



62719-1 11/07/2001 1/30  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

NOV - 7 2001

Mr. Steve A. McMaster  
Regulatory Manager  
Dow AgroSciences LLC  
9330 Zionsville Road  
Indianapolis, IN 46268

Dear Mr. McMaster:

Subject: Formula 40  
EPA Registration No. 62719-1  
Application and Your Letter Dated August 21, 2001,  
Request to Amend Registration by Revising the Labeling  
as Described in Your Letter and Indicated by the  
High Lighted Copies of Proposed Labeling; and  
Application and Letter Dated October 29, 2001 with  
Re-submission of Labeling in Response to Agency's  
Letter Dated September 27, 2001

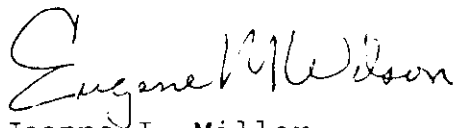
Your request to amend the registration of the subject pesticide product has been reviewed and found to be acceptable under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, provided that you:

1. Revise the formulas used to determine the appropriate rate and volume per treated acre on page 14, such that the resultant of the formula equals "Rate per banded acre" for the "Rate Formula"; and change the "Spray Volume Formula" to read "..... Broadcast spray volume per acre" = Spray volume per banded acre".
2. On page 17, revise the "Corn (Field Corn, Popcorn and Sweet Corn) rate table by changing the heading of the first column to read: Application Timing/Stage of Crop".
3. Submit one (1) copy of the final printed label prior to your shipment of this pesticide product under the revised enclosed stamped label.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA, section 6(e). Your release for shipment under this labeling constitutes

acceptance of these conditions. A stamped copy of the label is enclosed for your records.

Sincerely yours,

  
for Joanne I. Miller  
Product Manager (23)  
Herbicide Branch  
Registration Division (7505C)

Enclosure

(Container Label):

00XXXXXX

[Insert 2-Point Black Line]

(logo) Dow AgroSciences

# Formula 40\*

For selective control of many broadleaf weeds in certain crops, including, asparagus, cereal grains (wheat, barley, millet, oats and rye), corn (field corn, popcorn and sweet corn), fallow land and crop stubble, rice, orchard floors (apple, pear, stone fruit and nut), (sorghum (grain and forage sorghum), soybeans (preplant burndown application only), strawberries (dormant or post-harvest), and sugarcane; forests; rangeland and established grass pastures, including Conservation Reserve Program (CRP) acres; non-cropland; grasses grown for seed or sod; and ornamental turf.

### Active Ingredients:

2,4-dichlorophenoxyacetic acid, triisopropanolamine salt†	34.05%
2,4-dichlorophenoxyacetic acid, dimethylamine salt†	21.97%
Inert Ingredients	43.98%
Total	100.00%

Acid Equivalent: 2,4-dichlorophenoxyacetic acid† – 36.5% – 3.8 lb/gal

†Isomer Specific by AOAC Method No. 978.05 (15th Ed.)

**ACCEPTED  
with COMMENTS  
In EPA Letter Dated**

NOV - 7 2001

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

62719-1

### Keep Out or Reach of Children

## DANGER PELIGRO

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

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### Precautionary Statements

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#### Hazards to Humans and Domestic Animals

Corrosive • Causes Irreversible Eye Damage • Harmful If Swallowed or Absorbed Through Skin

Do not get in eyes or on clothing. Avoid contact with skin.

#### Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks
- Protective eyewear



- **Note: For containers of over 1 gallon, but less than 5 gallons:** Mixers and loaders who do not use a mechanical system (such as probe and pump) to transfer the contents of this container must wear coveralls or chemical-resistant apron in addition to other required PPE.

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, use detergent and hot water. Keep and wash PPE separately from other laundry. After each day of use, clothing or PPE must not be reused until it has been cleaned.

### Engineering Controls Statements

**For containers of 5 gallons or more:** A mechanical system (such as probe and pump) must be used for transferring the contents of this container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal. If the mechanical system is used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4)], the handler PPE requirements may be reduced or modified as specified in the WPS.

When handlers use enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- 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.

### 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.

**If on skin:** Wash with plenty of soap and water. Get medical attention.

**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.

**If swallowed:** Call a Poison Control Center or doctor immediately for treatment advice. Have a person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a Poison Control Center or doctor. Do not give anything by mouth to an unconscious person.

**If inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

**Note:** Have the product container or label with you when calling a Poison Control Center or doctor or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

**Note to physician:** Probable mucosal damage may contraindicate use of gastric lavage.

5/30

**Environmental Hazards**

This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and nontarget plants. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal area below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

**Mixing and Loading:** Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

**Agricultural Use Requirements**  
Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to the label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

**Refer to label booklet for Directions for Use including Storage and Disposal.**

**Notice:** Read the entire label. Use only according to label directions. Before using this product, read "Warranty Disclaimer," "Inherent Risks of Use," and "Limitation of Remedies" at end of label booklet. If terms are unacceptable, return at once unopened.

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994. If you wish to obtain additional product information, visit our web site at [www.dowagro.com](http://www.dowagro.com).

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

EPA Reg. No. 62719-1

XX XX

EPA Est. \_\_\_\_\_

Superscripts correspond to places 7 & 8 of lot number  
900-000000 / 00000000

\*Trademark of Dow AgroSciences LLC  
Dow AgroSciences LLC • Indianapolis, IN 46268 U.S.A.

[Insert 2-Point Black Line]

**Herbicide**

Net Contents \_\_ gal

[Insert Bar Code FPO]

[Insert DOT shipping classification and diamond(s)]

**Lot**

6/30

(Label Booklet)

(logo) Dow AgroSciences

## Formula 40\*

For selective control of many broadleaf weeds in certain crops, including, asparagus, cereal grains (wheat, barley, millet, oats and rye), corn (field corn, popcorn and sweet corn), fallow land and crop stubble, rice, orchard floors (apple, pear, stone fruit and nut), (sorghum (grain and forage sorghum), soybeans (preplant burndown application only), strawberries (dormant or post-harvest), and sugarcane; forests; rangeland and established grass pastures, including Conservation Reserve Program (CRP) acres; non-cropland; grasses grown for seed or sod; and ornamental turf.

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Total	100.00%

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†Isomer Specific by AOAC Method No. 978.05 (15th Ed.)

