

# T-Pac™

## herbicide

### Soluble Granule

### For Use on Wheat (including durum), Barley, Oat, Triticale and Fallow

Active Ingredients	By Weight
Thifensulfuron-methyl Methyl 3-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl) amino]carbonyl]amino]sulfonyl]-2-thiophenecarboxylate	25%
Tribenuron-methyl Methyl 2-[[[N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)methylamino]carbonyl]amino]sulfonyl]benzoate	25%
<b>Inert Ingredients</b>	50%
TOTAL	100.0%

EPA Reg. No. 352-661-85588

### KEEP OUT OF REACH OF CHILDREN

## CAUTION

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

### FIRST AID

**IF ON SKIN OR CLOTHING:** 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.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-888-261-1410 for emergency medical treatment information.

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION!** Avoid contact with eyes, skin, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling.

For medical emergencies involving this product, call toll free 1-888-261-1410.

### PERSONAL PROTECTIVE EQUIPMENT

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 butyl rubber, natural rubber, neoprene rubber or nitrile rubber) ≥14 mls.

Shoes plus socks.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, 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.

### ENVIRONMENTAL HAZARDS

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

## PESTICIDE HANDLING

- Calibrate sprayers only with clean water away from the well site.
- Make scheduled checks of spray equipment.
- Ensure that all operation employees accurately measure pesticides.
- Mix only enough product for the job at hand.
- Avoid overfilling of spray tank.
- Do not discharge excess material on the soil at a single spot in the field, grove, or mixing/loading station.
- Dilute and agitate excess solution and apply at labeled rates or uses.
- Avoid storage of pesticides near well sites.
- When triple-rinsing the pesticide container, be sure to add the rinsate to the spray mix.

## 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 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 made of any waterproof material.
- Shoes plus socks.

T-Pac™ herbicide is for use on wheat (including durum), barley, oat, triticale and fallow in many states. Check with your state extension or Dept. of Agriculture before use, to be certain T-Pac™ herbicide is registered in your state.

Agsurf will not be responsible for losses or damages resulting from the use of this product in any manner not specified by Agsurf.

## GENERAL INFORMATION

T-Pac™ herbicide is a soluble granule that is used for selective postemergence weed control in wheat (including durum), barley, oat, triticale and fallow. The best control is obtained when T-Pac™ herbicide is applied to young, actively growing weeds. The use rate will depend on weed spectrum and size of weed at time of application. The degree and duration of control may depend on the following:

- weed spectrum and infestation intensity
- weed size at application
- environmental conditions at and following treatment

T-Pac™ herbicide is noncorrosive, nonflammable, nonvolatile, and does not freeze. T-Pac™ herbicide should be mixed, and completely dissolved in water and applied as a uniform broadcast spray.

### **ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY**

T-Pac™ herbicide is absorbed primarily through the foliage of plants, rapidly inhibiting the growth of susceptible weeds. One to 3 weeks after application to weeds, leaves of susceptible plants appear chlorotic, and the growing point subsequently dies.

T-Pac™ herbicide provides the best control in vigorously growing crops that shade competitive weeds. Weed control in areas of thin crop stand or seeding skips may not be as satisfactory. However, a crop canopy that is too dense at application can intercept spray and reduce weed control.

The herbicidal action of T-Pac™ herbicide may be affected in crops stressed from adverse environmental conditions (such as extreme temperatures or moisture), abnormal soil conditions, cultural practices, or variations in crop variety. In warm, moist conditions, the expression of herbicide symptoms is accelerated; in cold, dry conditions, expression of herbicide symptoms is delayed. In addition, weeds hardened-off by drought stress are less susceptible to T-Pac™ herbicide.

## **APPLICATION INFORMATION**

### **USE RATE**

Apply T-Pac™ herbicide at a rate of 0.4 to 1.0 oz per acre. When applying 0.4 to 0.6 oz per acre, T-Pac™ herbicide must be used in a tank-mix combination with other registered herbicides.

#### ***Wheat (including Durum), Barley and Triticale***

Apply 0.4 to 1.0 oz T-Pac™ herbicide per acre to wheat (including durum), barley or triticale. The total amount of T-Pac™ herbicide cannot exceed 1.0 oz per acre per crop season.

#### ***Oat (Spring and Winter)***

Apply 0.4 ounce T-Pac™ herbicide per acre for control of light populations of the weeds listed in Weeds Controlled table. In oat, T-Pac™ herbicide must be used in a tank-mix combination with other registered herbicides such as "Harmony" SG. Do not make more than one application (or more than 0.1 ounces of active ingredient tribenuron-methyl) of T-Pac™ herbicide per crop season on oat.

#### ***Fallow***

Apply 0.4 to 1.0 oz T-Pac™ herbicide per acre to fallow. The total amount of T-Pac™ herbicide cannot exceed 1.0 oz per acre per crop season.

