

# RESTRICTED USE PESTICIDE

May injure (phytotoxic) susceptible non-target plants. For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification. Commercial certified applicators must also ensure that all persons involved in these activities are informed of the precautionary statements.



## Terva™ 22K

### HERBICIDE

For use in areas west of the Mississippi River for the control of susceptible broadleaf weeds and woody plants on rangeland and permanent grass pastures, fallow cropland, spring-seeded wheat, barley and oats not underseeded with a legume, non-cropland, and on Conservation Reserve Program (CRP) acres.

#### ACTIVE INGREDIENT:

Picloram: 4-amino-3,5,6-trichloropicolinic acid,  
potassium salt . . . . . 24.4%

**OTHER INGREDIENTS:** . . . . . 75.6%

**TOTAL** . . . . . 100.0%

Terva 22K contains the following acid equivalent: Picloram:  
4-amino-3,5,6-trichloropicolinic acid – 21.1% (2 lbs./gal.)

## KEEP OUT OF REACH OF CHILDREN WARNING/AVISO

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

EPA Reg. No. 81927-18-66222

#### FIRST AID

- |                    |   |
|--------------------|---|
| <b>IF IN EYES:</b> | <ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul> |
|--------------------|---|

#### HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact Prosar at 1-877-250-9291 for emergency medical treatment information.



M A N A

Distributed by:  
**Makhteshim Agan**  
of North America, Inc.  
4515 Falls of Neuse Road  
Suite 300  
Raleigh, NC 27609

**For additional precautionary,  
handling, and use statements,  
see inside of this booklet.**

EPA 051909/Rev A

**PRECAUTIONARY STATEMENTS**  
**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**  
**WARNING**

Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Prolonged or frequent repeated skin contact may cause allergic reactions in some individuals.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Some materials that are chemical resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical resistance category selection chart.

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves Category A such as barrier laminate  $\geq 14$  mils, butyl rubber  $\geq 14$  mils, nitrile rubber  $\geq 14$  mils, neoprene rubber  $\geq 14$  mils, natural rubber  $\geq 14$  mils, polyethylene  $\geq 14$  mils, polyvinyl chloride (PVC)  $\geq 14$  mils, or Viton  $\geq 14$  mils
- Shoes plus socks
- Protective eyewear

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

**USER SAFETY RECOMMENDATIONS**

**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.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENGINEERING CONTROLS**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the WPS (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

**ENVIRONMENTAL HAZARDS**

This pesticide is toxic to some plants at very low concentrations. Non-target plants may be adversely affected if pesticide is allowed to drift from areas of application. 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. Do not contaminate water used for irrigation or domestic purposes by cleaning of equipment or disposal of wastes or rinsate. Do not allow runoff or spray to contaminate wells, irrigation ditches, or any body of water used for irrigation or domestic purposes. Do not make application when circumstances favor movement from treatment site.

This chemical is known to leach through soil into groundwater under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

This chemical can contaminate surface water through spray drift. Under some conditions, picloram may also have a high potential for runoff into surface water (primarily via dissolution in runoff water) for several months post-application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow groundwater, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetative filter strips, and areas overlaying tile drainage systems that drain to surface water.

### **DIRECTIONS FOR USE**

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

This product is not intended for manufacturing or formulating.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

### **AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated such as plants, soil, or water is:

- Coveralls
- Chemical-resistant gloves Category A such as barrier laminate  $\geq 14$  mils, butyl rubber  $\geq 14$  mils, nitrile rubber  $\geq 14$  mils, neoprene rubber  $\geq 14$  mils, natural rubber  $\geq 14$  mils, polyethylene  $\geq 14$  mils, polyvinyl chloride (PVC)  $\geq 14$  mils, or Viton  $\geq 14$  mils
- Shoes plus socks
- Protective eyewear

### NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

**Entry Restrictions for Non-WPS Uses:** For applications on rangeland, permanent grass pastures, and non-cropland, do not enter or allow worker entry into treated areas until sprays have dried unless applicator and other handler PPE is worn.

### PRODUCT INFORMATION

In areas west of the Mississippi River, use Terva 22K to control susceptible broadleaf weeds and woody plants on rangeland and permanent grass pastures, fallow cropland, spring-seeded wheat, barley and oats not underseeded with a legume, non-cropland, and on Conservation Reserve Program (CRP) acres. This product is NOT for sale or use in the San Luis Valley of Colorado.

### PRECAUTIONS AND RESTRICTIONS

Use this product only as specified on this label.

Observe any special use and application restrictions and limitations including method of application and permissible areas of use as promulgated by state or local authorities.

Do not mix with dry fertilizer.

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

**Grazing Poisonous Plants:** Application of this herbicide may increase the palatability of certain poisonous plants. Do not graze treated areas until poisonous plants are dry and no longer palatable to livestock.

#### Maximum Use Rates:

**Non-cropland Areas:** Total use of picloram including re-treatments or spot treatments must not exceed 1 lb ae per acre picloram (2 quarts per acre Terva 22K) per annual growing season.

**Rangeland and Permanent Grass Pastures:** For control of noxious weeds as defined by federal, state, or local authorities, picloram may be applied at up to 1 lb ae per acre (2 quarts Terva 22K per acre) per annual growing season as a broadcast treatment. Spot treatments may be applied at the equivalent broadcast rate of up to 1 lb ae picloram (2 quarts Terva 22K) per acre.

For control of other broadleaf weeds and woody plants, picloram may be applied broadcast at up to 0.5 lb ae per acre (1 quart Terva 22K per acre) per annual growing season. Apply spot treatments at an equivalent broadcast rate of up to 1 lb ae per acre (2 quarts Terva 22K per acre) per annual growing season, but not more than 50% of an acre may be treated. Repeat treatments may be applied as necessary, but total use must not exceed the maximum amount specified.

**Cropland (Spring-Seeded Wheat, Barley and Oats):** Do not apply more than 0.09 lb ae picloram (1 ½ fluid ounces of Terva 22K) per acre during the small grain growing season.

**Fallow Cropland (Not Rotated to Broadleaf Crops):** Do not apply more than 0.25 lb ae picloram per acre (1 pint per acre of Terva 22K) as a broadcast treatment per annual growing season.

**Conservation Reserve Program (CRP) for Seeding to Permanent Grasses Only:** Do not broadcast apply more than 0.5 lb ae per acre of picloram (1 quart per acre of Terva 22K) per annual growing season or apply more than 1 lb ae per acre picloram (2 quarts per acre of Terva 22K) per annual growing season as a spot application. To reduce potential damage to subsequent small grain crops, use the lower specified rate or discontinue the use of Terva 22K at least 2 years prior to the seeding of small grain crops. After CRP, do not plant broadleaf crops in treated acres until an adequately sensitive bioassay shows that no detectable picloram is present in the soil.