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Refer to inside of label booklet for additional precautionary information including Personal Protective Equipment (PPE), Engineering Controls Statements and User Safety Recommendations, and Directions for Use including Storage and Disposal.

**Notice:** Read the entire label. Use only according to label directions. Before using this product, read "Warranty Disclaimer," Inherent Risks of Use," and "Limitation of Remedies" at end of label booklet. If terms are unacceptable, return at once unopened.

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994. If you wish to obtain additional product information, visit our web site at [www.dowagro.com](http://www.dowagro.com).

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

EPA Est. \_\_\_\_\_

Superscripts correspond to places 7 & 8 of lot number  
900-000000 / 00000000

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Dow AgroSciences LLC • Indianapolis, IN 46268 U.S.A.

# Herbicide

Net Contents \_\_ gal

(Page 1 through end):

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**Precautionary Statements**

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**Hazards to Humans and Domestic Animals****DANGER**

**Corrosive • Causes Irreversible Eye Damage • Harmful If Swallowed or Absorbed Through Skin**

**Do not get in eyes or on clothing. Avoid contact with skin.**

**Personal Protective Equipment (PPE)**

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks
- Protective eyewear
- **Note: For containers of over 1 gallon, but less than 5 gallons:** Mixers and loaders who do not use a mechanical system (such as probe and pump) to transfer the contents of this container must wear coveralls or chemical-resistant apron in addition to other required PPE.

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, use detergent and hot water. Keep and wash PPE separately from other laundry. After each day of use, clothing or PPE must not be reused until it has been cleaned.

**Engineering Controls Statements**

**For containers of 5 gallons or more:** A mechanical system (such as probe and pump) must be used for transferring the contents of this container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal. If the mechanical system is used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4)], the handler PPE requirements may be reduced or modified as specified in the WPS.

When handlers use enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protections Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**User Safety Recommendations**

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- 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.

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**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.

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**If swallowed:** Call a Poison Control Center or doctor immediately for treatment advice. Have a person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a Poison Control Center or doctor. Do not give anything by mouth to an unconscious person.

**If inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

**Note:** Have the product container or label with you when calling a Poison Control Center or doctor or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

**Note to physician:** Probable mucosal damage may contraindicate use of gastric lavage.

### Environmental Hazards

This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and nontarget plants. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal area below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

**Mixing and Loading:** Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

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### Directions for Use

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

Read all Directions for Use carefully before applying.

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 48 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
- Waterproof gloves
- Shoes plus socks
- Protective eyewear

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### 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.

#### Use Requirements for Rangeland, Pasture and Non-cropland Areas

No Worker Protection Standard worker entry restrictions or worker notification requirements apply when this product is applied to rangeland, pasture non-cropland areas, or forest application by tree injection.

#### Use Requirements for Turf

Restricted Entry Interval: When used on grass seed crops, follow PPE and reentry instructions in the "Agricultural Use Requirements" section of this label. For use on other turf areas, do not allow people (other than applicator) or pets on treatment area during application. Do not enter into treated areas until sprays have dried.

### Storage and Disposal

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

**Storage:** Keep container tightly closed when not in use. Formula 40, exposed to subfreezing temperatures, should be warmed to at least 40°F and mixed thoroughly before using.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your state pesticide or environmental control agency, or the hazardous waste representative at the nearest EPA regional office for guidance.

**Plastic Container Disposal:** Do not reuse container. Triple rinse (or equivalent). Then dispose of in a sanitary landfill, or by incineration, or, if allowed by local authorities, by burning. If burned, stay out of smoke.

**Metal Container Disposal:** Do not reuse container. Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Tank Cleaning:** Triple rinse (or equivalent) and wash with appropriate cleaners before reusing. Consult federal, state, or local disposal authorities for approved alternative procedures.

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### General Information

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Formula 40\* herbicide is intended for selective control of many broadleaf weeds in certain crops [including asparagus, blueberries (high bush), cereal grains (wheat, barley, millet, oats, and rye), corn (field corn, popcorn and sweet corn), fallow land and crop stubble, orchard floors (apple, pear, stone fruit, nut and pistachio), rice, wild rice, sorghum (grain and forage sorghum), soybeans (preplant burndown application only), strawberries, and sugarcane], forests, grass pastures, rangeland (including Conservation Reserve Program (CRP) acres, ornamental turf, turf grown for sod or seed, and non-cropland; also for control of trees by injection.

Apply Formula 40 as a water or oil-water spray during warm weather when weeds or woody plants are actively growing. Application under drought conditions will often give poor results. Use low spray pressure to minimize drift. Generally, the lower dosages recommended on this label will be satisfactory for young, succulent growth of susceptible weed species. For less susceptible species and under conditions where control is more difficult, use higher recommended rates. Deep-rooted perennial weeds such as Canada thistle and field bindweed and many woody plants usually require repeated applications for satisfactory control. Consult your State Agricultural Experiment stations or Extension Service Weed Specialists for recommendations from this label that best fit local conditions.

## General Use Precautions and Restrictions

Do not use in or near greenhouses.

Do not apply this product in less than 2 gallons of total spray volume per acre.

Be sure that use of this product conforms to all application regulations. There may be state or local regulations affecting the use of 2,4-D herbicides in your area. Consult state agricultural experiment station or local extension service weed specialists regarding regulations applicable to your area or specific local weed control recommendations.

Do not contaminate irrigation ditches or water used for domestic purposes.

Residues of 2,4-dichlorophenoxyacetic acid in the soil may temporarily inhibit seed germination or plant growth.

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

**Crop Injury:** Injury to crops may occur when this herbicide is used as recommended. If you are not prepared to accept some degree of crop injury, do not use this product. Certain crop varieties may be more susceptible to 2,4-D injury. Apply Formula 40 only to crop varieties known to be tolerant to 2,4-D. If you are uncertain concerning tolerant varieties or local use situations that may affect crop tolerance to 2,4-D, consult your seed company, state agricultural extension service or qualified crop consultant for advice.

### Precautions for Avoiding Injury to Non-target Plants

Care should be taken to minimize spray drift and off-target movement of spray during application. A drift control agent suitable for agricultural use may be used with this product to aid in reducing spray drift. If used, follow all use recommendations and precautions on the product label.

