

QUALI-PRO



ETHEPHON 2SL

Plant Growth Regulator for
retarding the growth of Turfgrasses

For commercial or agricultural use only.
Not for residential use.

For the removal of Dwarf Mistletoe in Ornamental Conifers
and Leafy Mistletoe in Ornamental Deciduous trees; for the
elimination of undesirable fruit on Apple, Crabapple, Carob,
and Olive trees; and for retarding the growth of Turfgrasses.

ACTIVE INGREDIENTS:	% BY WT.
Ethephon [(2-chloroethyl)- phosphonic acid]*	21.7%
OTHER INGREDIENTS:.....	78.3%
TOTAL:	100.0%

*Contains 2 pounds of ethephon per gallon

**NET CONTENTS:
2.5 GALLONS**



12903 EPA 101607/Notif 080508/Rev D

**KEEP OUT OF
REACH OF CHILDREN
DANGER - PELIGRO**

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.)

For additional precautionary, handling, and use
statements and First Aid instructions, see inside of this booklet.

EPA Reg. No.: 66222-151

EPA Est. No.: 37429-GA-001^{BT}, 37429-GA-002^{BO}

Letters(s) in lot number correspond(s) to
superscript in EPA Est. No.

Manufactured for:
Makhteshim Agan of North America, Inc. (d/b/a ADAMA)
8601 Six Forks Road, Suite 300
Raleigh, NC 27615

FIRST AID	
IF IN EYES:	<ul style="list-style-type: none"> • 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 eye. • Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • 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.
IF SWALLOWED:	<ul style="list-style-type: none"> • 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 INHALED:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for further treatment advice.
<p>Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-877-250-9291 for emergency medical treatment information.</p>	
<p>NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. No specific antidote is available. All treatments should be based on observed signs and symptoms of distress in the patient. Overexposure to materials other than this product may have occurred. Victims of severe overexposure by inhalation should be kept under medical observation for up to 72 hours for delayed onset of pulmonary edema. In a victim of overexposure by ingestion, careful gastric lavage is required due to the possibility of stomach or esophageal perforation. This material is an acid, but the use of alkaline substances to neutralize it is contraindicated.</p>	
<p>In case of spills, fire, leak or accidents call 1-800-535-5053</p>	

PRECAUTIONARY STATEMENTS

DANGER

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Corrosive: Causes irreversible eye damage. Wear safety goggles when handling. Harmful if swallowed or absorbed through skin. Do not get in eyes or on clothing. Avoid contact with skin. Do not inhale vapors, as this product will irritate mucous membranes.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Coveralls over long-sleeved shirts and long pants OR long-sleeved shirts and long pants.
- Chemical-resistant gloves made of any waterproof material such as nitrile, butyl, neoprene, and/or barrier laminate.
- Chemical-resistant footwear plus socks.
- Protective eyewear.
- Chemical-resistant headgear for overhead exposure.
- Chemical-resistant apron when mixing, loading, or cleaning equipment.

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 and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

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.

USER SAFETY RECOMMENDATIONS

Users Should:

- 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. Wash contaminated clothing before reuse.
- 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

Do not contaminate water used for irrigation or domestic purposes. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Avoid spray drift to nearby crops, as this product will cause modifications in plant growth. Plant injury or reduced yields may result. Do not plant another crop within 30 days after treatment. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

SPRAY DRIFT

Avoid spray drift. Do not apply when weather conditions may cause drift. Do not allow this product to drift onto non-target areas. Drift may result in illegal residues or injury to adjacent crops and vegetation in the form of leaf yellowing and defoliation. To avoid spray drift, do not apply aerially when wind speed is greater than 10 mph or during periods of temperature inversions. Use of larger droplet size will also reduce spray drift.

AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR.

The interaction of many equipment-and-weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses, or to applications using dry formulations.

1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with airstream and never be pointed downward more than 45 degrees.

Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the **AERIAL DRIFT REDUCTION ADVISORY** below:

AERIAL DRIFT REDUCTION ADVISORY

This section is advisory in nature and does not supersede the mandatory label requirements.

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

For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

Application Height

Applications should not be made at a height greater than 10 feet above the top of the target 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 should compensate for this displacement 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 wind speeds of 2 – 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

Applications should not occur during a temperature inversion because drift potential is high. 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 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 only 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, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

DIRECTIONS FOR USE

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

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 regulations. Read the entire label before using this product.

Do not apply Quali-Pro Ethephon 2SL through any type of irrigation system.

Do not use this product for purposes other than those listed on the label.

Do not exceed the rate of Quali-Pro Ethephon 2SL per acre per year recommended on this label.

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), notification to workers, and restricted-entry intervals. 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 48 hours. The REI is 72 hours in areas where average rainfall is less than 25 inches per year.

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 over long-sleeved shirt and long pants, chemical-resistant gloves such as any waterproof gloves, chemical-resistant footwear plus socks, and protective eyewear. For overhead exposure, chemical-resistant headgear is also required.

Notify workers of the application by warning them orally and by posting warning signs at entrance to treated areas.

GENERAL INFORMATION

Quali-Pro Ethephon 2SL removes dwarf mistletoe from ORNAMENTAL CONIFERS and leafy mistletoe from ORNAMENTAL DECIDUOUS TREES. Quali-Pro Ethephon 2SL eliminates undesirable fruit from APPLE, CRABAPPLE, CAROB, and OLIVE TREES. When used on TURFGRASES, Quali-Pro Ethephon 2SL retards grass growth to reduce mowing frequency.

For local recommendations on rates, spray volumes (gallons of water per acre), and spray equipment under varying temperature and rainfall conditions, consult your Extension Pomologist, Horticultural Specialist, or Farm Advisor for his experience with this product in your area.

When an adjuvant is to be used with this product, ADAMA suggests the use of a Chemical Producers and Distributors Association certified adjuvant.

APPLICATION VOLUMES AND SPRAY COVERAGE

Thorough spray coverage is essential to achieve maximum product effectiveness. Spray coverage is affected by choice of equipment, nozzle selection, and spray boom setup as well as spray pressure, plant size, and canopy density. For both air and ground applications, it is important to choose an equipment setup that will assure thorough coverage of plant canopy (foliage and fruit). The actual spray volume required will vary with the size and density of the plant canopy and the equipment used. In California and Arizona, use a volume of no less than 5 gallons per acre for aerial applications.

USE PRECAUTIONS

DO NOT MIX QUALI-PRO ETHEPHON 2SL WITH AMMONIUM THIOSULFATE. SUCH TANK MIXTURES MAY RESULT IN FORMATION OF TOXIC FUMES.

Mix only the amount of spray you expect to use each day. Do not allow mixed solution to stand overnight.

Avoid spray drift to nearby crops as this product will cause modification in plant growth. Plant injury or reduced yields will result. Do not plant another crop within 30 days after treatment.

Do not use Quali-Pro Ethephon 2SL with additives other than recommended on this label.

Avoid spills of concentrated product on spray equipment or airplane parts.

IMMEDIATELY RINSE ANY SPILLS WITH PLENTY OF WATER, AS QUALI-PRO ETHEPHON 2SL IS CORROSIVE.

EQUIPMENT CLEANING

Because of the acidic nature of this product, prolonged exposure to spray deposits will damage acrylic plastics, certain paints, and metals. Rinse thoroughly all exposed acrylic-plastic materials and painted surfaces with a detergent and water within one hour after exposure to spray deposits.

MISTLETOE REMOVAL

Quali-Pro Ethephon 2SL will remove dwarf mistletoe shoots in ornamental conifers and leafy mistletoe from ornamental deciduous trees.