### **Precautions for Avoiding Injury to Non-Target Plants**

- Do not move treated soil to other areas or use it to grow plants if they are not registered for use with picloram until an adequate sensitive bioassay or chemical test shows that no detectable picloram is present in the soil.
- Do not spray if the loss of forage legumes, including clover cannot be tolerated. Terva 22K may injure or kill legumes. New legume seedlings may not grow for several years following application of this product.
- Do not make application when circumstances favor movement from treatment site.
- Do not rotate to food or feed crops on treated land if they are not registered for use with picloram until an adequately sensitive bioassay or chemical test shows that no detectable picloram is present in the soil.
- Do not contaminate water intended for irrigation or domestic purposes. To avoid injury to crops or other desirable plants, do not treat or allow spray drift or runoff to fall onto banks or bottoms of irrigation ditches, either dry or containing water, or other channels that carry water that may be used for irrigation or domestic purposes.
- Do not apply Terva 22K on residential or commercial lawns or near ornamental trees and shrubs. Untreated trees can occasionally be affected by root uptake of herbicide through movement into the topsoil or by excretion of the product from the roots of nearby treated trees. Do not apply Terva 22K within the root zone of desirable trees unless such injury can be tolerated.
- Allow 7 days of grazing on an untreated grass pasture (or feeding of untreated hay) before transferring livestock from treated grazing areas (or feeding of treated hay) onto sensitive broadleaf crop areas; otherwise, urine and manure may contain enough picloram to cause injury to sensitive broadleaf plants.
- Do not use manure from animals grazing treated areas or feeding on treated hay on land used for growing broadleaf crops, ornamentals, orchards, or other susceptible desirable plants. Manure may contain enough picloram to cause injury to susceptible plants.
- Do not use grass or hay from treated areas for composting or mulching of susceptible broadleaf plants.
- Do not apply to snow or frozen ground. Application during very cold (near freezing) weather is not advisable.
- Do not use on flood or sub-irrigated land.

**Sprayer Cleanout:** To avoid injury to desirable plants, equipment used to apply Terva 22K should be thoroughly cleaned before reusing to apply any other chemicals.

1. Rinse and flush application equipment thoroughly after use. Dispose of rinse water in non-cropland area away from water supplies.
2. Rinse a second time, adding 1 quart of household ammonia for every 25 gallons of water. Circulate the solution through the entire system so that all internal surfaces are contacted (15-20 min.). Let the solution stand for several hours, preferably overnight.
3. Flush the solution out of the spray tank through the boom.
4. Rinse the system twice with clean water, recirculating and draining each time.
5. Nozzles and screens should be removed and cleaned separately.

### **Precautions for Avoiding Injurious Spray Drift**

For aerial applications on rights-of-way or other areas near susceptible crops, use drift control additive as recommended by the manufacturer.

Do not apply or otherwise permit Terva 22K or spray containing Terva 22K to contact crops or other desirable broadleaf plants including but not limited to alfalfa, beans, grapes, melons, peas, potatoes, safflower, soybeans, sugar beets, sunflower, tomatoes, and other vegetable crops, flowers, fruit plants, ornamentals or shade trees, or the soil containing roots of nearby valuable plants.

Applications should be made to avoid spray drift since very small quantities of spray which may not be visible may seriously injure susceptible crops during both growing and dormant periods. To minimize spray drift, use low nozzle pressure; apply as a coarse spray; and use nozzles designed for herbicide application that do not produce a fine droplet spray. To aid in further reducing spray drift, a drift control and deposition aid may be used with this product, especially when water alone is used as the carrier. If a drift control aid is used, follow all use recommendations and precautions on the product label. Do not use a thickening agent with Microfoil or Thru-Valve booms or other systems that cannot accommodate thick sprays.

**Ground Equipment:** With ground equipment, spray drift can be reduced by keeping the spray boom as low as possible; by applying 10 gallons or more of spray per acre; by keeping the operating spray pressures at manufacturer's recommended minimum pressures for the specific nozzle type used (low pressure nozzles are available from spray equipment manufacturers); by spraying when wind velocity is low (follow state regulations). Avoid calm conditions which may be conducive to air inversions. Direct sprays no higher than the tops of target vegetation and keep spray pressures low enough to provide coarse spray droplets to minimize drift. A spray thickening agent may be used to further reduce the potential for drift.

## **AERIAL APPLICATION**

### **AERIAL SPRAY DRIFT MANAGEMENT**

#### **Spray Drift Management**

AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR. The interaction of many equipment- and weather-related factors determine 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 outer most nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the airstream and never be pointed downwards more than 45 degrees.

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

The applicator should be familiar with and take into account the information covered in the [Aerial Drift Reduction Advisory](#).

### **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  $\frac{3}{4}$  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 must 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).

## **MIXING INSTRUCTIONS**

Mix the required amount of Terva 22K in water and apply as a coarse, low pressure spray using ground equipment or aircraft. Use enough spray volume to provide uniform coverage of the weeds.



**Use with Surfactants:** Addition of wetting or penetration agents is not usually necessary when using Terva 22K. However, under certain conditions such as drought, addition of a surfactant may improve efficacy. However, if foliar burn occurs too rapidly, translocation of Terva 22K will not occur and control of perennial weeds such as field bindweed may be reduced.

### **Mixing with Water**

To prepare the spray, add about half the desired amount of water in the spray tank; then with agitation, add the recommended amount of Terva 22K and other registered tank mix herbicides. Finally, with continued agitation, add the rest of the water and additives such as surfactants or drift control and deposition aids.

### **Mixing Oil/Water Emulsions (Ground and Aerial Applications)**

For aerial application, add oil to the total spray mix at the ratio of 1 part oil to 5 parts water (1:5 ratio). For ground application, add oil to the spray mix at a rate of 5 to 10% of the total mix. Do not use more than 1 gallon of oil per acre for aerial or ground application. Use agricultural spray emulsifiers such as Sponto 712 or Triton X-100 according to mixing instructions given below.

### **Batch Mixing Instructions**

With continuous vigorous agitation:

1. Add half the amount of water to be used to the spray tank.
2. Add the required amount of water-soluble herbicides such as Terva 22K, Reclaim™ herbicide, or 2,4-D amine.
3. With continued vigorous agitation, slowly add a premix of oil, emulsifier, and oil-soluble herbicides such as Remedy™ herbicide or a 2,4-D ester as required. Note: Do not add water or mixtures containing water to the premix or oil-soluble herbicide since a thick “invert” (water in oil) emulsion may be formed that will be difficult to break. An invert emulsion will also form if the premix is added to the mixing tank before the addition of water.
4. Finish filling the spray tank and maintain sufficient agitation to ensure uniformity of the spray mixture during application.

### **Mixing with Sprayable Liquid Fertilizer Solutions**

Terva 22K is compatible with most non-pressurized liquid fertilizer solutions; however, a compatibility test (jar test) should be made prior to mixing. Jar tests are particularly important when a new batch of fertilizer or pesticide is used, when water sources change, or when tank mixture ingredients or concentrations are changed. Compatibility may be determined by mixing the spray components in the desired order and proportions in a clear glass jar before large scale mixing of spray components in the spray tank.

**Note:** The lower the temperature of the liquid fertilizer, the greater the likelihood of mixing problems. Use of a compatibility aid such as Unite® or Compex® may help obtain and maintain a uniform spray solution during mixing and application. Compatibility is best with straight liquid nitrogen fertilizer solutions. Mixing with N-P-K fertilizer solutions or suspensions is more difficult and should not be attempted without first conducting a successful jar test. Agitation in the spray tank must be vigorous to be comparable with jar test agitation. For best results, liquid fertilizer rates should not exceed 50% of the total spray volume. Premix Terva 22K with water and add to the liquid fertilizer/water

mixture while agitating contents of the spray tank. Apply the spray the same day it is prepared while maintaining continuous agitation. Rinse spray tank thoroughly after use.