**Do not apply where drift may be a problem due to proximity to susceptible crops or other desirable broadleaf plants.** Do not apply Formula 40 directly to, or permit spray drift to contact cotton, flowers, fruit trees, grapes, ornamentals, vegetables, or other desirable plants which are susceptible to 2,4-D herbicides. Do not permit spray mist containing 2,4-D to contact susceptible plants because even very small quantities of the spray, that may not be visible, can cause severe injury during active growth or dormant periods.

**Avoid Movement of Treated Soil:** Avoid conditions under which soil from treated areas may be moved or blown to areas containing susceptible plants. Wind-blown dust containing 2,4-D can produce symptoms of 2,4-D injury when deposited on susceptible plants. To minimize potential movement of 2,4-D on wind-blown dust, avoid treatment of powdery dry or light sandy soils until soil is settled by rainfall or irrigate immediately following application.

Do not store or handle other agricultural chemicals with the same containers used for Formula 40. Do not apply other agricultural chemicals or pesticides with equipment used to apply Formula 40 unless equipment has been thoroughly cleaned to remove all traces of 2,4-D.

### Spray Drift Management

**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 using no more than 20 pounds spraying pressure and large droplet producing nozzle tips; by spraying when wind velocity is low; and by

stopping all spraying when wind exceeds 10 miles per hour. Do not apply with hollow cone-type insecticide or other nozzles that produce a fine-droplet spray.

**Aerial Application:** Spray drift at the application must be minimized. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions associated with use of this product. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

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 air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the following Aerial Drift Reduction Advisory Information section.

### **Aerial Spray Drift Advisory Information**

**Importance of 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 Inversion section of this label).

#### **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**-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 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 backwards, parallel to the airstream will produce larger droplets than other orientations. Significant deflection from the 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 larger droplets than other nozzle types.
- **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**-Applications should not be made at a height greater than 10 feet above the top of the largest 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 cross-wind, 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 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 connected cloud (under low wind conditions) indicates an inversion, while smoke that moves upwards 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 Formula 40 only with water, unless otherwise directed on this label. Add about half the water to the mixing tank, then add the Formula 40 with agitation, and finally the rest of the water with continuing agitation.

#### Tank Mixing Precautions:

- Read carefully and follow all applicable use directions, precautions, and limitations on the labels of all products to be tank mixed.
- Do not tank mix with another pesticide product that contains the same active ingredients as this product, unless the label of the tank mix partner specifies the maximum dosage that may be used.
- Do not apply this product in tank mix with any product containing a label prohibition against tank mixing with 2,4-D.

**Precaution:** Adding oil, wetting agent or other surfactant to the spray may increase effectiveness on weeds, but also may reduce selectivity to crops resulting in crop injury.

**Tank Mix Compatibility Testing:** A jar test is recommended prior to tank mixing to ensure compatibility of this product and other pesticides. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls-up, forms flakes, sludges, jels, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

#### Mixing with Liquid Nitrogen Fertilizer

This product may be combined with liquid nitrogen fertilizer suitable for foliar application to accomplish broadleaf weed control and fertilization of corn, small grains, sorghum, or pastures in a single operation. Use Formula 40 in accordance with recommendations for these crops provided in this label. Use liquid fertilizer at rates recommended by the supplier or extension service specialist. Test for mixing

compatibility by mixing spray ingredients in correct proportions in a clear glass jar before mixing in spray tank. A compatibility aids such as Unite or Compex may be needed in some situations. Compatibility is best with liquid fertilizer solutions containing only nitrogen. Mixing with N-P-K solutions may not be satisfactory, even with the addition of a compatibility aid. Pre-mixing Formula 40 with 1 to 4 parts water may help in situations when mixing difficulty occurs.

Fill the tank about half full with the liquid fertilizer, then add the required amount of Formula 40 with agitation. Maintain agitation and complete filling the tank with liquid fertilizer. Apply immediately and continue spray tank agitation during application. **Do not store the spray mixture.** To avoid spray mixture compatibility problems, application during cold weather (less 40°F) is not recommended.

### **Sprayer Clean-Out**

To avoid injury to desirable plants, equipment used to apply this product should be thoroughly cleaned before re-use or applying other chemicals.

1. Rinse and flush application equipment thoroughly after use at least three times with water. Dispose of all rinse water by application to treatment area or apply to non-cropland area away from water supplies.
2. During the second rinse, add 1 qt 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. Remove nozzles and screens and clean separately.
6. If equipment is to be used to apply another pesticide or agricultural chemical to a 2,4-D susceptible crop, additional steps may be required to remove all traces of 2,4-D, including cleaning of disassembled parts and replacement of hoses or other fittings that may contain absorbed 2,4-D.

### **Application Instructions**

Apply with calibrated air or ground equipment using sufficient spray volume to provide adequate coverage of target weeds or as otherwise directed in specific use directions. For broadcast application, use a spray volume of 2 or more gallons per acre by air and 10 or more gallons per acre for ground equipment. Where states have regulations that specify minimum spray volumes, they should be observed. In general, spray volume should be increased as crop canopy, height and weed density increase in order to obtain adequate spray coverage.

### **Spot Treatments**

To prevent misapplication, spot treatments should be applied with a calibrated boom or with hand sprayers using a fixed spray volume per 1,000 sq ft as indicated below.

**Hand-Held Sprayers:** Hand-held sprayers may be used for spot applications of Formula 40 in labeled crops. Care should be taken to apply the spray uniformly and at a rate equivalent to a broadcast application. Application rates in the table are based on a treatment area of 1,000 sq ft. Mix the amount of Formula 40 (fl oz or ml) corresponding to the desired broadcast rate in one (1) or more gallons of spray. To calculate the amount of Formula 40 required for larger areas, multiply the table value (fl oz or ml) by the number of thousands of sq ft of area to be treated. An area of 1000 sq ft is approximately 10.5 X 10.5 yards (strides) in size. To calculate the amount of Formula 40 required for a broadcast rate higher than those listed, use a multiple of the table value.