Sites	Amount	Specific Directions	Remarks
DWARF MISTLETOE On Ornamental Conifers	2.0 pints/ 20 gallons	Apply as a foliar spray to dwarf mistletoe shoots before mistletoe seed dispersal. If mistletoe regrowth occurs, re-treat before seed dispersal.	Applications made in conjunction with silvicultural mistletoe management will prevent spread of the mistletoe parasite to other parts of the tree and other trees.
On Ornamental Douglas Firs	1.0 pint/ 20 gallons	For effective removal, all mistletoe shoots must be sprayed to wet. Use of a non-ionic surfactant at recommended rates may increase effectiveness.	Mature needle drop, that normally occurs in the fall, may be hastened by the use of Quali-Pro Ethephon 2SL. Applications of higher rates on Douglas fir may result in excessive needle drop.
LEAFY MISTLETOE On Ornamental Deciduous Trees	2.0 quarts/ 20 gallons	Make foliar applications after fall leaf drop through mid-winter. If mistletoe regrowth occurs, re-treat before mid-winter. For effective removal, all mistletoe shoots must be sprayed to wet. Use of a non-ionic surfactant at recommended rates may increase effectiveness.	Large mistletoe infections and mistletoe found in mesquite may be difficult to control with a single application and re-treatment may be necessary.

UNDESIRABLE FRUIT ELIMINATION

(For Use Only on Ornamentals)

Quali-Pro Ethephon 2SL will reduce or eliminate undesirable fruit development on apple, crabapple, carob, and olive trees.

Sites	Amount	Specific Directions	Remarks
APPLES, CRABAPPLES	8.0 – 12.0 fl. oz. per 20 gallons	Apply as a foliar spray at the flower bud to full bloom stage prior to fruit set. Wet foliage thoroughly. Excess application of Quali-Pro Ethephon 2SL can result in excessive leaf drop and/or tree defoliation. Use higher rates when temperatures are cool.	Application must be made before fruit set for best results. Some leaf drop or temporary leaf yellowing may occur after treatment.
CAROB (<i>Ceratonia siliqua</i>)	6.0 fl. oz. per 20 gallons		
OLIVE* (<i>Olea europaea</i>)	12.0 fl. oz. per 20 gallons	Apply as a foliar spray. Wet all foliage thoroughly. Amount of spray will depend on tree size.	

*This recommendation is not intended to be used on commercial fruit production as a thinning agent.

USE LIMITATIONS

- Do not treat weak trees or trees under stress (drought, insect, or disease damaged trees), as excessive leaf drop or twig drop can result.
- Do not use on small red fruited varieties of crabapple, as fruit elimination will not be satisfactory.

TURF

Quali-Pro Ethephon 2SL is a plant growth regulator that may be used to suppress the formation of seedheads of various plants including *Poa annua* and white clover. It may also be used to suppress the growth of certain cool season grasses. Quali-Pro Ethephon 2SL is foliarly absorbed and is most effective on actively growing healthy turf. For best results, apply in sufficient volume of water to provide uniform coverage. Use of spreader/sticker with an application of Quali-Pro Ethephon 2SL is not necessary. Quali-Pro Ethephon 2SL is rainfast within 2 hours. Do not allow entry into treated area until Quali-Pro Ethephon 2SL has dried. For maximum performance, delay mowing until the day after application.

Precautions and Restrictions:

- Do not treat turfgrass with poor root systems or growing under stress due to poor soil conditions, drought, disease, or insect damage.
- Do not use Quali-Pro Ethephon 2SL in areas where excessive thatch has accumulated.
- Scalping may occur on creeping bentgrass cultivars after more than 2 applications of Quali-Pro Ethephon 2SL for *Poa* seedhead suppression.
- Quali-Pro Ethephon 2SL has been used successfully on many bentgrass cultivars. Tolerance testing should be done in new cultivars before extensive use.
- Do not exceed a maximum of 30 oz. of Quali-Pro Ethephon 2SL per 1000 sq. ft. per year.
- Do not mix with ammonium thiosulfate. This tank mix may result in the formation of toxic fumes.