**Note:** Foliar-applied liquid fertilizers used as carrier for Terva 22K can cause yellowing or leaf burn of crop foliage.

Do not use spray equipment used to apply Terva 22K for other applications to land planted to or to be planted to susceptible crops or desirable sensitive plants unless it has been determined that all phytotoxic residue of this herbicide has been removed by thorough cleaning of equipment.

Local conditions may affect the use of herbicides. State agricultural experiment stations or extension service weed specialists in many states issue recommendations to fit local conditions. Be sure that use of this product conforms to all applicable regulations.

### **Tank Mixing**

Terva 22K may be applied in tank mix combination with labeled rates of 2,4-D or other products provided (1) the tank mix product is labeled for the timing and method of application for the use site to be treated; and (2) tank mixing is not prohibited by the label of the tank mix product.

### **Tank Mixing Precautions:**

- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed specified application rates. If products containing the same active ingredient are tank mixed, do not exceed the maximum allowable active ingredient use rates.
- For products packaged in water-soluble packaging, do not tank mix with products containing boron or mix in equipment previously used to apply a product mixture containing boron unless the tank and spray equipment has been adequately cleaned. (See "Sprayer Cleanout" under "Precautions for Avoiding Injury to Non-Target Plants.")
- For direct injection or other spray equipment where the product formulations will be mixed in undiluted form, special care should be taken to ensure tank mix compatibility.
- Always perform a jar test to ensure the compatibility of products to be used in tank mixture.

**Tank Mix Compatibility Testing:** A jar test is recommended prior to tank mixing to ensure compatibility of Terva 22K and other pesticides or carriers. Use a clear glass jar with lid and mix the tank mix ingredients in their relative proportions. The tank mixture is compatible if the materials mix readily when the jar is inverted several times. The mixture should remain stable after standing for ½ hour; if separation occurs, it should readily mix if agitated. An incompatible mixture is indicated by separation into distinct layers which do not readily remix when agitated and/or the presence of flakes, precipitates, gels, or heavy oily film on the jar.

## **APPLICATION METHODS**

### **Ground or Aerial Broadcast**

Use Terva 22K as a broadcast treatment by ground or aerially to control listed broadleaf weeds and woody plants. Apply Terva 22K as a coarse low-pressure spray at the specified rates in a spray volume of 1 or more gallons per acre

by air or 10 or more gallons per acre by ground. Aerial applications can be applied using aerial electrostatic spray charging systems.

### High-Volume Foliar Applications

Spray to thoroughly wet foliage and stems. An approved agricultural surfactant may be added at the manufacturer's recommended rate. Do not apply more than the maximum application rate of Terva 22K specified for a given treatment site.

### Spot Treatment

Use application rates as specified in the "Approved Uses" section of this label. Apply in a total spray volume of 20 to 100 gallons per acre. To prevent misapplication, apply spot treatments with a calibrated boom or with hand sprayers according to directions provided below. Do not exceed maximum application rates for Terva 22K for a given treatment site. On rangeland and permanent grass pastures, apply spot treatments at an equivalent broadcast rate of up to 2 quarts per acre per annual growing season, but not more than 50% of an acre may be treated. Repeat treatments may be applied, but total use must not exceed the maximum amount specified.

**Hand-Held Sprayers:** Hand-held or backpack sprayers may be used for spot applications of Terva 22K if care is taken to apply the spray uniformly and at a rate equivalent to a broadcast application. Application rates in the table are based on an area of 1000 sq. ft. Mix the amount of Terva 22K (fl. oz. or ml) corresponding to the desired broadcast rate in 0.5 to 2.5 gallons of water depending on the spray volume required to treat 1000 sq. ft. To calculate the amount of Terva 22K required for larger areas, multiply the table value (fl. oz. or ml) by the area to be treated in "thousands" of square feet; e.g., if the area to be treated is 3500 sq. ft., multiply the table value of 3.5 (calc.  $3500/1000 = 3.5$ ). An area of 1000 sq. ft. is approximately 10.5 x 10.5 yards (strides) in size.

Amount of Terva 22K per 1000 sq. ft. to Equal Specified Broadcast Rate					
¼ pt./acre	1/3 pt./acre	½ pt./acre	2/3 pt./acre	1 pt./acre	1 qt./acre
1/10 fl. oz. <sup>1</sup> (2.7 ml)	1/8 fl. oz. (3.6 ml)	1/5 fl. oz. (5.4 ml)	¼ fl. oz. (7.3 ml)	3/8 fl. oz. (11 ml)	¾ fl. oz. (22 ml)

<sup>1</sup> 1 fl. oz. = 29.6 (30) ml

### Special Application Methods

**Wick Application** – Mix 1 part of Terva 22K with 2 parts of water to prepare a 33% solution. Apply when weeds are actively growing and are above most desirable plants. For ironweed and goldenrod, best results are obtained when applications are made prior to the early bud stage. Drain the wick applicator and clean after each use. Change ropes when flow is reduced from wear, extended use, poor cleaning, or intermittent use.

**Carpet Roller Application** – Terva 22K can be applied with carpeted rollers where drift presents a hazard to susceptible crops, surface waters, and other sensitive areas. Apply to previously untreated plants less than 6 feet tall and

short enough to pass beneath the tractor without breaking off at the ground. Applications made during periods of extended drought conditions will not provide acceptable control. Do not burn, mow, or otherwise disturb the treated plants during the remainder of the growing season. Operate carpeted rollers as close to the ground as possible without breaking the stems, but above the tallest grasses. Grasses growing adjacent to treated plants may exhibit temporary injury. Maximize herbicide deposition on stems and foliage and minimize drippage losses by rotating the carpeted roller at 30 to 40 rpm with the lower edge moving in the same direction as the direction of travel. Maintain the carpet sufficiently wetted to apply up to 1 gal./acre of herbicide/water mixture to stands of average density (100 to 200 plants/acre) and up to 2 gals./acre in dense stands (300 to 400 plants/acre). Rewet rollers at regular intervals. See the “Rangeland, Permanent Grass Pastures, and Non-Cropland (Specific Use Directions: All Areas West of the Mississippi River – Carpet Roller Use)” section of this label for treatment directions.

**Soil Spot Concentrate:** Terva 22K may be applied undiluted as a spot concentrate application to control ashe juniper, eastern redcedar, and eastern persimmon (see specific user directions for these plant species which follow). Applications should precede periods of expected rainfall. Apply directly to the soil within the dripline and on the upslope side of the tree. Applications to trees taller than 12 feet are not recommended.

**Special Ground Sprayer Equipment:** To control annual and perennial weed species using special low-volume, minimum drift equipment such as the hooded Forage Chemical Mower, apply 1 to 2 pts. of Terva 22K in total volumes ranging from 1 gallon to 5 gallons per acre in water alone or as an oil/water emulsion at a 1:5 and 1:4 oil-to-water ratio for a 1 gallon and 5 gallon per acre solution respectively.