**Rate Conversion Table for Spot Treatment:**

Label Broadcast Rate (pt/acre)							
1/2	2/3	3/4	1	2	3	4	8
Equivalent Amount of Formula 40 per 1000 sq ft							
1/5 fl oz † (5.5 ml)	1/4 fl oz (7.3 ml)	1/3 fl oz (8.3 ml)	3/8 fl oz (11 ml)	3/4 fl oz (22 ml)	1 fl oz (33 ml)	1 1/2 fl oz (44 ml)	3 fl oz (88 ml)

† Conversion factors: 1 pt - 16 fl oz.; 1 fl oz = 29.6 (30) ml

**Band Application:** Formula 40 may be applied as a band treatment. Use the formulas below to determine the appropriate rate and volume per treated acre.

Band width in inches

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast rate per acre} = \text{Band rate per treated acre}$$

Band width in inches

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast volume per acre} = \text{Spray volume per banded acre}$$

**Weeds Controlled****Annual and Biennial Weeds**

Beggarticks <sup>(1)</sup>	mousetail <sup>(2)</sup>
Bittercress, smallflowered <sup>(2)</sup>	mustards (except blue mustard)
bitterweed	parsnip, wild
broomweed, common <sup>(1)</sup>	pennycress (fanweed)
burdock, common	pepperweeds ( <i>Lepidium</i> spp.) <sup>(1)(2)</sup>
buttercup, smallflowered <sup>(1)(2)</sup>	pigweeds ( <i>Amaranthus</i> spp.) <sup>(1)</sup>
carpetweed	poorjoe
cinquefoil, common <sup>(2)</sup>	primrose, common
cinquefoil, rough <sup>(2)</sup>	purslane, common <sup>(2)</sup>
cocklebur, common	pusley, Florida
coffeeweed	radish, wild
copperleaf, Virginia <sup>(2)</sup>	ragweed, common
croton, Texas	ragweed, giant
croton, woolly	rape, wild
flixweed	rocket, yellow
galinsoga	salsify, common <sup>(1)</sup>
geranium, Carolina <sup>(2)</sup>	salsify, western <sup>(1)</sup>
hemp, wild	shepherdspurse
horseweed (maretail) <sup>(2)</sup>	sicklepod
jewelweed	smartweed (annual species) <sup>(1)(2)</sup>
jimsonweed	sneezeweed, bitter
knotweed <sup>(1)</sup>	sowthistle, annual
kochia	sowthistle, spiny
lambsquarters, common	spanishneedles
lettuce, prickly <sup>(1)(2)</sup>	sunflower
lettuce, wild	sweetclover
lupines	tansymustard
mallow, little <sup>(1)</sup>	thistle, bull
mallow, Venice <sup>(1)</sup>	thistle, musk <sup>(1)</sup>
marshelder	thistle, Russian (tumbleweed) <sup>(1)</sup>



morningglory, annual  
 morningglory, ivy  
 morningglory, woolly

velvetleaf  
 vetches

### Perennial Weeds

Alfalfa <sup>(1), (2)</sup>	eveningprimrose, cutleaf <sup>(2)</sup>
artichoke, Jerusalem <sup>(1)</sup>	garlic, wild <sup>(1)</sup>
aster, many-flower <sup>(1)</sup>	hawkweed, orange <sup>(1)</sup>
Austrian fieldcress <sup>(1)</sup>	healal
bindweed (hedge, field and European) <sup>(1), (2)</sup>	ironweed, western <sup>(2)</sup>
blue lettuce	ivy, ground <sup>(1)</sup>
blueweed, Texas	Jerusalem-artichoke
broomweed	loco, bigbend
bullnettle <sup>(1), (2)</sup>	nettles (including stinging) <sup>(1)</sup>
carrot, wild <sup>(1)</sup>	onion, wild <sup>(1)</sup>
catnip	pennywort
chicory	plantains
clover, red <sup>(1), (2)</sup>	ragwort, tansy <sup>(1)</sup>
coffeeweed	sowthistle, perennial
cress, hoary <sup>(1)</sup>	thistle, Canada <sup>(1), (2)</sup>
dandelion <sup>(1)</sup>	vervains <sup>(1)</sup>
docks <sup>(1)</sup>	wormwood
dogbanes <sup>(1)</sup>	
goldenrod	

<sup>(1)</sup> **Difficult-to-Control Weeds:** These weeds are only partially controlled and may require repeat applications and/or use of the higher recommended rate of this product even under ideal conditions of application.

<sup>(2)</sup> This product may not be used to control this weed species in the state of California.

## Crop Uses

**Agricultural Use Requirements for Crops:** For the following crop uses, follow PPE and Reentry instructions in the "Agricultural Use Requirements" section of this label.

### Asparagus

Crop Stage	Formula 40 (pt/acre)	Specific Use Directions
After cutting	1 to 2	Apply immediately after a cutting, before regrowth of new spears or postharvest. Spears contacted by the spray may be malformed and off-flavored. Malformed spears should be cut immediately and discarded. After application, wait at least two weeks before cultivating.
Post Harvest	1 to 2	Apply with ground equipment only and use drop nozzles to avoid spraying ferns.

#### Restrictions:

- **Preharvest Interval:** Do not harvest within three days of application.

- Do not make more than two applications per crop.
- Do not apply within 30 days of a previous application.

### Cereal Grains (Wheat, Barley, Millet, Oats, Rye) (Not Underseeded with Legumes)

**General Use Precautions:** Use the lower rate in the rate range if small annual or biennial weeds are the major problem. Use the higher rate if perennial weeds or more difficult to control annual or biennial weeds are present. Higher rates increase the risk of crop injury and should be used only where weed control justifies such risk. To avoid crop injury, do not apply this product at the crop seedling stage of growth. Consult state agricultural experiment station or extension service weed specialists for recommendations or suggestions to fit local conditions.

Crop/Weeds Controlled	Formula 40 (pt/acre)	Specific Use Directions
<b>Wheat, Barley, Millet, Rye</b> Annual and biennial broadleaf weeds  Perennial broadleaf weeds	1/2 to 2  1 to 2 †	Apply after crop is fully tillered, but before boot stage of growth (usually 4 to 8 inches tall) and weeds are small. <b>Do not apply before tillering or during early boot through the milk stage of growth.</b>
<b>Oats</b> (Spring Seeded) (Fall Seeded Southern)	1/2 3/4 to 1 1/4	Apply after crop is fully tillered, but before boot stage of growth (usually 4 to 8 inches tall) and weeds are small. <b>Do not apply before tillering or during early boot through the milk stage of growth. Do not apply during or immediately following cold weather.</b>
<b>Preharvest application (all cereals)</b>	1	Apply using air or ground equipment to control weeds that could interfere with harvest, or to suppress perennial weeds. Apply when grain is in dough stage. <b>Do not apply during early boot through the milk stage of growth.</b>

#### Restrictions:

- **Grazing and Haying Restrictions:** Do not permit dairy animals or meat animals being finished for slaughter to forage or graze treated grain fields within 14 days after treatment. Do not harvest for hay or harvest grain within 14 days after application.
- Do not apply more than 3.5 pt/acre of Formula 40 per crop.

