captan wastes are acutely hazardous. Improper disposal of spray or dip tank mixtures is a violation of Federal Law. Contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance concerning the disposal of spent or excess dip tank mixtures.

ORNAMENTALS

USE PRECAUTIONS

Do not apply spray to ornamental plants listed below beyond the point of drip from the leaf surface. When applying as a drench, apply only sufficient mixture to wet the surface of the soil except when the dose is specified in terms of volume of mixture per square foot of area.

AZALEAS: Damping-off cuttings – Use 2½ pounds Captan 80-WP per 100 gallons of water. Dip cuttings before bedding. Petal blight – Use 1¼ pounds Captan 80-WP per 100 gallons of water. Apply to soil area around plants and spray flowers just before bloom. Repeat at 7 to 14 day intervals through bloom.

BEGONIAS (Tuberous): Damping-off, tuber rot – Use 2½ pounds Captan 80-WP per 100 gallons of water. Dip tubers 30 minutes, drain and plant.

CAMELIAS: Petal blight – Use 5/8 pound Captan 80-WP per 100 gallons of water. Apply to drench soil around plants beginning when flowers start to open. Repeat at 7 to 10 day intervals through bloom.

CARNATIONS: *Alternaria* leaf spot, rust – Use 1¼ pounds Captan 80-WP per 100 gallons of water. Begin application at first sign of disease. Repeat at 7 to 10 day intervals. Shorten intervals during frequent rains and heavy dews. Damping-off cuttings – Use 2½ pounds Captan 80-WP per 100 gallons of water. Dip cuttings before bedding.

CHRYSANTHEMUM: *Botrytis* flower blight, *Septoria* leaf spot – Use 1½ pounds Captan 80-WP per 100 gallons of water. Apply at first sign of disease. Repeat at 7 to 10 day intervals. Damping-off cuttings – Use 2½ pounds Captan 80-WP per 100 gallons of water. Dip cuttings before bedding.

DICHONDRA (California Only): White mold (*Sclerotium rolfsii*) – Use 1¼ pounds Captan 80-WP per 100 gallons of water. Apply 1 gallon spray per 10 square feet. Make 2 to 3 applications at 7 day intervals.

GLADIOLUS (Corms): Corm rot and decay, damping-off – Use 1/3 to 1 pound Captan 80-WP per 10 gallons, dip corms 20 to 30 minutes. Drain and plant.

GRASSES (Ornamental in Non-Pastured Areas Only): Leaf spot, damping-off, brown patch, melting out, seedling blights, and brown spot on St. Augustine grass – Use 1¼ pounds Captan 80-WP per 100 gallons of water. Apply 10 gallons spray per 1,000 square feet. Begin when growth starts in spring. Repeat at 7 to 14 day intervals throughout season. Do not graze treated areas or feed clippings to livestock.

GRASSES (Lawn Seedbeds): Damping-off and other soil borne diseases – Use 1/5 to 1/4 pound Captan 80-WP per 1,000 square feet or 1¼ pounds Captan 80-WP per 100 gallons of water, using 15 gallons spray per 1000 square feet. Cultivate into upper 3 to 4 inches before planting.

ROSES: Black spot, *Botrytis* blossom blight – Use 1¼ pounds Captan 80-WP per 100 gallons of water. Begin at first growth or first sign of disease. Repeat at 7 to 14 day intervals, and more frequently during frequent rains and heavy dews.

SOIL AND GREENHOUSE BENCH TREATMENT: Preplant treatment for damping-off, root rot diseases on seedling or transplants of roses (and other shrubs, trees, flowers) and lawn seedbeds – Use 1¼ pounds Captan 80-WP per 100 gallons of water at a rate of 15 gallons per 1,000 square feet. Cultivate into upper 3 to 4 inches of soil before planting.

Only the applicator is permitted to be in the greenhouse during application of Captan. Open vents to greenhouse during application and for at least 1 hour after application.

Workers planting in Captan-treated soil must wear chemical resistant gloves.

STORAGE AND DISPOSAL

PROHIBITIONS: Do not contaminate water, food or feed by storage, disposal or cleaning of equipment. Open dumping is prohibited. Do not reuse empty container.

STORAGE: Keep pesticide in original container. Keep container tightly closed when not in use. Protect from excessive heat. Store in a cool, dry place.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Do not reuse container. Completely empty container into application equipment. Then dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

NOTICE TO BUYER AND USER: Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal use conditions, or under conditions not reasonably foreseeable to Seller, and Buyer and User assume the risk of any such use. SELLER DISCLAIMS ALL OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING ANY WARRANTY OF FITNESS OR MERCHANTABILITY. SELLER SHALL NOT BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT AND SELLER'S SOLE LIABILITY AND BUYER'S AND USER'S EXCLUSIVE REMEDY SHALL BE LIMITED TO THE REFUND OF THE PURCHASE PRICE.

CAP164.RSC