**WOODY PLANTS AND BROADLEAF WEEDS CONTROLLED BY TERVA 22K**

**Woody Plants:**

acacia, blackbrush	huisache (suppression only)
acacia, catclaw	junipers/cedars
acacia, twisted	locust
aspen	mesquite
broom, Scotch	pine, pinyon
camelthorn	rabbitbrush, Douglas
chaparral sp.	rose, Macartney
gorse	rose, multiflora
granjeno	sagebrush, fringed
guajillo	tallowtree, Chinese
	wormwood, absinth

**Annual and Perennial Broadleaf Weeds:**

bindweed, field (p)	ironweed (p)	ragwort, tansy (b)
bitterweed (a)	knawweed, diffuse (a)	Russian thistle (a)
broomweed, annual (a)	knawweed, Russian (p)	skeletonweed, rush (p)
buckwheat, wild (a)	knawweed, spotted (p)	smartweed (a)

buffalobur (a)	knapweed, squarrose (p)	snakeweed, broom (p)
bullnettle (p)	lambsquarters (a)	sneezeweed, bitter (a)
bursage (a)	larkspur, geyer (p)	sowthistle, perennial (p)
burroweed (p)	larkspur, plains (p)	spurge, leafy (p)
camphorweed (a)	larkspur, tall (p)	St. Johnswort (p)
carrot, wild (b)	lettuce, prickly (a)	starthistle, Iberian (a)
cinqefoil, sulfur (p)	licorice, wild (p)	starthistle, purple (a)
cocklebur (a)	locoweeds (p)	starthistle, yellow (a)
coneflower, upright prairie (p)	loco, woolly (p)	sunflower (a)
croton (a)	loco, Wooten (garbancillo) (p)	tasajillo (p)
crupina, common (a)	lupines (p)	thistles, annual or biennial,
daisy, ox-eye (p)	marshelder (sumpweed) (a)	including:
dock, curly (p)	mayweed (a)	thistle, bull (b)
garbancillo (Wooten loco) (p)	milkweed (p)	thistle, distaff (a)
goldaster, gray (p)	mustard, wild (a)	thistle, Italian (b)
goldaster, narrowleaf (p)	nightshade, silverleaf (p)	thistle, musk (b)
goldenrod, common (p)	pennycress (a)	thistle, plumeless (b)
goldenweed, Drummond (p)	pigweed (a)	thistle, Scotch (b)
groundsel (p)	pricklypear, plains (p)	thistles, perennial, including
henbane, black (a,b)	pricklypear, lindheimer (p)	thistle, Canada (p)
horsenettle, Carolina (p)	ragweed, bur (a)	thistle, wavy leaf (p)
horsenettle, western (p)	ragweed, common (a)	toadflax, dalmation (p)
horsenettle, white (p)	ragweed, lanceleaf (a)	toadflax, yellow (p)
horseweed (a)	ragweed, western (a)	yankeeweed (p)

(a) – annual; (b) – biennial; (p) – perennial

## **SPECIFIC USE DIRECTIONS FOR RANGELAND, PERMANENT GRASS PASTURES, AND NON-CROPLAND**

### **Requirements for Non-Cropland Areas**

Use Terva 22K to control susceptible broadleaf weeds and woody plants on non-cropland areas such as roadsides or other rights-of-way, fence rows, and around farm buildings. Up to 2 quarts of Terva 22K per acre may be applied. See “Rangeland and Permanent Grass Pastures” section for specific target weed or woody plant species treatment recommendations.

**Maximum Use Rates for Non-Cropland Areas:** Total use of Terva 22K including re-treatments or spot treatments must not exceed 2 quarts per acre per annual growing season.

### **Requirements for Rangeland and Permanent Grass Pastures for States West of the Mississippi River**

Use Terva 22K on rangeland and permanent grass pastures to control susceptible broadleaf weeds and woody plants including but not limited to those shown in the following tables. Many annual weeds at the seedling stage are controlled at the rate of 1 pt. per acre. Where a rate range is specified, choose the higher rate for dense weed infesta-

tions and for more dependable, longer-lasting control. Lower rates will perform best when applied under favorable conditions and at the optimum growth stage, but may provide a lower level of control and require re-treatment. For best results, treat when weeds are small and actively growing in the spring before full bloom; however, certain weeds may also be treated in late summer or fall. Treatments during full bloom or seed stage of some weeds may not provide acceptable control.

Refer to the “Application Methods” section of this label for information on various methods of application including ground or aerial broadcast, high volume foliar application, spot treatments, and special application methods for certain weeds or woody plants including spot concentrate application or application with special low volume or hooded spray equipment.

### **Precautions and Restrictions:**

**Maximum Use Rates for Rangeland and Permanent Grass Pastures:** For control of noxious weeds as defined by federal, state, or local authorities, Terva 22K may be applied at up to 2 quarts per acre per annual growing season as a broadcast treatment. Spot treatments may be applied at the equivalent broadcast rate of up to 2 quarts per acre.

For control of other broadleaf weeds and woody plants, Terva 22K may be applied broadcast (ground, air, or high volume foliar) at up to 1 quart per acre per annual growing season. Spot treatments (hand sprayer, calibrated boom, high volume foliar, or soil spot concentrate) may be applied at an equivalent broadcast rate of up to 2 quarts per acre per annual growing season, but not more than 50% of an acre may be treated. Repeat treatments may be applied, but total use must not exceed the maximum amount specified.

**Grazing Restrictions:** Do not cut grass for feed within two weeks after treatment when applying more than 1 quart of Terva 22K per acre. Meat animals grazing for up to two weeks after treatment should be removed from treated areas three days prior to slaughter. Do not graze lactating dairy animals on treated areas within two weeks after treatment.

Certain established grasses such as brome grass, blue gamma, and buffalograss may be suppressed when using rates of Terva 22K over 1 quart per acre. However, subsequent grass growth should be improved by release from weed competition.

### **Rangeland, Permanent Grass Pastures, and Non-Cropland (Specific Use Directions: All Areas West of the Mississippi River Except Texas, Oklahoma, and New Mexico)**

Apply Terva 22K broadcast or as a spot application unless otherwise specified (see “Application Methods” section of this label). For additional species or more specific rates, consult your area’s current Weed Control Guide and/or your local Makhteshim Agan of North America, Inc. representative.

### **Weed Control Prior to Seeding Perennial Grasses:**

Weed control with Terva 22K fits into the following grass revegetation programs. Terva 22K may be applied in the spring or early summer depending on the target weed species and grass seed planted in the fall when conditions are favorable. Alternatively, Terva 22K may be applied in the fall and grass seed planted in the winter or fall when conditions are favorable.

Apply Terva 22K at 1 qt./acre or less; see rate chart for information on control of target weed species. Depending on grass species sensitivity, there may be temporary injury on new plantings when Terva 22K is applied at 1 qt./acre. However, this injury will be insignificant in comparison with the benefit to grasses due to the removal of weed competition. Germination of annual grass species may be suppressed after treatment. To optimize weed control, it is suggested the application area be disturbed as little as possible by the seeding operation. At the very least, the site should be left undisturbed for 14 days prior to seedbed preparation or seeding. To decrease the potential for injury on sensitive grass species, increase the interval between application and seeding.