### Corn (Field Corn, Popcorn and Sweet Corn)

**General Use Precautions:** Corn hybrids vary in tolerance to 2,4-D. Apply this product only to varieties known to be 2,4-D tolerant. Consult your seed company representative or local Agricultural Experiment Station or Extension Service Weed Specialist for information on 2,4-D tolerance of corn varieties. Application of this product may cause temporary stem brittleness in corn. To avoid stem breakage, delay cultivation for 8 to 10 days following application.

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Application Timing/ Stage of Growth	Formula 40 (pt/acre)	Specific Use Directions
<b>Preplant (Burndown)</b> <b>Preemergence</b> (Field corn, popcorn, and sweet corn)	1 to 2	<b>General:</b> For best results, growth conditions should be favorable for active weed growth. Use high rate in rate range for difficult-to-control weeds, cover crops such as alfalfa, weeds in advanced stages of development, or under less favorable growth conditions. <b>Preplant:</b> Apply 7 to 14 days before planting corn to control emerged broadleaf weed seedlings or existing cover crops. <b>Preemergence:</b> Apply any time after planting, but before corn emerges to control broadleaf weed seedlings or existing cover crops. <b>Do not make preemergence applications to corn grown in light sandy soils.</b>
<b>Postemergence</b> (Field corn, popcorn, and sweet corn) Annual broadleaf weeds Crop up to 8 inches tall  Crop 8 inches tall to tasseling (directed spray only)  Perennial broadleaf weeds	1/2 to 1   1  1	Apply when weeds are small and corn is less than 8 inches tall (to top of canopy). If corn is more than 8 inches tall, use drop nozzles to keep spray off foliage. Treat perennial weeds when they are in bud to bloom stage. Do not tank mix with atrazine, oil or other adjuvants. <b>To avoid crop injury, do not apply from tasseling to hard dough stage.</b> <b>Note:</b> Corn treated with 2,4-D may become temporarily brittle. Wind or cultivation may cause stem breakage during the period of time that corn is brittle. <b>Sweet Corn:</b> To minimize potential for crop injury, use only lowest rate in rate range.
<b>Preharvest</b> (Field corn and popcorn only)	up to 3	Apply after corn is in hard dough (or denting) stage. <b>Do not apply preharvest to sweet corn.</b>

**Restrictions (Field Corn and Popcorn):**

- **Preharvest interval:** Do not harvest for grain or fodder within 7 days after application.
- Do not apply more than 6.0 pt/acre of Formula 40 per use season.

**Restrictions (Sweet Corn):**

- **Preharvest interval:** Do not harvest within 45 days after application or permit meat or dairy animals to forage or graze treated area within 7 days after application.
- Do not make a postemergence application any less than 21 days after a prior application.
- Do not apply more than 3.0 pt/acre of Formula 40 per crop.

**Fallow Land and Crop Stubble****General Use Precautions**

**Degradation Factors:** When planting into treated areas, the risk of crop injury is less if lower rates of product were applied and conditions following application have included warm, moist soil conditions that favor rapid breakdown of 2,4-D. Risk is greater if higher rates of product were applied and soil

temperatures have been cold and/or soils have been excessively wet or dry in the days following application.

**Planting in Treated Areas (Labeled Crops):** Within 29 days after an application of this product, plant only those crops listed on this or other registered 2,4-D labels. Follow more specific limitations, if any, provided in directions for specific crops. Labeled crops may be at risk of crop injury or loss if planted soon after application, especially during the first 14 days. Degradation factors described below should be considered in weighing this risk.

**All other crops** may be planted 30 or more days after application without concern for illegal residues in the planted crop. However, under certain conditions, there may be a risk of injury to susceptible crops. Degradation factors described below should be considered in weighing this risk. Under average conditions, any crop may be planted without risk of injury if at least 90 days of soil temperatures above freezing have elapsed since application.

Type of Weeds	Formula 40 (pt/acre)	Specific Use Directions
Annual broadleaf weeds	1 to 2	Use lower rate in rate range when weeds are small (2 to 3 inches tall) and conditions are favorable for active growth and a higher rate when weeds are larger and/or growing conditions are less favorable.
Biennial broadleaf weeds	2 to 4	Apply when musk thistles or other biennial species are in the seedling to rosette stage and before development of flower stalks. Use lower rates in the spring during the rosette stage and the highest rate in the fall or when flower stalks have developed.
Perennial broadleaf weeds	2 to 4	Apply when perennial weeds are in bud or bloom stage and actively growing. Do not disturb treated areas for at least 2 weeks after application or until top growth is dead.
Wild garlic and onion in crop stubble	4	Apply to new regrowth of wild garlic or onion that occurs in the fall after harvest of other crops.

**Restrictions:**

- **Grazing and Haying Restrictions:** In grazed areas, do not apply more than 4 pt/acre of Formula 40 per year. Do not harvest forage or hay from treated areas for 7 days after application. If treated area is grazed within 30 days of application, withdraw meat animals at least 3 days before slaughter.
- Do not re-apply within 30 days of a previous application.

**Grain Sorghum (Milo) and Forage Sorghum**

**General Use Precautions:** Temporary crop injury can be expected under conditions of high soil moisture and high air temperatures. If it is necessary to apply Formula 40 under these conditions, use no more than 2/3 pint per acre. Sorghum hybrids vary in 2,4-D tolerance. Apply only to varieties known to be tolerant to 2,4-D. Consult your seed company representative or local agricultural experiment station or extension service weed specialist for information on 2,4-D tolerance of sorghum varieties.