T-Pac™ herbicide should be applied in combination with other suitable registered fallow herbicides such as glyphosate plus 2,4-D (ester formulations work best) or glyphosate plus dicamba.

When T-Pac™ herbicide is applied at a rate of 0.4 to 0.6 oz per acre, T-Pac™ herbicide must be used in a tank-mix combination with other registered fallow herbicides.

#### ***Pre-plant Burndown***

Apply 0.4 to 1.0 oz T-Pac™ herbicide per acre as a burndown treatment prior to, or shortly after planting (prior to emergence). The total amount of T-Pac™ herbicide cannot exceed 1.0 oz per acre per crop season.

#### ***Post Harvest***

Apply T-Pac™ herbicide at 0.4 to 1.0 ounce per acre to crop stubble after harvest. Use the 1.0 ounce per acre rate when weed infestation is heavy and predominantly consists of those weeds listed under the "WEEDS PARTIALLY CONTROLLED" section of this label or when application timing and environmental conditions are marginal. (See the "APPLICATION TIMING" section of this label for restriction on planting intervals). T-Pac™ herbicide should be applied in combination with other suitable registered burndown herbicides (See the "TANK MIXTURES" section of this label for additional information). Sequential treatments of T-Pac™ herbicide may also be made provided the total amount of T-Pac™ herbicide applied during one fallow/pre plant cropland season does not exceed 1.0 ounce per acre.

### **APPLICATION TIMING**

Since T-Pac™ herbicide has very little or no soil activity, it controls only those weeds that have germinated; therefore, apply T-Pac™ herbicide when all or most of the weeds have germinated. Annual broadleaf weeds should be past the cotyledon stage, actively growing, and less than 4" tall or wide. Rainfall immediately after treatment can wash T-Pac™ herbicide off of weed foliage, resulting in reduced weed control. Several hours of dry weather are needed to allow T-Pac™ herbicide to be sufficiently absorbed by weed foliage.

#### ***Wheat (Including Durum), Barley, Winter Oat and Triticale***

Make applications after the crop is in the 2-leaf stage, but before the flag leaf is visible.

#### ***Spring Oat***

Make applications after the crop is in the 3 leaf stage, but before jointing. Do not use on "Ogle", "Porter" or "Premier" varieties as crop injury can occur.

#### ***Fallow***

T-Pac™ herbicide may be used as a fallow treatment, in the spring, summer or fall when the majority of weeds have emerged and are actively growing.

#### ***Pre-plant Burndown***

Apply T-Pac™ herbicide as a burndown treatment to wheat (including durum) and barley to control emerged weeds prior to, or shortly after planting (prior to emergence). Make applications when the majority of weeds have emerged and are actively growing. T-Pac™ herbicide can be used as a burndown treatment prior to planting other crops. See "CROP ROTATION" for the time interval required before planting.

#### ***Post Harvest***

T-Pac™ herbicide may be used as a burndown treatment to crop stubble when the majority of weeds have emerged and are actively growing. (See the "CROP ROTATION" section of this label for additional information)

## CROP ROTATION

Labeled crops may be planted at specified time intervals following application of labeled rates of T-Pac™ herbicide. Use the time intervals listed below to determine the required time interval before planting.

### Time Interval Before Planting\* (days after treatment with T-Pac™ herbicide)

Crop	Days
Barley, Rice, Triticale, and Wheat (including durum)	0
Soybeans	7**
Cotton, Field Corn, and Grain Sorghum	14**
Sugarbeets, Winter Rape, and Canola	60
Any other crop	45

\* Refer to individual product labels to determine rotational crop restrictions when tank mixtures are used.

\*\*Where T-Pac™ herbicide is used on light textured soils, such as sands and loamy sands, extend time to planting by 7 additional days. Where T-Pac™ herbicide is used on high pH soils (>7.9), extend time to planting by 7 additional days.

## WEEDS CONTROLLED

T-Pac™ herbicide effectively controls the following weeds when used according to label directions:

Annual knawel	London rocket
Annual sowthistle	Marshelder
Black mustard	Mayweed chamomile
Blue/Purple mustard	Miners lettuce
Broadleaf dock	Narrowleaf lambsquarters
Bur buttercup	Nightflowering catchfly
Bushy wallflower/ Treacle mustard	Pennsylvania smartweed
Canada thistle *	Pineappleweed
Clasping pepperweed	Prickly lettuce*
Coast fiddleneck	Prostrate knotweed
Common buckwheat	Prostrate pigweed
Common chickweed	Redmaids
Common cocklebur *	Redroot pigweed
Common groundsel	Russian thistle*
Common lambsquarters	Scentless chamomile/ mayweed
Common ragweed *	Shepherd's-purse
Common sunflower	Slimleaf lambsquarters
Corn chamomile	Smallflower buttercup
Corn gromwell *	Smallseed falseflax
Corn spurry	Stinking chickweed
Cowcockle	Stinking mayweed/ dogfennel
Cress (mouse-ear)	Sunflower
Curly dock	Swinecress
False chamomile	Tansymustard
Field chickweed	Tarweed fiddleneck
Field pennycress	Tumble/Jim Hill mustard
Filaree (redstem, Texas)	Volunteer canola
Flixweed	Volunteer lentils
Green smartweed	Volunteer peas
Henbit	Wild buckwheat*
Kochia *	Wild chamomile
Ladysthumb	Wild mustard
Lanceleaf sage *	