Seedhead Suppression: Foliar application of Quali-Pro Ethephon 2SL will provide suppression of *Poa annua* and white clover seedheads. Make the initial application prior to the emergence of new seedheads. A period of 2-3 weeks after application is required for maximum performance. Repeat applications may be made to predominately *Poa annua* or white clover sites as needed, but not less than two weeks after the previous application.

APPLICATION	SITES	RATE	SPRAY VOLUME
Poa annua and White Clover Seedhead Suppression Reapplication interval: 2 weeks or greater for all labeled grasses	Golf course turf including Greens, Tees, Fairways, and Roughs Commercial Turfgrasses including Bentgrass, Kentucky Bluegrass, Perennial Ryegrass, Tall and Fine Fescue, and Bermudagrass	5 fl. oz./ 1000 ft. ²	1.0-2.0 gal./ 1000 ft. ²

Tank Mixture with Products containing the active ingredient Trinexapac-Ethyl: Tank mixtures of Quali-Pro Ethephon 2SL at 5 oz./1000 sq. ft. and trinexapac-ethyl-containing products such as T-NEX™ or Primo MAXX® at 0.125 or 0.25 oz./1000 sq. ft. can be used to promote seedhead suppression as well as turfgrass quality. Multiple applications of the tank mix combination may be needed. The number of applications must not exceed recommendations for rates or timings for either product applied once. Follow the recommendation on each product label for the most restrictive application interval for each turfgrass. Application of this tank mixture during frost periods may cause temporary turf discoloration.

Growth Suppression: An application of Quali-Pro Ethephon 2SL slows the growth of turfgrasses, thus reducing the required frequency of mowing and the volume of clippings collected. For best turfgrass growth regulation, apply Quali-Pro Ethephon 2SL when daytime air temperatures are 65°F and rising. Quali-Pro Ethephon 2SL should only be applied once turfgrass mowing heights have been established for the season. Avoid multiple applications of Quali-Pro Ethephon 2SL in areas where excessive thatch has accumulated.

APPLICATION	SITES	RATE	SPRAY VOLUME
Turfgrass Growth Regulation Reapplication intervals: • Kentucky Bluegrass - 7 weeks • Perennial Ryegrass - 7 weeks • Tall/Fine Fescue - 4 weeks • Bentgrass - 4 weeks	Golf course turf including Greens, Tees, Fairways, and Roughs Commercial Turfgrasses Including Bentgrass, Kentucky Bluegrass, Perennial Ryegrass, Tall and Fine Fescue	5 fl. oz./ 1000 ft. ²	1.0-2.0 gal./ 1000 ft. ²

NOTE: Since Quali-Pro Ethephon 2SL is an acidic product, prolonged exposure to spray deposits will damage acrylic plastics, certain paints, and metals. Thoroughly rinse all exposed acrylic-plastic materials and painted surfaces with a detergent and water within one hour after exposure to spray deposits.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE:

Store in a cool, dry place and away from food, feed, and other pesticides.

IF SPILLED: If container is broken or contents have spilled, follow all precautions indicated above and clean up immediately. Before cleaning up, put on full-length trousers, long-sleeved shirt, protective gloves, and goggles or face shield. Soak up spill with absorbent media such as sand, earth, or other suitable material and dispose of waste at an approved waste disposal facility.

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:

Nonrefillable Container (five gallons or less): Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If container is burned, stay out of smoke.

IMPORTANT: Read the entire **DIRECTIONS FOR USE** and the **LIMITATION OF WARRANTY AND LIABILITY** before using this product. If terms are not acceptable, return the unopened product container at once.

LIMITATION OF WARRANTY AND LIABILITY

Read the entire Directions for Use, Conditions 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 ADAMA. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, ADAMA 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 ADAMA is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, ADAMA disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

LIMITATIONS OF LIABILITY: To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at ADAMA's election, the replacement of product.

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