Application Timing/ Stage of Crop Growth	Formula 40 (pt/acre)	Specific Use Directions
<b>Postemergence</b> † Crop 6 - 8 inches tall Crop 8 - 15 inches tall (directed spray only)	1/2 to 1 † 3/4 to 1	Apply when sorghum is 6 to 15 inches tall. If sorghum is more than 8 inches tall (top of canopy), use drop nozzles to keep spray off foliage. Do not use with oil or other adjuvants. <b>Do not treat during boot, flowering or dough stage.</b>

**Restrictions:**

- Do not allow meat or dairy animals to graze or harvest treated crop for fodder or forage until 30 days after application.
- Do not apply more than 1.0 pt/acre of Formula 40 per crop.

**Orchard Floors (Apples, Pears, Stone Fruit, Nut Orchards and Pistachios)****General Use Precautions (To Avoid Tree Injury):**

- Do not apply immediately before irrigation and withhold irrigation for 2 days before and 3 days after application.
- Do not allow spray drift to contact foliage, fruit, stems, trunks or trees or exposed roots.
- Because newly established trees or young orchards are more susceptible to 2,4-D injury, apply only to orchards that are at least one year old and well-established as indicated by vigorous plant growth.
- Do not apply during bloom.

Application Timing	Formula 40 (pt/acre)	Specific Use Directions
<b>Postemergence</b>	2 to 3	For control of weeds on orchard floors, apply using coarse sprays, low pressure and sufficient water for thorough coverage of weeds. <b>Treat when weeds are small and actively growing.</b>

**Restrictions:**• **Preharvest Intervals:**

**Apples and Pears:** Do not harvest for 14 days after application.

**Stone Fruit:** Do not harvest for 40 days after application.

**Nut Orchards and Pistachios:** Do not harvest for 60 days after application.

- Do not use on light sandy soils.
- Do not cut forage or hay within 7 days after application.
- Do not make more than 2 applications per year and allow at least 75 days between applications.
- Do not apply more than 4.0 pt/acre of Formula 40 per year.

**Rice (Not for Use in California)**

**General Precautions:** Rice varieties vary in tolerance to 2,4-D, or may be susceptible to injury under certain conditions or stages of growth. Consult your seed company representative or local Agricultural Experiment Station or Extension Service Weed Specialist for information on 2,4-D tolerance of rice varieties, including optimum rates and timing.

Application Timing	Formula 40 (pt/acre)	Specific Use Directions
Preplant	1 to 2	Apply 2 to 4 weeks before planting rice to control emerged broadleaf weeds. <b>Do not use in California.</b>
Postemergence	1 to 2 <sup>†</sup>	Apply when rice is in late tillering stage and at the time of first joint development (first to second green ring). Do not apply after panicle initiation, after rice internodes exceed one-half inch, at early seedling, early panicle, or boot and heading stages.

<sup>†</sup> Application rates of 2 to 3 pt/acre may be applied to handle difficult weed control problems. However, do not use more than 2 pt/acre unless possible crop injury is acceptable.

**Restrictions:**

- **Preharvest interval:** Do not apply within 60 days of harvest.
- Do not apply more than 3 pt/acre of Formula 40 per crop.

### Rice (Wild Rice)

Application Timing	Formula 40 (pt/acre)	Specific Use Directions
Postemergence	1/2	Apply when rice is in the 1 to 2 aerial leaf through early tillering stage.

**Restrictions:**

- **Preharvest interval:** Do not apply within 60 days of harvest.
- Do not apply more than 1 pt/acre of Formula 40 per crop.

### Soybeans (Preplant Burndown Application Only)

**Important Notice:** Unacceptable injury to soybeans planted in treated fields may occur. Whether or not soybean injury occurs and the extent of such injury will depend on weather (temperature and rainfall) from herbicide application until soybean emergence and agronomic factors such as the amount of weed vegetation and previous crop residue present at the time of application. Injury is more likely under cool rainy conditions and where there is less weed vegetation and crop residue present.

Application Timing	Formula 40 (pt/acre)	Specific Use Directions
Preplant (Burndown)	3/4 to 1	Apply not less than 7 days before planting soybeans, when weeds are small and actively growing. Use the higher rate on larger weeds and when perennials are present. <b>See Use Precautions and Restrictions below.</b>
	1 to 2	Apply not less than 15 days before planting soybeans, when weeds are small and actively growing. Use the higher rate on larger weeds and when perennials are present. <b>See Use Precautions and Restrictions below.</b>
Compatible crop oil concentrates, agricultural surfactants and fluid fertilizers approved for use on		

growing crops may be added to spray mixtures to increase the herbicidal effectiveness on certain weeds. Read and follow all directions and precautions on this label and on the label of each product added to the spray mixture.

**Use Precautions, Restrictions and Limitations:**

- Do not disturb treated soil through tillage between application and planting of soybeans.
- Do not use on sandy soils with less than 1.0% organic matter.
- In treated fields, plant soybean seed as deep as practical, but not less than 1.0 inch deep. Adjust the planter, if necessary, to ensure that planted seed is adequately covered.
- Do not make more than one application per season regardless of the application rate used.
- Do not allow livestock grazing or harvest hay, forage, or fodder from treated fields. Livestock should be restricted from feeding/grazing of treated cover crops.
- **Do not apply Formula 40 as a preplant application in soybeans unless you are prepared to accept the results of soybean injury, including possible stand loss and/or yield reduction.**
- During the growing season following application, do not replant treated fields with crops other than those labeled for use with Formula 40.
- Do not apply more than 2 pt/acre of Formula 40 per crop.

**Strawberries (Dormant or Post-harvest Application Only)**  
(Do not use in California)

Crop Stage	Formula 40 (pt/acre)	Specific Use Directions
Dormant or after last picking	1 to 2	Apply to established plantings when strawberry plants have gone into dormancy or soon after the last picking. Some injury may occur. Do not apply unless possible injury to the crop is acceptable. Consult your state extension weed or horticultural specialists on use of this product in your area.

**Sugarcane**

Application Timing/ Stage of Growth	Formula 40 (pt/acre)	Specific Use Directions
Preemergence	2	<b>Preemergence:</b> Apply before cane emerges.
Postemergence	2 to 4	<b>Postemergence:</b> Apply after cane emerges through layby. Use higher rate for perennial weeds and difficult-to-control weeds.

**Precautions and Restrictions:**

- Do not apply more than 8.0 pt/acre of Formula 40 per crop.