## WEEDS PARTIALLY CONTROLLED\*\*

T-Pac™ herbicide partially controls the following weeds when used according to label directions:

Catchweed bedstraw	Marestail
Mallow (common, little)	Nightshade (cutleaf, hairy)

\* See SPECIFIC WEED PROBLEMS for more information.

\*\*Partial control: A visual reduction of weed population as well as a significant loss of vigor. For better results, use the highest recommended rate of T-Pac™ herbicide per acre and include a tank mix partner such as 2,4-D, MCPA, "Buctril" or "Banvel"/"Clarity" (refer to TANK MIXTURES).

## SPECIFIC WEED PROBLEMS

**Canada thistle:** For control in wheat and barley, use 0.8 oz per acre plus surfactant when all thistles are 4" to 8" with 2" to 6" of new growth. Make the application in the spring. Control will be improved by using T-Pac™ herbicide in combination with 2,4-D, dicamba, "WideMatch", or "Colt" (refer to TANK MIXTURES).

**Common cocklebur, Common ragweed, Lanceleaf sage:** In wheat and barley, apply T-Pac™ herbicide at 0.4 to 0.8 ounce per acre in combination with 2, 4-D at rates from 1/4 to 3/8 lb active ingredient (ester formulations work best) when weeds are small and actively growing. When using 1/4 lb active ingredient of 2,4-D, be sure to add surfactant at the rate of 1/4 to 1/2 quart per 100 gallons of spray solution (0.06 to 0.125% v/v--use the higher rate under stress conditions).

**Corn gromwell, Wild buckwheat:** For control in wheat and barley, use 0.8 ounce T-Pac™ herbicide per acre plus surfactant.

**Kochia, Russian thistle, Prickly lettuce:** Naturally occurring resistant biotypes of these weeds are known to occur. For best results, use T-Pac™ herbicide in a tank mix with "Starane", "Starane" + "Sword", "Starane" + "Salvo", dicamba (such as "Banvel"/"Clarity") and 2, 4-D; or Bromoxynil (such as "Buctril") and 2,4-D (3/4 - 1 pt "Buctril" + 1/4 - 3/8 lb active ingredient 2, 4-D ester). For improved broadleaf weed control including kochia, T-Pac™ herbicide can also be tank mixed with "CleanWave", "WideMatch", "Colt", or "Starane" NXT. T-Pac™ herbicide should be applied in the spring when weeds are 2" to 4" tall or 2" to 4" across and are actively growing. Refer to the Tank Mixtures section of this label for additional details.

## SPRAY ADJUVANTS

Always include a spray adjuvant with applications of T-Pac™ herbicide. In addition to a spray adjuvant, an ammonium nitrogen fertilizer may be used.

Consult your Ag dealer or applicator, local Agsurf fact sheets, technical bulletins, and service policies prior to using an adjuvant system. If another herbicide is tank mixed with T-Pac™ herbicide, select adjuvants authorized for use with both products. Products must contain only EPA-exempt ingredients (40CFR 1001).

### *Nonionic Surfactant (NIS)*

- Apply 0.06 to 0.50% volume/volume (1/2 pt to 4 pt per 100 gal of spray solution).
- Surfactant products must contain at least 60% nonionic surfactant with a hydrophilic/lipophilic balance (HLB) greater than 12. See the Tank Mixtures section of this label for additional information.

### *Petroleum Crop Oil Concentrate (COC) or Modified Seed Oil (MSO)*

- Apply at 1% volume/volume (1 gal per 100 gal spray solution) or 2% volume/volume under arid conditions.
- Oil adjuvants must contain at least 80% high quality, petroleum (mineral) or modified vegetable seed oil with at least 15% surfactant emulsifiers.

### *Special Adjuvant Types*

- Combination adjuvant products may be used at doses that provide the required amount of NIS, COC, MSO and/or ammonium nitrogen fertilizer. Consult product literature for use rates and restrictions.
- In addition to the adjuvants specified above, other adjuvant types may be used if they provide the same functionality and have been evaluated and approved by Agsurf product management. Consult separate Agsurf technical bulletins for detailed information before using adjuvant types not specified on this label.

### *Ammonium Nitrogen Fertilizer*

- Use 2 qt/acre of a high-quality urea ammonium nitrate (UAN), such as 28%N or 32%N, or 2 lb/acre of a spray-grade ammonium sulfate (AMS). Use 4 qt/acre UAN or 4 lb/acre AMS under arid conditions.