Weed Species	Broadcast Application (Rate/Acre)	Specific Use Directions
<b>Annual and Biennial Weeds:</b>		
bursage (bur ragweed) crupina, common henbane, black horseweed starthistle, Iberian starthistle, purple starthistle, yellow	1-2 pts. Terva 22K	Apply when there is adequate soil moisture and weeds are actively growing.
thistles, including bull distaff Italian musk plumeless Scotch	Fall: ½ - ¾ pt. Terva 22K  Spring: ½ - ¾ pt. Terva 22K + 1 lb. a.e. 2,4-D	Apply at the rosette stage before bolting in the spring or in the fall prior to soil freeze-up. <b>Distaff Thistle:</b> Apply at rosette stage in spring only. <b>Bolted Musk Thistle:</b> Apply before flowering at the rate of ½ - 1 pt. of Terva 22K plus 1 lb. a.e. of 2,4-D/acre.
<b>Perennial Weeds:</b>		
pricklypear, plains	½ - 1 pt. Terva 22K	Apply at peak of flowering. Use of an oil/water emulsion spray mixture may improve control. Lower rate will provide partial control (stand reduction) and high rate more complete control. Treatment response is slow and may continue for 2 years or longer.
sagebrush, fringed	½ - 1 pt. Terva 22K + 1 lb. a.e. 2,4-D ester	Apply after seed stalk elongation and early flowering and throughout the summer if growing conditions are favorable.

Weed Species	Broadcast Application (Rate/Acre)	Specific Use Directions
cinquefoil, sulfur larkspur, geyer larkspur, plains locoweeds snakeweed, broom	1 pt. Terva 22K	Apply when weeds are actively growing. <b>Sulfur cinquefoil:</b> Apply during active growth or fall regrowth. <b>Geyer larkspur:</b> Apply when plant is actively growing between rosette stage and flower bud formation. <b>Locoweeds:</b> Apply from early bud to early bloom stage. See "General Use Precautions" section of this label for note on grazing treated poisonous plants. <b>Broom snakeweed:</b> Apply during active growth between full leaf to early bloom stage.
burroweed daisy, ox-eye goldenrod, common knapweed, diffuse knapweed, spotted knapweed, squarrose rabbitbrush, Douglas thistle, Canada thistle, wavy leaf wormwood, absinth	1-2 pts. Terva 22K	Lower rates in rate range may require annual spot treatments. Control with lower rates may be improved by tank mixing with 1.0 lb. a.e. per acre 2,4-D. <b>Goldenrod:</b> Apply during active growth prior to bud stage. <b>Diffuse or spotted knapweed:</b> Optimum application from rosette to mid-bolting stage or to fall regrowth. <b>Thistle (Canada and Wavy Leaf):</b> Apply when most basal leaves have emerged, but before bud stage, or apply to regrowth in the fall. Apply rates less than 1 ½ pts./acre only under favorable conditions and in combination with 1 lb. a.e./acre of 2,4-D; retreatment may be required. <b>Absinth wormwood:</b> Apply in spring or early summer when plants are actively growing.
licorice, wild milkweed	2 pts. Terva 22K	<b>Wild Licorice:</b> Apply at bloom stage. <b>Milkweed:</b> Treat during active growth and tank mix specified rate of Terva 22K with 1 lb. a.e./acre 2,4-D.
bindweed, field gorse lupines knapweed, Russian ragwort, tansy skeletonweed, rush spurge, leafy St. John's wort toadflax, dalmation	2-4 pts. Terva 22K	Annual retreatment of these species will be required at rates at low end of rate range. Control at low end of rate range may be improved by tank mixing with 1 lb. a.e. 2,4-D. <b>Russian Knapweed:</b> Apply during active growth from bud to mid-flowering or to fall regrowth. <b>Leafy Spurge:</b> Apply at true flower stage of growth or apply to fall regrowth. Re-apply when level of control falls below 80 percent. <b>Dalmation Toadflax:</b> Apply when plants are actively growing through full bloom stage of growth.



Weed Species	Broadcast Application (Rate/Acre)	Specific Use Directions
larkspur, tall sowthistle, perennial toadflax, yellow	4 pts. Terva 22K	A retreatment program may be necessary for satisfactory control of these species. <b>Tall Larkspur:</b> For best results, apply from 6 inches tall to late bloom stage. For increased control, apply in tank mix with Ally® or Escort® herbicide and non-ionic surfactant. See "General Use Precautions" section of this label for note on grazing treated poisonous plants.
<b>Woody Plants:</b>		
juniper	4 qts. Terva 22K per 100 gallons of spray	Apply as a high volume foliar spray/individual plant treatment.
redcedar, eastern	Eastern redcedar can be controlled with spot concentrate applications of Terva 22K in either the spring (April-May) or fall (September-October). For best results, use 3 ml to 4 ml of Terva 22K (undiluted) per 3 feet of plant height. Application should precede periods of expected rainfall. Apply directly to soil within the dripline and on the upslope side of the tree. Application to trees taller than 15 feet is not recommended. Do not use more than 2 pints of Terva 22K per acre in any one year.	

**Rangeland, Permanent Grass Pastures, and Non-Cropland (Specific Use Directions: Texas, Oklahoma, and New Mexico)**

Apply Terva 22K as a broadcast treatment by ground or air, as a spot application, or high volume foliar application to control listed broadleaf weeds and woody plants unless otherwise specified (see "Application Methods" section of this label). Refer to the "Requirements for States West of the Mississippi River" for maximum use rates. To control certain species, Terva 22K may be applied alone or in combination with 2,4-D as indicated in the following table. When Terva 22K is applied alone, herbicide symptoms will be slower to appear than when it is applied in combination with 2,4-D.

Weed Species	Broadcast Application (Rate/Acre)	High Vol. Foliar (Rate/100 gal.)	Specific Use Directions
<b>Annual and Biennial Weeds:</b>			
bitterweed, western broomweed, annual buffalobur bursage (bur ragweed) camphorweed carrot, wild cocklebur croton horseweed lettuce, prickly marshelder (sumpweed, sulfaweed) ragweed, common ragweed, lanceleaf ragweed, western smartweed sneezeweed, bitter sunflower thistle, bull thistle, musk	Early Season: $\frac{1}{2}$ - 1 pt. Terva 22K + 0.5 lb. a.e. 2,4-D or $\frac{3}{4}$ - 1 $\frac{1}{2}$ pts. Terva 22K  Mid to Late Season: 1 pt. Terva 22K + 0.5-1.0 lb. a.e. 2,4-D or 1-2 pts. Terva 22K	1-2 qts. Terva 22K + 2 lbs. a.e. 2,4-D	Apply when there is adequate soil moisture and weeds are actively growing. <b>Early Season:</b> Rates specified are intended only for very early in the season when weeds are no more than 2 to 3 inches tall. <b>Mid to Late Season:</b> Rates specified are for weeds from 3 inches tall to early flowering. <b>Marshelder:</b> Use a minimum of $\frac{3}{4}$ pt./acre of Terva 22K plus 0.75 lb. a.e./acre 2,4-D + non-ionic surfactant. Apply when plants are no more than 3-6 inches tall. Control may be improved by adding ammonium sulfate at 17 lbs./100 gals. spray solution. <b>Thistles:</b> Apply when thistles are in the rosette stage before bolting. <b>Lanceleaf Ragweed:</b> Use the higher rate within the specified rate range.
<b>Perennial Weeds:</b>			
snakeweed, broom	Fall, Early Winter 1 pt. Terva 22K  Late Winter, Early Spring 2 pts. Terva 22K	—	<b>Fall and Early Winter:</b> If rainfall is less than average prior to flowering, apply after flowering is complete. If rainfall is average to above average prior to or during flowering, apply during full flower and/or active pollination before resumption of new top growth. <b>Late Winter and Early Spring:</b> Apply following sufficient precipitation (rain or snow) to stimulate active plant growth. Both basal and terminal leaves should be green and active plant growth occurring.