**Forestry, Rangeland, Established  
Pasture, and Non-cropland, Uses**

**Agricultural Use Requirements for Forest Use (Except Tree Injection Use):** For use in forests, follow PPE and Reentry instructions in the "Agricultural Use Requirements" section under the "Directions for Use" heading of this label.

**Agricultural Use Requirements for Rangeland, Pasture, Forest (Tree Injection Only) and Non-cropland Areas:** When this product is applied to rangeland and established pastures not harvested for hay or seed; non-cropland areas, and when applied by tree injection method only in forest sites, follow reentry requirements given in the "Non-Agricultural Use Requirements" section under the "Directions for Use" heading of this label.

### Forests

**Forest site preparation, forest roadsides, brush control, and conifer release in established conifers, including Christmas trees and reforestation areas**

Site and Method of Application	Formula 40	Specific Use Directions
<b>Annual Weeds</b>	2 to 4 pt/acre	Apply when weeds are small and growing actively before the bud stage. Apply when biennial and perennial species are in the seedling to rosette stage and before flower stalks appear. For difficult to control perennial broadleaf weeds and woody species, use up to 4 qt of Formula 40 plus 1 to 4 qt of Garlon* 3A herbicide per acre.
<b>Biennial and perennial broadleaf weeds and susceptible woody plants</b>	4 to 8 pt/acre	
<b>Spot Treatment to control broadleaf weeds</b>	See Instructions for "Spot Treatment"	<b>Note:</b> To control broadleaf weeds in small areas with a hand sprayer, use an application rate equivalent to the broadcast rate recommended for this treatment site and spray to thoroughly wet all foliage. Refer to "Spot Treatment" section for instructions and rate conversion table under "Application Instructions" section of this label.
<b>Conifer Release:</b> Species such as white pine, ponderosa pine, jack pine, red pine, black spruce, white spruce, red spruce, and balsam fir	1 ½ to 3 qt/acre	To control competing hardwood species such as alder, aspen, birch, hazel, and willow, apply from mid to late summer when growth of conifer trees has hardened off and woody plants are still actively growing. Apply with ground or air equipment, using sufficient spray volume to ensure complete plant. This treatment may cause occasional conifer injury. Do not apply if such injury cannot be tolerated.  For conifer release, make application in early spring before budbreak of conifers when weeds are small and actively growing.
<b>Directed Spray:</b> Conifer plantations including pine	4 qt/100 gal	Apply when brush or weeds are actively growing by directing the spray so as to avoid contact with conifer foliage and injurious amounts of spray. Apply in oil, oil-water, or water carrier in a spray volume of 10 to 100 gallons per acre.



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<b>Basal Spray (May also be used in Rangeland, Pastures, and Noncropland)</b>	8 qt/100 gal or	Thoroughly wet the base and root collar of all stems until the spray begins to accumulate around the root collar at the ground line. Wetting stems also with the mixture may aid in control.
<b>Surface of Cut Stumps (May also be used in Rangeland, Pastures, and Noncropland)</b>	2.6 fl oz/gal of water	Apply as soon as possible after cutting trees. Thoroughly wet the cambium layer of the cut surface being careful to wet the entire circumference.
<b>Frill and Girdle (May also be used in Rangeland, Pastures, and Noncropland)</b>		Cut frills (overlapping V-shaped notches cut downward through the bark in a continuous ring around the base of the tree) using an axe or other suitable tool. Saturate the freshly cut frills with the 2,4-D mixture.
<b>Tree Injection Application (May also be used in Rangeland, Pastures, and Noncropland)</b>	(1 to 2 ml per injection site)	To control and prevent resprouting of unwanted hardwood trees such as elm, hickory, oak, and sweetgum in forests and other non-crop areas, apply by injecting at a rate of 1 ml of undiluted Formula 40 per inch of trunk diameter as measured at breast height (DBH), approximately 4 1/2 ft above the ground. Injection sites, however, should be as close to the root collar as possible and the injection bit must penetrate the inner bark. Applications may be made throughout the year, but for best results apply between May 15 and October 15. <b>Do not treat maples used for maple syrup production.</b> For hard to control species such as ash, maple, and dogwood use 2 ml of undiluted Formula 40 per injection site or double the number of 1 ml injections. <b>Note: No Worker Protection Standard worker entry restrictions or worker notification requirements apply when this product is directly injected into agricultural plants.</b>

**Use Precautions and Restrictions:**

- Do not allow sprays to contact conifer shoot growth (current year's new growth) or injury may occur.
- Do not apply to nursery seedbeds.
- For conifer release, do not use on plantations where larch is among the desired species.
- **Grazing and Haying Restrictions:** If grazing or haying is anticipated, do not apply more than 4 pt/acre of Formula 40 per application. Do not harvest forage or hay from treated areas for 7 days after application. If treated area is grazed within 30 days of application, withdraw meat animals at least 3 days before slaughter.
- For broadcast applications, do not apply more than 8.0 pt/acre of Formula 40 per 12 month period.

**Rangeland, Established Grass Pastures (Including Perennial Grasslands not in Agricultural Production such as Conservation Reserve Program Acres)**

Target Weeds or Woody Plants	Formula 40 (pt/acre)	Specific Use Directions
Annual broadleaf weeds  Biennial and perennial broadleaf weeds	2  2 to 4	For best results, apply when weeds are small and growing actively before the bud stage. Apply when musk thistles or other biennial species are in the seedling to rosette stage and before flower stalks appear. Refer to the "Weeds Controlled" section for a listing of susceptible weed species and weeds that may be only partially controlled and require repeat applications and/or use of higher recommended rates, even under ideal conditions of application
Spot Treatment to control broadleaf weeds	See Instructions for "Spot Treatment"	<b>Note:</b> To control broadleaf weeds in small areas with a hand sprayer, use an application rate equivalent to the broadcast rate recommended for this treatment site and spray to thoroughly wet all foliage. Refer to "Spot Treatment" section for instructions and rate conversion table under "Application Instructions" section of this label.
<b>Woody Plants: Basal spray, cut surface, frill and girdle, and tree injection application methods</b>		Refer to the "Forestry Uses" section for specific use instructions for these application methods.
Wild garlic and wild onion	4	<b>Make three applications (fall-spring-fall or spring-fall-spring) starting in late fall or early spring.</b>
Broadleaf weed control in newly sprigged coastal bermudagrass	2 to 4	Applications may be made either preemergence or postemergence. Follow "Specific Use Directions" for Rangeland and Established Grass Pastures, above.
Sand shinnery oak Sand sagebrush	2	Sand shinnery oak: Apply by aircraft between May 15 and June 15. Sand sagebrush: Apply by ground or aircraft when foliage is fully expanded and plants are actively growing. Use a 1:4 oil-water emulsion as carrier and a spray volume of 3 to 5 gallons per acre.
Big sagebrush Rabbitbrush	4	Apply by ground or aircraft when foliage is fully expanded and plants are actively growing. Use a 1:4 oil-water emulsion as carrier and a spray volume of 3 to 5 gallons per acre. Retreatment may be needed.
Chamise, manzanita, buckbrush, coastal sage, coyotebrush, and chaparral species.	4	Apply by ground or aircraft when foliage is fully expanded and plants are actively growing. Use water or 1:4 oil-water emulsion as carrier and a spray volume of 5 to 10 gallons per acre. Retreatment may be needed.