## GROUND APPLICATION

For optimum spray distribution and thorough coverage, use flat-fan or low-volume flood nozzles.

For flat-fan nozzles, use a spray volume of at least 5 gal per acre (GPA).

For flood nozzles on 30" spacings, use at least 10 GPA, flood nozzles no larger than TK10 (or the equivalent), and a pressure of at least 30 psi. For 40" nozzle spacings, use at least 13 GPA; for 60" spacings use at least 20 GPA. It is essential to overlap the nozzles 100% for all spacings.

Raindrop "RA" nozzles are not recommended for T-Pac™ herbicide applications, as weed control performance may be reduced.

Use screens that are 50-mesh or larger.

## AERIAL APPLICATION

Use nozzle types and arrangements that provide optimum spray distribution and maximum coverage at 2 to 5 GPA. Use at least 3 GPA in Idaho, Oregon, or Utah. This product is limited to ground application only in the State of New York.

See the **Spray Drift Management** section of this label.

## **CHEMIGATION**

Do not apply this product through any irrigation system.

## **PRODUCT MEASUREMENT**

T-Pac™ herbicide is measured using the T-Pac™ herbicide volumetric measuring cylinder. The degree of accuracy of this cylinder varies by  $\pm 7.5\%$ . For more precise measurement, use scales calibrated in ounces.

## **TANK MIXTURES**

T-Pac™ herbicide may be tank mixed with one or more suitable registered herbicides to control weeds listed as suppressed, weeds resistant to T-Pac™ herbicide or weeds not listed under **Weeds Controlled**. Read and follow all manufacturer's label instructions for the companion herbicide. If those instructions conflict with this label, do not tank mix the herbicide with T-Pac™ herbicide.

T-Pac™ herbicide can also be mixed with registered fungicides, insecticides, or liquid fertilizer for use on wheat, barley, or fallow.

### ***With 2,4-D (amine or ester) or MCPA (amine or ester)***

T-Pac™ herbicide may be tank mixed with the amine or ester formulations of 2,4-D or MCPA herbicides for use on wheat and barley.

For best results in the Red River Valley and adjacent areas of North Dakota and Minnesota, add the ester formulations of 2,4-D or MCPA herbicides to the tank at 3/8 lb active ingredient (such as 3/4 pt of a 4 lb/gal product, or 1/2 pt of a 6 lb/gal product). No additional surfactant is needed with this mixture.

For best results in other areas, add the ester formulations of 2,4-D or MCPA herbicides to the tank at 1/4 to 3/8 lb active ingredient (such as 1/2-3/4 pt of a 4 lb/gal product, or 1/3-1/2 pt of a 6 lb/gal product). Surfactant may be added to the mixture at 1/2 to 1 qt per 100 gal of spray solution (0.125 to 0.25% v/v); however, adding surfactant may increase the potential for crop injury, especially at the higher phenoxy rates.

Higher rates of 2,4-D or MCPA may be used, but do not exceed the highest rate allowed by those respective labels. Read and follow all label instructions on timing, precautions, and warnings for these herbicides before using these tank mixtures.

### ***With dicamba (such as "Banvel"/"Clarity")***

T-Pac™ herbicide may be tank mixed with 1/16 to 1/8 lb active ingredient dicamba (such as 2-4 fluid oz "Banvel", or 2-4 fluid oz "Clarity"). Use higher rates when weed infestation is heavy. Surfactant may be added to the mixture at 1/2 to 1 qt per 100 gal of spray solution (0.125 to 0.25% v/v); however, adding surfactant may increase the potential for crop injury. Refer to the specific dicamba label for application timing and restrictions. Tank mixes of T-Pac™ herbicide plus dicamba may result in reduced control of some broadleaf weeds.

### ***With 2,4-D (amine or ester) and "Banvel"/"Clarity"***

T-Pac™ herbicide may be applied in a 3-way tank mix with formulations of dicamba and 2,4-D. Make application of T-Pac™ herbicide + 1/16 to 1/8 lb active ingredient dicamba (such as 2-4 fluid oz "Banvel", or 2-4 fluid oz "Clarity") + 1/4-3/8 lb active ingredient 2,4-D ester or amine per acre. Use higher rates when weed infestation is heavy. Surfactant may be added to the mixture at 1/2 to 1 qt per 100 gal of spray solution (0.125 to 0.25% v/v); however, adding surfactant may increase the potential for crop injury. Consult the specific 2,4-D label, dicamba label, or local guidance for more information and restrictions.

Apply this 3-way combination to winter wheat after the crop is tillering and prior to jointing (first node). In Spring Wheat (including Durum) apply after the crop is tillering and before it exceeds the 5-leaf stage.

In Spring Barley, apply after the crop is tillering and before it exceeds the 4-leaf stage.