Weed Species	Broadcast Application (Rate/Acre)	High Vol. Foliar (Rate/100 gal.)	Specific Use Directions
bullnettle coneflower, upright prairie dock, curly horsenettle, Carolina horsenettle, western horsenettle, white ironweed nightshade, silverleaf yankeeweed	$\frac{1}{2}$ - 1 pt. Terva 22K + 0.5-1.0 lb. a.e. 2,4-D or 1-2 pts. Terva 22K	1-2 qts. Terva 22K + 2 lbs. a.e. 2,4-D	Apply when there is adequate soil moisture and weeds are actively growing. <b>Nettles and Silverleaf Nightshade:</b> Apply when plants begin to flower in spring. <b>Upright Prairie Coneflower:</b> Apply when plants are 2-6 inches tall before flowering. <b>Curly Dock:</b> Apply up to bolting. <b>Ironweed:</b> Apply up to bud stage. <b>Yankeeweed:</b> Apply when plants are 8 to 10 inches tall.
goldaster, gray goldaster, narrowleaf goldenweed, common goldenweed, Drummond ( <i>Isocoma</i> spp.)	1-2 pts. Terva 22K + 0.5-1 lb. a.e. 2,4-D or 2 pts. Terva 22K	1-2 qts. Terva 22K + 2-4 lbs. a.e. 2,4-D	<b>Gray and Narrowleaf Goldaster:</b> Apply in oil/water emulsion in spring during bud stage (prebloom). Thorough coverage is essential. <b>Goldenweed:</b> Apply in spring (April-June) when there is substantial canopy development as a result of good growing conditions. Add an agricultural surfactant at 0.25% - 0.5% or apply in oil/water emulsion. Increase spray volume (4-5 gpa by air or 15-20 gpa by ground) to ensure thorough coverage.
Poisonous Plants such as groundsel ( <i>Senecio</i> spp.) loco, woolly loco, Wooton (garbancillo)	$\frac{3}{4}$ - 1 pt. Terva 22K + 0.5-1.0 lb. a.e. 2,4-D or 1 $\frac{1}{2}$ - 2 pts. Terva 22K	1 qt. Terva 22K + 2 lbs. a.e. 2,4-D	Apply in fall or winter when there is adequate soil moisture and weeds are actively growing. See the "General Use Precautions" section of this label for note on grazing treated poisonous plants. <b>Locoweeds:</b> To improve wetting of locoweeds, use an agricultural surfactant at 0.25%-0.5% or apply in oil/water emulsion.

Weed Species	Broadcast Application (Rate/Acre)	High Vol. Foliar (Rate/100 gal.)	Specific Use Directions
<b>Woody Plants:</b>	<b>Tank Mixing: Within rate ranges for listed products, consult local cooperative extensions.</b>		
huisache (suppression)	2 pts. Terva 22K + 1 pt. Remedy™	2 qt. Terva 22K + 1 qt. Remedy™	Fall application is recommended; however, fall applications will not provide satisfactory control of other woody species in the South Texas mixed brush complex. Performance can be erratic.
juniper, including alligator redberry Utah one-seeded eastern redcedar pinyon pine	—	4 qts. Terva 22K	Apply May through July. Complete coverage is essential. Results with ashe juniper may be variable with high volume foliar application.
pricklypear, lindheimer (unburned rangeland)	2 pts. Terva 22K	4 qts. Terva 22K	Application may be made anytime, but optimum time is late August to early November. Onset of herbicidal activity is very slow and may continue for two years or longer. Good coverage is essential.
pricklypear, lindheimer (burned rangeland)	1 pt. Terva 22K	2 qts. Terva 22K	Conduct intense controlled burns from December through March and apply Terva 22K mid-April through May. Rainfall following burning can also stimulate prolific resprouting of the burned plants. Good coverage is also essential.
rose, Macartney rose, multiflora	1 qt. Terva 22K + 2 lbs. a.e. 2,4-D	1-2 qts. Terva 22K + 2-4 lbs. a.e. 2,4-D	Apply in the spring or fall when conditions are favorable for plant growth. Use an agricultural surfactant (0.5% v/v) or apply as an oil/water emulsion. Ensure thorough and uniform coverage by applying at higher spray volume (5 or more gpa by air or 20 or more gpa by ground). Avoid treatment less than 9 to 12 months after mowing when plants have a high percentage of new growth. Repeat treatment if needed, but do not exceed specified maximum use rates.

Weed Species	Broadcast Application (Rate/Acre)	High Vol. Foliar (Rate/100 gal.)	Specific Use Directions
tallowtree, Chinese	1 qt. Terva 22K + 2 lbs. a.e. 2,4-D or 1 pt. Remedy™	2 qts. Terva 22K or 1-2 qts. Terva 22K + 2-4 lbs. a.e. 2,4-D or 1 qt. Remedy™	Apply in the spring or fall when conditions are favorable for plant growth. Use an agricultural surfactant (0.5% v/v) or use an oil/water emulsion and higher spray volumes (5 gpa or more by air and 20 gpa or more by ground).
South Texas mixed brush, including acacia, blackbrush acacia, catclaw acacia, twisted granjeno guajillo mesquite prickly pear tasajillo	2 pts. Terva 22K + 2/3-1 1/3 pt. Reclaim™ or 1 to 2 pts. Remedy™	2 qts. Terva 22K + 2-3 pts. Remedy™ or 1-2 qts. Reclaim™	Apply in oil/water emulsion. Use 4 or more gpa by air or 20 or more gpa by ground. For application timing for mesquite, see comments in section on mesquite control. Tank mixing with Reclaim™ will provide improved control of pricklypear and legume species such as mesquite and acacias while tank mixing with Remedy™ will provide improved control of non-legume species such as granjeno, oaks, and hackberry.
mesquite	1-2 pts. Terva 22K + 2/3-1 1/3 pt. Reclaim™ or 2 pts. Terva 22K + 1 pt. Remedy™	1-2 qts. Terva 22K + 1-2 qts. Reclaim™ or 1 ½-3 pts. Remedy™	<b>Terva 22K Alone:</b> Apply as a water spray or oil emulsion (see mixing instructions) in 4 or more gpa by air or 10 or more gpa by ground. Increase spray volumes with increasing brush density and height to ensure adequate coverage. Where control of prickly-pear cactus is desired, use the 2 pint/acre rate of Terva 22K.

**Terva 22K in Tank Mix:** Tank mixing with Reclaim™ will provide control of pricklypear and improved control of legume species such as mesquite and acacias, while tank mixing with Remedy™ will provide improved control of non-legume species such as granjeno, oaks, and hackberry. Regrowth mesquite should be at least 4 ft. tall prior to treatment. See labels for Reclaim™ and Remedy™ for additional treatment directions and information on mesquite control. Within rate ranges given for Terva 22K and tank mix products, consult local cooperative extension.

