



Solar Protectant

A Plant Protectant for Solar Stress

PURSHADE® forms a protective film that acts as a reflective particle barrier to the harmful effects of solar radiation. When applied to susceptible crops throughout the growing season, PURSHADE assists in the reduction of sun damage.

Active Ingredient

Calcium carbonate.....	62.5%
Inert Ingredients (glycerin, water).....	37.5%
TOTAL 100.0%	

Contains Non-Plant Food Ingredient: 62.5% carbonate as calcium carbonate by weight
37.5% inert ingredients by weight

KEEP OUT OF REACH OF CHILDREN CAUTION

PRECAUCIÓN—Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.

FIRST AID

EYE EXPOSURE:	• Flush thoroughly with water for at least 15 minutes.
SKIN EXPOSURE:	• Wash with mild soap and water.
INHALATION:	• Remove to fresh air.
INGESTION:	• No adverse effect is expected. If ingested seek medical advice.

HAZARDS TO HUMANS

May cause minimal eye irritation. Avoid contact with eyes. Do not inhale mist, dust, or vapor. Avoid exposure to mist. Wash thoroughly with warm soap and water after handling.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

All warnings from all products must be adhered to when tank-mixing PURSHADE with other products. As with all agriculture protection products, EYE PROTECTION is required to diminish the risk of injury. A DUST/MIST FILTERING RESPIRATOR is recommended in the event of possible exposure to mist during application.

STORAGE AND DISPOSAL

Store in original containers only, in a dry environment. Do not store in direct sun. Keep container closed when not in use. Avoid storing in freezing temperatures and temperatures above 110°F (43°C). Product must be disposed of in accordance with applicable federal, state, and local laws. Dispose/recycle empty container in accordance with applicable federal, state, and local laws.

WARRANTY AND LIMITATION OF DAMAGES

Tessengerlo Kerley, Inc. warrants only that this product conforms to the product description on the label. Except as warranted by this label, Tessenderlo Kerley, Inc. makes no representation or warranty or guarantee, whether expressed or implied, of fitness for a particular purpose of merchantability, or of product performance. Tessenderlo Kerley, Inc. does not authorize any agent or representative to make any such representation, warranty or guarantee. To the extent consistent with applicable law, Tessenderlo Kerley, Inc.'s maximum liability for breach of its warranty or for use of this product, regardless of the form of action, shall be limited to the purchase price of this product. To the extent consistent with applicable law, buyer and user acknowledge and assume all risks and disposal liability resulting from handling, storage, use and disposal of this product. If buyer does not agree with or accept these warranty and liability limitations, buyer may return the unopened container to the place of purchase for full refund. Buyer's use of this product shall constitute conclusive evidence of buyer's acknowledgement and acceptance of the forgoing limitations. Some states do not allow the exclusion of implied warranties or the limitation of certain damages, so the above may not apply. The purchase, delivery, acceptance and use of this product by the buyer are subject to the terms and conditions of seller's sales invoice for this product.

The use of PURSHADE in agricultural crop protection applications is covered by U.S. Patents 6,027,740, 6,110,867, and 6,464,995.

Pat. www.novasource.com/english/contact/Pages/disclaimer.aspx

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DIRECTIONS FOR USE

READ AND UNDERSTAND THE FOLLOWING BEFORE USING THIS PRODUCT

SHAKE OR MIX WELL BEFORE USING

GENERAL INFORMATION

PURSHADE assists in the reduction of damage on produce and plants caused by solar radiation. When applied to plants, PURSHADE forms a dry, semi-opaque film that acts as a barrier to harmful sunlight. PURSHADE should be diluted in sufficient water to cover and adhere to all surfaces of the target plant without causing runoff. Wait until dry before reapplying PURSHADE. The use of overhead irrigation will diminish the performance of PURSHADE.

COMPATIBILITY

PURSHADE is an alkaline product which will increase the pH of spray solutions. The degree of pH adjustment that PURSHADE will have on a spray solution is dependent on many factors including the volume of water, the pH and mineral content of the water, and the pH of other tank mix ingredients. **Conduct a jar test for compatibility before mixing PURSHADE with other tank mix ingredients known to be sensitive to high pH unless your prior use has shown the combination to be physically compatible and effective.** If unsure, test the combination on a small portion of the crop to be treated to ensure that an unwanted response will not occur as a result of the application. PURSHADE is NOT RECOMMENDED for use with phosphate fertilizers and summer oil. Application of PURSHADE close to harvest time in combination with, or just prior to, products that have a high degree of adherence to the plant (oil, stickers, etc.) may interfere with the post-harvest removal of the protective film of PURSHADE from the crop.

Compatibility with Adjuvants – PURSHADE is compatible with most adjuvants, such as non-ionic, methylated seed oil (MSO), and sticker spreader-type surfactants. When using a spreader and/or stickers with PURSHADE, a post-spray removal test should be performed BEFORE spraying the fruiting structure of the crop.