### ***With bromoxynil (such as "Buctril", "Bronate")***

T-Pac™ herbicide may be tank mixed with bromoxynil containing herbicides registered for use on wheat, barley, or fallow. For best results, add bromoxynil containing herbicides to the tank at 3/16 to 3/8 lb active ingredient per acre (such as "Bronate" or "Buctril" at 3/4-1 1/2 pt per acre).

Read and follow all label instructions on timing, precautions, and warnings for these herbicides before using these tank mixtures. Follow the most restrictive labeling. Tank mixes of T-Pac™ herbicide plus "Buctril" may result in reduced control of Canada thistle.

### ***With "Starane", "Starane" + "Sword", "Starane" + "Salvo" or "Starane" NXT***

T-Pac™ herbicide may be tank mixed with fluroxypyr containing herbicides registered for use on wheat, barley, or fallow. For improved control of Kochia (2-4" tall), Russian thistle, mustard species, and wild buckwheat T-Pac™ herbicide may be tank mixed with 1/3 to 1 1/3 pints per acre of "Starane", 2/3 to 2 2/3 pints per acre of "Starane" + "Salvo" or 3/4 to 2 3/4 pints per acre of "Starane" + "Sword". Additional 2,4-D or MCPA can be added based on local guidance (refer to 2,4-D and MCPA labels for maximum amount that can be applied to the crop).

T-Pac™ herbicide may be used in combination with "Starane" NXT at 10 to 14 fluid ounces per acre for improved control of kochia less than 2" tall or at 14 to 21 fluid ounces per acre for kochia 2 to 4" tall. Add 1 to 2 pints NIS per 100 gallons of spray solution in tank mixes of "Starane" NXT with T-Pac™ herbicide (see SPRAY ADJUVANTS).

Refer to the “Starane”, “Starane” + “Salvo”, “Starane” + “Sword”, or “Starane” NXT label for information regarding use restrictions, labeled crops, rotational cropping intervals, sprayer cleanup, use precautions and other information. The most restrictive provisions on any label will apply. Do not use the tank mix if any restrictions on the labels conflict with the instructions on this T-Pac™ herbicide label.

#### **With “CleanWave” Herbicide**

For improved control of kochia and other broadleaf weeds in wheat (including durum), T-Pac™ herbicide may be tank mixed with “CleanWave”. Tank mix “CleanWave” at 7 to 14 fluid ounces per acre for kochia less than 2" tall and at 14 ounces per acre for kochia 2 - 8" tall. Add 1 to 2 pints NIS per 100 gallons of spray solution in tank mixes of “CleanWave” with T-Pac™ herbicide (see SPRAY ADJUVANTS). Read and follow all label instructions on use restrictions, labeled crops, rotational cropping intervals, sprayer cleanup, use precautions and other information. The most restrictive provisions on any label will apply.

#### **With “WideMatch” or “Colt” herbicides**

For improved control of kochia, Canada thistle and other broadleaf weeds in wheat (including durum), barley, and oat, T-Pac™ herbicide may be tank mixed with “WideMatch” or “Colt”. Tank mix at 1/2 to 2/3 pints per acre for kochia less than 2" tall and 2/3 to 1 pint per acre for kochia 2 - 4" tall. Add 1 to 2 pints NIS per 100 gallons of spray solution in tank mixes of “WideMatch” or “Colt” with T-Pac™ herbicide (see SPRAY ADJUVANTS). Read and follow all label instructions on use restrictions, labeled crops, rotational cropping intervals, sprayer cleanup, use precautions and other information. The most restrictive provisions on any label will apply.

#### **With “Axial”, “Everest”, or “Rimfire” herbicides**

For improved control of wild oats and other grasses, T-Pac™ herbicide at 0.4 oz/a to 0.8 oz/a may be tank mixed with “Axial”, “Everest”, or “Rimfire”. Add 1 to 4 pints NIS per 100 gallons of spray solution in tank mixes of “Everest” or “Rimfire” with T-Pac™ herbicide (see SPRAY ADJUVANTS). Refer to “Axial” label for specific adjuvant instructions. Read and follow all label instructions on use restrictions, labeled crops, rotational cropping intervals, sprayer cleanup, use precautions and other information. The most restrictive provisions on any label will apply.

#### **With “Hoelon” Herbicide**

T-Pac™ herbicide may be used in combination with “Hoelon” 3EC and “Buctril” herbicides in accordance with the “Hoelon” 3EC label. For best results, use the three-way tank mix of T-Pac™ herbicide at 0.4 oz per acre plus “Hoelon” 3EC at 2 2/3 pt per acre plus “Buctril” at 1 1/2 pt per acre. Apply only to winter wheat. This tank mix should only be used under good soil conditions when wild oat is in the 1-4 leaf stage. If conditions are not ideal for the performance of “Hoelon” 3EC, wild oat control may be reduced. Be sure to follow all warnings and cautions on the “Hoelon” 3EC and “Buctril” labels.