Weed Species	Broadcast Application (Rate/Acre)	High Vol. Foliar (Rate/100 gal.)	Specific Use Directions
<b>Timing and Factors in Control:</b> The herbicidal response of mesquite is strongly influenced by environmental conditions as well as foliage condition and stage of growth. For best results, apply when new growth foliage has turned from light to dark green, when the soil temperature has reached 75°F to 83°F at a depth of 12-18 inches, and soil moisture is adequate for plant growth. Application should be made within 45 days after the critical soil temperature at the 12-18 inch depth has been reached, or if Terva 22K is applied in combination with Reclaim™ within 60 days. Product performance may be adversely affected if application is made before mesquite foliage has turned from light to dark green or if foliage has been injured or removed by late frost, insects, hail, or plant diseases. Do not apply if mesquite exhibits new (light green) growth in response to significant rainfall during the growing season. Soil temperatures at the 12-18 inch depth may vary with soil texture and drainage. Coarse-textured (sandy) soils warm up sooner than fine-textured soils (clay) soils and dry soils warm up more quickly than wet soils.			
<b>Reapplication:</b> Do not reapply in the same growing season. Re-treatment will not be effective until woody plants develop sufficient new foliage for interception, uptake, and translocation of the herbicide to plant roots.			
ashe juniper eastern redcedar eastern persimmon	Apply Terva 22K undiluted as a spot concentrate application prior to periods of expected rainfall. Apply directly to the soil within the dripline and on the upslope side of the tree. Application to trees taller than 12 feet is not recommended. See directions for "Soil Spot Concentrate" in "Application Methods" section. <b>Ashe Juniper:</b> Apply 4 to 6 ml per 3 ft. of plant height in the spring (April-May). <b>Eastern Redcedar:</b> Apply 3 to 4 ml per 3 ft. of plant height in either spring (April-May) or fall (September-October). <b>Eastern Persimmon:</b> Apply 2 to 4 ml per inch of stem diameter in spring (March through May).		

**Rangeland, Permanent Grass Pastures, and Non-Cropland (Specific Use Directions: All Areas West of the Mississippi River – Carpet Roller Use)**

Brush Species	Amount of Terva 22K	Specific Use Directions
mesquite regrowth	1 gal. alone or with 2 qts. Reclaim™ herbicide to make 8 gals. of spray mixture	Include 1 ounce of a recommended agricultural surfactant per gallon of herbicide/water mixture (0.75% vol/vol). Apply from May through August, but preferably in May and June when moisture availability is sufficient to allow normal plant growth.
huisache/blackbrush	1 gal. alone or with 2 to 3 qts. of Reclaim™ to make 8 gals. of spray mixture	Include 1 ounce of a recommended agricultural surfactant per gallon of herbicide/water mixture (0.75% vol/vol). Apply in the fall.
Refer to the "Rangeland, Permanent Grass Pastures, and Non-Cropland (Specific Use Directions: Texas, Oklahoma, and New Mexico)" table for information on timing and factors in control of mesquite.		

## **SPECIFIC USE DIRECTIONS FOR SMALL GRAINS, FALLOW CROPLAND, AND CRP ACRES**

### **Spring-Seeded Barley, Oats, and Wheat Not Underseeded With a Legume (Which is Not Flood or Sub-Irrigated and Not Rotated to Broadleaf Crops)**

Do not apply to winter wheat or barley, as crop injury may occur. Do not treat durum wheat since some varieties of durum wheat may be injured.

Use Terva 22K for the control of susceptible annual broadleaf weeds such as (but not limited to) volunteer sunflower, wild buckwheat, lambsquarters, pigweed, Russian thistle, and sowthistle. This product may cause shorter straw on some varieties of cereals, but grain yields are usually not affected.

#### **Use Restrictions**

- Do not apply Terva 22K within 50 days before harvest.
- Do not graze or feed forage from treated areas for 2 weeks after treatment. Do not harvest hay from treated grain fields.
- Use only on land that will be planted the following year to grass, barley, oats, wheat, grain sorghum, or fallowed. Do not plant grain sorghum within 8 months after application. This product is not intended for use on land planted to sweet sorghum. Do not apply more than 1 ½ fluid ounces of Terva 22K per acre during the small grain growing season.

Use Terva 22K for the control of susceptible annual broadleaf weeds such as (but not limited to) volunteer sunflower, wild buckwheat, lambsquarters, pigweed, Russian thistle, and sowthistle.

#### **Broadcast Treatment (Ground and Aerial Applications)**

Terva 22K can be applied as a single broadcast treatment by ground or aerially to control several broadleaf weeds by itself or as a tank mix with 2,4-D, MCPA, or sulfonyleurea herbicides such as Ally®. Apply Terva 22K at the rates specified in the following table in 1 to 5 gallons of water per acre by air or in 5 to 20 gallons of water per acre by ground. The addition of surfactants may aid control under dry conditions, but may cause injury to grain if used over the top. Read and follow directions and precautions on other product labels when tank mixing.

#### **Application Timing**

**Spring Wheat, Barley and Oats:** Apply from the 3- to 5-leaf stage to early jointing stage of growth as indicated in the table below. Applications at the 3- to 5-leaf stage occasionally cause slight head malformations and straw shortening, but normally do not affect yield.

## Use Rates for Spring Wheat, Barley and Oats<sup>1</sup>

Weed Species	Weed Growth Stage <sup>2</sup>	Grain Growth Stage	Amounts of Each Product Per Acre <sup>3</sup>		
			Terva 22K	4 lb. a.e./gal 2,4-D or MCPA	6 lb. a.e./gal 2,4-D or MCPA
More susceptible species such as: lambquarters pennycress wild mustard mayweed	3 inches	3- to 5-leaf to early tillering	1 fl. oz.	½ pint	1/3 pint
	3 to 6 inches	Tillering to early jointing	1 ½ fl. oz.	¾ pint	½ pint
Less susceptible species such as: volunteer sunflower wild buckwheat Russian thistle pigweed Canada thistle, top growth suppression	1 to 6 inches	Tillering to early jointing	1 ½ fl. oz.	¾ to 1 pint	½ to 2/3 pint

<sup>1</sup>For oats, do not tank mix with 2,4-D herbicides.

<sup>2</sup>For best results, treat when weeds have 2 to 4 leaves and are actively growing.

<sup>3</sup>When measuring small amounts of Terva 22K, special care must be taken not to exceed specified rates.

## Fallow Cropland (Not Rotated to Broadleaf Crops)

Apply Terva 22K as a postharvest or fallow treatment in continuous grain or during the fallow period. Terva 22K may be applied alone or in tank mix combination with 2,4-D or other herbicides registered for this use. Apply in 1 or more gallons of water per acre by air or 5 or more gallons per acre by ground.

## Application Rates

**Annual Weeds:** To control annual weeds such as Russian thistle and wild buckwheat, apply ¼ to ½ pint per acre of Terva 22K in tank mix combination with ½ to 1 lb. a.e. of 2,4-D or other herbicides registered for use on fallow land. Apply when weeds are actively growing.

**Field Bindweed:** Apply ½ to 1 pint per acre of Terva 22K plus ½ lb. to 1 lb. a.e. per acre of 2,4-D when bindweed is actively growing. Optimum time for treatment is when plant runners reach 8 to 12 inches. Use ½ pint per acre to control light to moderate infestations under good growing conditions or to reduce the potential for crop injury. Use higher specified rates for heavy infestations and longer term control. Some regrowth will occur the following season and a re-treatment program for successive years is recommended.