MIXING

MAINTAIN A CONSTANT AGITATION THROUGHOUT MIXING AND APPLICATION. When using a non-agitating sprayer tank, such as handheld and backpack sprayers, shake the tank on a regular basis to keep the material in suspension.

APPLICATION INSTRUCTIONS

The rate recommendations on the PURSHADE label reflect the amount of product that should be applied uniformly over an acre (hectare) of ground on a broadcast basis. Initial applications should be made at the highest recommended rates. To optimize solar protection under conditions favoring high solar stress, use the high rates and the shortest application intervals. Apply PURSHADE in sufficient water to obtain adequate coverage of foliage and fruiting structures. Application water volumes vary with crop, method of application, and amount of plant growth. If applying PURSHADE with a ground sprayer, water volumes typically range from 25–150 gallons/acre (250–1,500 liters/hectare). Water volumes for aerial application typically range from 5–20 gallons/acre (50–200 liters/hectare). **NEVER SPRAY TO THE POINT OF RUNOFF**, as resulting coverage will be poor. To provide maximum protection, applications should be made PRIOR to conditions of high solar stress. Aerial applications can be made for those crops or conditions that do not permit application using ground equipment. Do NOT apply by chemigation.

POST-HARVEST REMOVAL

Generally, PURSHADE can be removed by hand or on a commercial packing line that includes a water-filled dump tank or spray bar (water pH adjusted to 5–6) followed by a brush section for mechanical removal.

Do not apply to crops near harvest if washing to remove residues is not possible or available.

PRODUCT RATES
TANK MIX WITH WATER. DO NOT SPRAY TO RUNOFF.
APPLY WITH SUFFICIENT PRESSURE TO ACHIEVE UNIFORM COVERAGE.

CROPS	RATE OF PURSHADE ²	APPLICATION GUIDELINES
<p>Trees (Fruit & Nuts)¹ including but not limited to:</p> <p>Pome Fruit such as: apple, crabapple, quince, pear and locquat;</p> <p>Stone Fruit such as: apricot, sweet or tart cherries, nectarine, peach, plum, pluot, plumcot and prune;</p> <p>Citrus Fruit such as: lemon, lime, grapefruit, mandarin, satsuma mandarin, pummelo, tangelos, kumquat and oranges</p> <p>Tree Nuts such as: almond, beechnut, Brazil nut, butternut, chestnut, cashew, filbert, hickory nut, macadamia nut, pecan, walnut and pistachio</p>	<p>2–3 gal/acre (20–30 l/ha)</p>	<p>Always apply first application 3–10 days prior to a solar stress event for optimum performance. In sensitive crops, such as pome fruits, always ensure that applications are made prior to fruit size reaching 3/4 inch (19 mm). Subsequent applications should be made every 14–28 days as needed. In nut crops, always ensure that early developmental stages are treated. For crops that must be washed, always consult your fieldman for program recommendations.</p>
<p>Field Vegetables¹ including but not limited to:</p> <p>Legume Vegetables such as: beans, pea, chickpea, and soybean</p> <p>Root and Tuber Vegetables such as: potato, garden beet, sugar beet, horseradish, radish, ginseng, rutabaga, carrot, ginger, sweet potato, yam, and turnip</p> <p>Fruiting Vegetables such as: tomato¹, pepper¹ and eggplant¹</p> <p>Bulb Vegetables such as: onions, garlic, leek and shallot</p> <p>Cucurbit Vegetables such as: cucumber, summer and winter squash, pumpkin, citron melon, muskmelon, and watermelon</p> <p>Brassica (Cole) Leafy Vegetables such as: arugula, broccoli, Brussels sprouts, Chinese cabbages, cauliflower, collards, cabbages, mustard greens, kale, canola and kohlrabi</p> <p>Leafy Vegetables (non-Brassica) such as: celery, lettuces, parsley, rhubarb, and spinach</p> <p>Asparagus</p> <p>¹ If grown for fresh market, apply only up to ¼ of fruit size unless washing capabilities are sufficient.</p>	<p>1–2 gal/acre (10–20 l/ha)</p>	<p>First application should be made at or just after full bloom. Repeat applications should be made every 14–28 days or immediately after first harvest, or as needed. Inspection of fruit and vegetables should be made following any heavy rain event to determine if reapplication is necessary. Avoid using a sticker on produce that will be fresh packed.</p> <p>Do not apply to crops near harvest if washing to remove residues is not possible or available.</p>
<p>Cotton</p>	<p>1-2 gal/acre (10-20 l/ha)</p>	<p>First application should be made at or just after full bloom. Repeat applications should be made every 14-28 days or immediately after first harvest, or as needed. Inspection of plants should be made following any heavy rain event to determine if reapplication is necessary.</p>

NOTES:

¹ Application to crops close to harvest will result in a cosmetic residue. Unless crop is to be washed, only apply to immature crop and allow adequate time from the last application to harvest for residue to dissipate.