#### **With “Assert” Herbicide**

T-Pac™ herbicide can be tank mixed with “Assert”. When tank mixing T-Pac™ herbicide with “Assert”, always include another broadleaf weed herbicide with a different mode of action (for example: 2,4-D ester, MCPA ester, “Buctril,” or “Bronate”). Tank-mixed applications of T-Pac™ herbicide plus “Assert” may cause temporary crop discoloration, stunting, or injury when heavy rainfall occurs shortly after application.

#### **With other grass control products**

Tank mixtures of T-Pac™ herbicide and some grass control products may result in poor grass control. Agsurf recommends that you first consult your state experiment station, university, or extension agent, Agricultural dealer, or Agsurf representative as to the potential for antagonism before using the mixture. If no information is available, limit the initial use of T-Pac™ herbicide and the grass product to a small area.

Do not tank mix with “Achieve” herbicide.

#### **With Insecticides or Fungicides**

T-Pac™ herbicide may be tank mixed or used sequentially with insecticides (or fungicides) registered for use on cereal grains. However, under certain conditions (drought stress, or if the crop is in the 2-4 leaf stage), tank mixes or sequential applications of T-Pac™ herbicide with organophosphate insecticides (such as parathion) may produce temporary crop yellowing or, in severe cases, crop injury. Test these mixtures in a small area before treating large areas. However, review all insecticide and fungicide labels for restrictions.

**Do not use T-Pac™ herbicide plus Malathion, as crop injury will result.**

#### **With Liquid Nitrogen Solution Fertilizer**

Liquid nitrogen fertilizer solutions may be used as a carrier in place of water. Run a tank mix compatibility test before mixing T-Pac™ herbicide in fertilizer solution. Do not add T-Pac™ herbicide directly to liquid nitrogen fertilizer; the granules will not dissolve. T-Pac™ herbicide must be thoroughly mixed with clean water before it is added to liquid nitrogen fertilizer. If granules remain when the mixture is poured out, add more clean water and mix until all granules have disappeared. Ensure that the agitator is running when the T-Pac™ herbicide premix is added. Use of this mixture may result in temporary crop yellowing and stunting.

If using low rates of liquid nitrogen fertilizer in the spray solution (less than 50% of the spray solution volume), the addition of surfactant is necessary. Add surfactant at 1/4 qt - 1 qt per 100 gal of spray solution ( 0.06 -0.25% v/v) based on local guidance.

When using high rates of liquid nitrogen fertilizer solution in the spray solution, adding surfactant increases the risk of crop injury. Consult your agricultural dealer, consultant, fieldman, or Agsurf representative for specific instructions before adding an adjuvant to these tank mixtures.

If 2,4-D or MCPA is included with T-Pac™ herbicide and fertilizer mixture, ester formulations tend to be more compatible (see manufacturer's label). Additional surfactant is not needed when using T-Pac™ herbicide in tank mix with 2,4-D ester or MCPA ester and liquid nitrogen fertilizer solutions.

Do not use low rates of liquid nitrogen fertilizer solution as a substitute for a surfactant.

Do not use with liquid fertilizer solutions with a pH less than 3.0.

### **TANK MIXTURES IN FALLOW**

T-Pac™ herbicide may be used as a fallow treatment, and should be tank mixed with other herbicides that are registered for use in fallow. Read and follow all manufacturer's label instructions for the companion herbicide. If those instructions conflict with this label, do not tank mix the herbicide with T-Pac™ herbicide.

### **TANK MIXTURES IN PRE-PLANT BURNDOWN**

T-Pac™ herbicide may be used as a pre-plant burndown treatment alone or tank mixed with other herbicides that are registered for use as a pre-plant burndown product, such as glyphosate plus 2,4-D (ester formulations work best) or glyphosate plus dicamba.

Read and follow all manufacturer's label instructions for the companion herbicide. If those instructions conflict with this label, follow the most restrictive labeling (such as planting interval after application), or do not tank mix the herbicide with T-Pac™ herbicide.

### **TANK MIXTURES IN POST HARVEST APPLICATIONS**

T-Pac™ herbicide may be used as a post harvest treatment to crop stubble, and should be tank mixed with other herbicides that are registered for use in fallow.

### **MIXING INSTRUCTIONS**

Do not use with spray additives that alter the pH of the spray solution below pH 5.0 or above pH 9.0 as rapid product degradation can occur. Spray solutions of pH 6.0-8.0 allow for optimum stability of T-Pac™ herbicide.