**Canada thistle:** Apply 1 pint per acre of Terva 22K plus 1 lb. a.e. per acre of 2,4-D when the majority of thistle plants are emerged, but prior to bud stage.



### **Crop Rotation**

Use only on land to be planted the following year to grass, barley, oats, wheat, or fallow land. Many broadleaf crops are extremely sensitive to soil residues of Terva 22K. Do not plant sensitive broadleaf crops for 36 months after treatment or until soil residues have declined to a safe level as indicated by an adequately sensitive bioassay using the intended broadleaf crop. A bioassay is recommended following treatment prior to planting any sensitive broadleaf crop.

### **Preplant Interval**

A preplant interval following application of Terva 22K prior to planting small grains is recommended to reduce or eliminate potential crop injury and/or yield reduction. The possibility for crop injury or yield reduction to occur depends on application rate, soil organic matter, rainfall, temperature, and incidence of cereal diseases. Adequate soil moisture and soil temperature during the preplant interval is important in reducing, but may not eliminate, the risk of crop injury. When considering use of Terva 22K on fallow land, growers should consider the benefit of weed control against the risk of crop damage and treat only if the risk of injury to small grains can be tolerated. The following preplant intervals are recommended:

For applications up to ½ pint per acre, allow a minimum of 45 days of soil temperatures above 40°F between application and planting.

For applications of greater than ½ pint and up to 1 pint per acre, allow a minimum of 60 days of soil temperatures above 40°F between application and planting except in the states of Idaho, North Dakota, Nebraska, Montana, Oregon, South Dakota, Washington, and Wyoming where the minimum preplant interval is 90 days.

### **Restrictions:**

- Do not apply more than 1 pint per acre as a broadcast treatment per annual growing season.
- Spot Treatment: See “Spot Treatment” in “Mixing and Application Methods” section for directions for calibration, spray volume determination, and mixing. Spot treatments of Terva 22K at rates over 1 pint per acre can be made on fallow, non-irrigated cropland if the treated areas comprise less than 10% of the immediate field in any one year. Terva 22K should not be applied to cropland at rates exceeding 2 quarts per acre. When Terva 22K is applied at rates above 1 pint per acre, injury to small grains may result for periods up to two years after treatment.

### **Conservation Reserve Program (CRP) for Seeding to Permanent Grasses Only**

Do not use Terva 22K if legumes are a desired cover during CRP.

Conditions that stress grasses such as drought will increase potential for injury to the grass at all stages of growth.

To reduce potential damage to subsequent small grain crops, use the lower specified rate or discontinue the use of Terva 22K at least 2 years prior to the seeding of small grain crops. After CRP, do not plant broadleaf crops in treated acres until an adequately sensitive bioassay shows that no detectable picloram is present in the soil.

### **Broadcast Treatment (Ground and Aerial Applications)**

Applications of Terva 22K should be made after perennial grasses are well established (have developed a good secondary root system and show good vigor). Most perennial grasses show improved tolerance to the herbicide at this stage of development.

For control of actively growing perennial weeds, use up to 2 pints per acre of Terva 22K after the grass is established. For best results, use in 1 or more gallons of water per acre by air or in 5 or more gallons of water per acre by ground. Increasing the rate of application can increase the risk of injury.

For control of actively growing susceptible annual broadleaf weeds (including Russian thistle), apply  $\frac{1}{4}$  to  $\frac{1}{2}$  pint per acre of Terva 22K. Terva 22K can also be tank mixed with  $\frac{1}{2}$  to 1 pound per acre of 2,4-D where 2,4-D sensitive species are present. Read and follow all directions for use and use precautions on other product labels.

### **Spot Treatment**

See "Spot Treatment" in "Mixing and Application Methods" section for directions for calibration, spray volume determination, and mixing. For spot applications when perennial grasses are established, use 1 to 4 pints per acre of Terva 22K. Rates of 2 pints per acre or more should only be used for control of deep-rooted perennial broadleaf weeds.

**Precaution:** Terva 22K at rates over 2 pints per acre may suppress certain established grasses such as brome grass, bluegrass, and buffalograss. However, subsequent grass growth should be improved by release from weed competition.

### **STORAGE AND DISPOSAL**

Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited.

**PESTICIDE STORAGE:** The active ingredient in this product may crystallize and settle out of solution if product is exposed to subfreezing temperatures. Under these conditions, warm product to at least 40°F and agitate well to dissolve any crystallized material prior to use. Open dumping is prohibited.

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

#### **CONTAINER DISPOSAL:**

##### **[NONREFILLABLE CONTAINERS]**

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. (Nonrefillable  $\leq$  5 gallons): 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  $\frac{1}{4}$  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 if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

(Nonrefillable  $>$  5 gallons): Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container  $\frac{1}{4}$  full with water. Replace and tighten closures. Tip container on its side and roll it back

*(continued)*

### **STORAGE AND DISPOSAL (cont.)**

and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

#### **[REFILLABLE CONTAINERS]**

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

To clean the container before final disposal, empty the remaining contents from the container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### **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 Makhteshim Agan of North America, Inc. All such risks shall be assumed by the user or buyer.

**DISCLAIMER OF WARRANTIES:** To the extent consistent with applicable law, Makhteshim Agan of North America, Inc. 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 Makhteshim Agan of North America, Inc. is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, Makhteshim Agan of North America, Inc. 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 Makhteshim Agan of North America, Inc.'s election, the replacement of product.

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# RESTRICTED USE PESTICIDE

May injure (phytotoxic) susceptible, non-target plants. For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification. Commercial certified applicators must also ensure that all persons involved in these activities are informed of the precautionary statements.



## Terva™ 22K PESTICIDE

For use in areas west of the Mississippi River for the control of susceptible broadleaf weeds and woody plants on rangeland and permanent grass pastures, fallow cropland, spring-seeded wheat, barley and oats not underseeded with a legume, non-cropland, and on Conservation Reserve Program (CRP) acres.

### ACTIVE INGREDIENT:

Picloram: 4-amino-3,5,6-trichloropicolinic acid,  
potassium salt ..... 24.4%

**OTHER INGREDIENTS:** ..... 75.6%

**TOTAL** ..... 100.0%

Terva 22K contains the following acid equivalent: Picloram:  
4-amino-3,5,6-trichloropicolinic acid – 21.1% (2 lbs./gal.)

## KEEP OUT OF REACH OF CHILDREN WARNING/AVISO

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

EPA Reg. No. 81927-18-66222

### FIRST AID

#### IF IN EYES:

- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

### HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact Prostar at 1-877-250-9291 for emergency medical treatment information.



M A N A

Distributed by:  
**Makhteshim Agan  
of North America, Inc.**  
4515 Falls of Neuse Road  
Suite 300  
Raleigh, NC 27609

**For additional precautionary,  
handling, and use statements,  
see inside of this booklet.**

EPA 051909/REV A

EPA Est. No. 37429-GA-001<sup>BT</sup>; 37429-GA-002<sup>BO</sup>  
Letter(s) in lot number correspond(s) to superscript  
in EPA Est. No.

## Net Contents: 1 Gallon