² The metric conversion is approximate.

CROPS	RATE OF PURSHADE ²	APPLICATION GUIDELINES
<p>Small Fruit¹ including but not limited to:</p> <p>Berries such as: blackberry, raspberry, dewberry, boysenberry, loganberry, elderberry, blueberry, cranberry, and <i>Ribes</i> spp., such as, currant and gooseberry.</p> <p>Grapes such as wine grapes and juice grapes</p>	<p>1–3 gal/acre (10–30 l/ha)</p>	<p>Apply prior to sensitive periods in berries and grapes.</p> <p>In wine grapes apply when berries reach 0.25 inch (6 mm) in diameter (pea-size); apply a second application at veraison. If needed, apply a third application 21– 28 days later. Not recommended for table grapes unless being used for cooling. For cooling plants, apply one application prior to or at fruit set.</p>
<p>Tropical Crops¹ including but not limited to: coffee, avocado, guava, mango, papaya, passion fruit, and starfruit</p>	<p>1-3 gal/acre (10-30 l/ha)</p>	<p>Always apply first application 3-10 days prior to a solar stress event for optimum performance. Subsequent applications should be made every 14-28 days as needed. Inspection of plants should be made following any heavy rain event to determine if reapplication is necessary.</p>
<p>Pineapples¹</p>	<p>1–2 gal/acre (10–20 l/ha)</p>	<p>Apply every 4–6 weeks, or as needed.</p>
<p>Bananas¹</p>	<p>2-3 gal/acre (20-30 l/ha)</p>	<p>Apply every 4–6 weeks, or as needed. Do not apply directly to the bunch.</p>
<p>Cereals & Grains and Nongrass Animal Feeds including but not limited to: corn, popcorn, oats, barley, wheat, rice, sorghum, and alfalfa</p>	<p>1 gal/acre (10 l/ha)</p>	<p>To minimize damage during stressful periods, apply product at or near flag leaf in grains and rice. In corn crops, applications should be made during or following tasseling. One application may be sufficient, but apply subsequent applications if needed.</p>
<p>Miscellaneous Crops¹ such as: globe artichoke, fig, hops, kiwifruit, olives, okra, paw paw, peanut, persimmon, pomegranate, strawberry and water chestnut</p>	<p>1-3 gal/acre (10-30 l/ha)</p>	<p>Always apply first application 3-10 days prior to a solar stress event for optimum performance. Subsequent applications should be made every 14-28 days as needed. Inspection of plants should be made following any heavy rain event to determine if reapplication is necessary.</p>
<p>Greenhouse Grown Plants: edible and non-food crops, such as all crops listed on this label</p>	<p>0.25-1 gal/acre (3-10 l/ha)</p>	<p>Apply product prior to solar stress event which may include application in the greenhouse prior to transplanting. Apply every 7-14 days. Or as needed to protect plants.</p>
<p>Transplant Protection Including but not limited to: celery, melons, peppers, and tomatoes.</p>	<p>0.25–1 gal/acre (3–10 l/ha)</p>	<p>To protect transplanted crops from solar stress, always apply product prior to, or immediately following, transplanting. For optimum performance apply every 7–14 days, or as needed to protect plants. The use of an adjuvant is recommended; test for compatibility prior to use.</p>
<p>Non-food Crops¹ Nursery & Ornamental Plants and Trees such as landscape plants (including but not limited to: Japanese red maples, shrubs, and topiaries), flowers or ornamental tree seedlings/saplings in nurseries or field plantings and Forest Trees (deciduous or evergreen) in nurseries or field plantings Christmas Trees and Hybrid Poplar Plantations</p>	<p>0.5–3 gal/acre (5–30 l/ha)</p>	<p>Always apply first application 3–10 days prior to a solar stress event for optimum protection. Subsequent applications should be made every 21– 28 days, or as needed. Sensitive crops being moved out of protected environments (e.g., greenhouses) should be treated prior to, or immediately following, being moved to the field.</p>
<p>Chill Unit Accumulation Including but not limited to: almonds, blueberries, grapes, pecans, pistachios, stone fruit</p>	<p>4-5 gal/acre (40-50 l/ha)</p>	<p>Apply one application immediately following leaf drop in the fall. The amount of PURSHADE used should correlate with the chill requirements of the crop, e.g., the higher the chill needs, the higher the application rate. NOTE: It is NOT recommended to use PURSHADE on varieties with low chill requirements (less than 250 hours). The chill unit accumulation results obtained will vary and are highly dependent on environmental conditions; orchard site; crop variety; coverage, etc. Benefits will be negligible in years when adequate chill hours are received and/or excessive rainfall erodes the deposition of product on the crop.</p>
<p>Soil Applications</p>	<p>1–5 gal/acre (10–50 l/ha)</p>	<p>To lower soil surface temperatures, apply product every 28–42 days, or as needed. Monitoring of soil should be conducted to maintain plant performance.</p>

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