1. Fill the tank 1/4 to 1/3 full of water.
2. While agitating, add the required amount of T-Pac™ herbicide
3. Continue agitation until the T-Pac™ herbicide is fully dissolved, at least 5 minutes.
4. Once the T-Pac™ herbicide is fully dissolved, maintain agitation and continue filling tank with water.
5. As the tank is filling, add tank mix partners and then add the required volume of spray adjuvant. Always add spray adjuvant last. Antifoaming agents may be used. Do not use with spray additives that alter the pH of the spray solution below pH 6.0 as rapid product degradation can occur. Spray solutions of pH 7.0 and higher allow for optimum stability of T-Pac™ herbicide.
6. Dispersed tank mix partners can settle if the tank mixture is not continually agitated. If settling occurs, thoroughly re-agitate before using.
7. Apply T-Pac™ herbicide spray mixture within 24 hours of mixing to avoid product degradation.
8. If T-Pac™ herbicide and a tank mix partner are to be applied in multiple loads, fully dissolve the T-Pac™ herbicide in clean water prior to adding to the tank.

### **GRAZING**

Allow at least 7 days between application and grazing of treated forage. In addition, allow at least 7 days between application and feeding of forage from treated areas to livestock. Allow at least 30 days between application and feeding of hay from treated areas to livestock. Harvested straw may be used for bedding and/or feed. Allow at least 45 days between application and harvesting of grain.

### **SPRAY EQUIPMENT**

For specific application equipment, refer to the manufacturer's instructions for additional information on GPA, pressure, speed, nozzle types and arrangements, nozzle heights above the target canopy, etc.

Be sure to calibrate air or ground equipment properly before application. Select a spray volume and delivery system that will ensure thorough coverage and a uniform spray pattern with minimum drift. Use higher spray volumes to obtain better coverage when crop canopy is dense. Avoid swath overlapping, and shut off spray booms while starting, turning, slowing, or stopping, to avoid injury to the crop.

Do not make applications using equipment and/or spray volumes or during weather conditions that might cause spray to drift onto nontarget sites. For additional information on spray drift refer to Spray Drift Management section of label.

Continuous agitation is not required for T-Pac™ herbicide but may be required to keep tank-mix partners in solution or suspension. Refer to tank-mix partner labels for additional information.

## **SPRAYER CLEANUP**

The spray equipment must be cleaned before T-Pac™ herbicide is sprayed. Follow the cleanup procedures specified on the labels of the previously applied products. If no directions are provided, follow the six steps outlined in "After Spraying T-Pac™ herbicide" in this label.

### ***AT THE END OF THE DAY***

It is recommended that during periods when multiple loads of T-Pac™ herbicide are applied, at the end of each day of spraying, the interior of the tank be rinsed with fresh water and then partially filled, and the boom and hoses flushed. This will prevent the buildup of dried pesticide deposits which can accumulate in the application equipment.

### ***AFTER SPRAYING T-PAC™ HERBICIDE AND BEFORE SPRAYING CROPS OTHER THAN WHEAT AND BARLEY***

To avoid subsequent injury to desirable crops, thoroughly clean all mixing and spray equipment immediately following applications of T-Pac™ herbicide as follows:

1. Empty the tank and drain the sump completely.
2. Spray the tank walls with clean water using a minimum volume of 10% of the tank volume. Circulate the water through the lines, including all by-pass lines, for at least two minutes. Flush the boom well and empty the sprayer. Completely drain the sump.
3. Repeat step 2.
4. Remove the nozzles and screens and clean separately in a bucket containing water.

The rinsate solution may be applied to the crop(s) specified on this label. Do not exceed the maximum-labeled use rate. If cleaners are used, consult the cleaner label for rinsate disposal instructions. If no instructions are given, dispose of the rinsate on site or at an approved waste disposal facility.

#### **Notes:**

1. Always start with a clean spray tank.
2. Steam-cleaning aerial spray tanks is recommended to facilitate the removal of any caked deposits.
3. When T-Pac™ herbicide is tank mixed with other pesticides, all cleanout procedures for each product should be examined and the most rigorous procedure should be followed.
4. In addition to this cleanout procedure, all pre-cleanout guidelines on subsequently applied products should be followed as per the individual labels.

## **SPRAY DRIFT MANAGEMENT**

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 application decisions.

### ***IMPORTANCE OF DROPLET SIZE***

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.

The most effective way to reduce drift potential is to apply large droplets (>150 - 200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. **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** sections of this label.

#### ***Controlling Droplet Size - General Techniques***

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. **WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.**
- **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.

### **Controlling Droplet Size - Aircraft**

- **Number of Nozzles** - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations.
- **Nozzle Type** - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.
- **Boom Length** - The boom length should not exceed 3/4 of the wing or rotor length - longer booms increase drift potential.
- **Application Height** - Application more than 10 ft above the canopy increases the potential for spray drift.

### **BOOM HEIGHT**

Setting the boom at the lowest referenced height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.

### **WIND**

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given wind speed. **AVOID GUSTY AND WINDLESS CONDITIONS.**

**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 hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

### **TEMPERATURE INVERSIONS**

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature 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.

### **SHIELDED SPRAYERS**

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

### **AIR ASSISTED (AIR BLAST)**

#### **FIELD CROP SPRAYERS**

Air assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, is configured properly, and that drift is not occurring.

**Note:** Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Consult the spray equipment section of this label to determine if use of an air assist sprayer is recommended.

### **RESISTANCE**

When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. Adequate control of these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank-mix partners and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide recommendations available in your area.

## INTEGRATED PEST MANAGEMENT

Agsurf recommends the use of Integrated Pest Management (IPM) programs to control pests. This product may be used as part of an Integrated Pest Management (IPM) program that can include biological, cultural, and genetic practices aimed at preventing economic pest damage. Application of this product should be based on IPM principles and practices including field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop systems in your area.

## PRECAUTIONS

Injury to or loss of adjacent sensitive crops, desirable trees or vegetation may result from failure to observe the following:

- Do not apply, drain or flush equipment on or near desirable trees or other plants or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots.
- Do not use on lawns, walks, driveways, tennis courts, or similar areas. Prevent drift of spray to desirable plants.
- Take all necessary precautions to avoid all direct or indirect contact (such as spray drift) with non-target plants or areas.
- Carefully observe all sprayer cleanup instructions both prior to and after using this product, as spray tank residue may damage crops other than wheat, barley, oats, and triticale.

Wheat, barley, oats, and triticale may differ in their response to various herbicides. Agsurf recommends that you first consult your state experiment station, university, or extension agent as to sensitivity to any herbicide. If no information is available, limit the initial use of T-Pac™ herbicide to a small area.

Under certain conditions, such as heavy rainfall, prolonged cold weather (daily high temperature less than 50°F), or wide fluctuations in day/night temperatures prior to or soon after T-Pac™ herbicide application, temporary discoloration and/or crop injury may occur. To reduce the potential of crop injury, tank mix T-Pac™ herbicide with 2,4-D (ester formulations perform best—see “Tank Mixtures” section of this label) and apply after the crop is in the tillering stage of growth.

T-Pac™ herbicide should not be applied to wheat, barley, oats, and triticale that is stressed by severe weather conditions, drought (including low levels of subsoil moisture), low fertility, water-saturated soil, disease, or insect damage, as crop injury may result. Risk of injury is greatest when crop is in the 2 to 5- leaf stage. Severe winter stress, drought, disease, or insect damage following application also may result in crop injury.

Do not apply to wheat, barley, oats, and triticale underseeded with another crop.

Dry, dusty field conditions may result in reduced control in wheel track areas.

Also observe the following:

Do not harvest wheat or barley sooner than 45 days after the last application of T-Pac™ herbicide.

When using T-Pac™ herbicide in tank mixes or sequential applications with other products containing thifensulfuron-methyl and/or tribenuron-methyl, do not exceed the following limits.

Use	Active Ingredient	Maximum oz ai per Single Application	Maximum oz ai per Use Period
wheat, barley triticale	thifensulfuron-methyl	0.45	0.75
	tribenuron-methyl	0.25	0.25
oat	thifensulfuron-methyl	0.3	0.3
	tribenuron-methyl	0.1	0.1
fallow, burndown, post harvest	thifensulfuron-methyl	0.45	0.75
	tribenuron-methyl	0.25	0.25

## STORAGE AND DISPOSAL

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

**Pesticide Storage:** Store product in original container only. Store in a cool, dry place.

**Pesticide Disposal:** Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**Container Disposal: For Plastic Containers:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. **For Fiber Sacks:** Completely empty fiber sack by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into manufacturing or application equipment. Then dispose of sack in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**Container Refilling and Disposal (For Containers up to 250 gal):** This is a refillable container. If the container is to be refilled, do not rinse with any material or introduce any pesticide other than T-Pac™ herbicide. Reseal and return the container to any authorized Agsurf refilling facility. If the container is not to be refilled, triple rinse (or equivalent) and offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire or other emergency, call 1-888-261-1410 day or night.

**Container Disposal for Bulk Containers:** When this container is empty, replace the cap and seal all openings that have been opened during use, and return the container to the point of purchase or to a designated location named at time of purchase of this product. The container must only be refilled with this pesticide product. **DO NO REUSE THE CONTAINER FOR ANY OTHER PURPOSE.** Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transporting. Do not transport if this container is damaged or leaking. If the container is damaged, leaking or obsolete, contact Agsurf at 1-888-261-1410. If not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling. Disposal of this container must be in compliance with state and local regulations.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire or other emergency, call 1-888-261-1410 day or night.

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It is impossible to eliminate all risks associated with the use of this product. Such risks arise from weather conditions, soil factors, off target movement, unconventional farming techniques, presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of Agsurf. These risks can cause: ineffectiveness of the product, crop injury, or injury to non-target crops or plants. **WHEN YOU BUY OR USE THIS PRODUCT, YOU AGREE TO ACCEPT THESE RISKS.**

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