<p><b>Southern wild rose</b> Broadcast application</p> <p>Spot treatment</p>	<p>up to 4</p> <p>1 gal/100 gal of spray</p>	<p>Broadcast: Apply in a spray volume of 5 or more gallons per acre by aircraft or 10 or more gallons per acre by ground equipment.</p> <p>Spot treatment: Apply when foliage is well developed. Thorough coverage is required. Use 1 gallon of Formula 40 plus 4 to 8 fluid ounces of an agricultural surfactant per 100 gallons of water. Two or more treatments may be required.</p> <p>Do not exceed 4 pt per acre per application.</p>
<p><b>CRP Acres</b></p>	<p>For program lands such as CRP, consult program rules to determine whether grass or hay may be used. The more restrictive requirements of the program rules or this label must be followed.</p>	

**Precautions and Restrictions:**

- Do not use on bentgrass, alfalfa, clover, or other legumes.
- Do not use on newly seeded areas until grass is well established.
- Do not use from early boot to milk stage where natural grass reseeding is desired.
- **Grazing and Haying Restrictions:** In grazed areas, do not apply more than 4 pt/acre of Formula 40 per application. Do not harvest forage or hay from treated areas for 7 days after application. If treated area is grazed within 30 days of application, withdraw meat animals at least 3 days before slaughter.
- Do not apply more than 8 pt/acre of Formula 40 per year.

**Non-cropland**

Such as fencerows, hedgerows, roadsides, drainage ditches, rights-of way, utility power lines, railroads and other non-crop areas

Target Weeds or Woody Plants	Formula 40 (pt/acre)	Specific Use Directions
Annual broadleaf weeds	2 to 4	<p>Apply when annual weeds are small and growing actively before the bud stage. Biennial and perennial weeds should be rosette to bud stage, but not flowering at the time of application. For difficult to control perennial broadleaf weeds and woody species, tank mix up to 4 quarts of Formula 40 plus 1 to 4 qt of Garlon 3A per acre. Oil or wetting agent may be added to the spray, if needed for increased effectiveness.</p> <p><b>For ground application (High volume):</b> apply a total spray volume of 100 to 400 gallons per acre; (low volume) apply a total spray volume of 10 to 100 gallons per acre.</p> <p><b>For helicopter:</b> Apply a total spray volume of 5 to 30 gallons per acre.</p>
Biennial and perennial broadleaf weeds and susceptible woody plants	4 to 8	

<b>Spot Treatment to control broadleaf weeds</b>	See Instructions for "Spot Treatment"	<b>Note:</b> To control broadleaf weeds in small areas with a hand sprayer, use an application rate equivalent to the broadcast rates recommended for this treatment site and spray to thoroughly wet all foliage. Refer to "Spot Treatment" section for instructions and rate conversion table under "Application Instructions" section of this label.
<b>Woody Plants:</b> Basal spray, cut surface, frill and girdle, and tree injection application methods		Refer to the "Forestry Uses" section for specific use instructions for these application methods.
<b>Southern wild rose</b> Broadcast application  Spot treatment	up to 4  1 gal/100 gal of spray	Broadcast: Apply in a spray volume of 5 or more gallons per acre by aircraft or 10 or more gallons per acre by ground equipment.  Apply when foliage is well developed. Thorough coverage is required. Use 4 qt of Formula 40 plus 4 to 8 fluid ounces of an agricultural surfactant per 100 gallons of water. Two or more treatments may be required.

**Precautions and Restrictions:**

- Do not apply to newly seeded areas until grass is well established.
- Bentgrass, St. Augustine, clover, legumes and dichondra may be severely injured or killed by this treatment.
- Do not reapply to a treated area within 30 days of a previous application.
- **Grazing and Haying Restrictions:** If grazing or haying is anticipated, do not apply more than 4 pt/acre of Formula 40 per application. Do not harvest forage or hay from treated areas before 7 days after application. If treated area is grazed within 30 days of application, withdraw meat animals at least 3 days before slaughter.
- Do not apply more than 8.0 pt/acre of Formula 40 per use season.

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**Turf Uses**


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**Grasses Grown for Seed or Sod Farms**

**Agricultural Use Requirements:** When used in grass grown for seed or sod farms, follow PPE and reentry instructions in the "Agricultural Use Requirements" section of this label.

Treatment Site (Application Timing)	Formula 40 (pt/acre)	Specific Use Directions
<b>Grasses Grown for Seed (Postemergence Use)</b> Seedling grass (five-leaf stage or later)	3/4 to 1	Apply when weeds are small and actively growing. For best results, apply when soil moisture is adequate for active weed growth.
Well-established grasses	1 to 4	Do not apply to newly seeded grasses until well established (five-leaf stage or later) and then use a maximum of 1 pt/acre. Cool season grasses are more tolerant to higher rates. <b>For grasses grown for seed, do not apply to grass in the early boot through milk stage.</b> When grass is well established, higher rates of up to 4 pints/acre may be applied for control of hard-to-kill annual or perennial weeds.

<b>Sod Farms (Postemergence)</b>	2 to 4	Deep-rooted perennials such as bindweed and Canada thistle may require repeat applications. Avoid mowing sod farms for 2 days before or after application. Delay irrigation until the day following application.
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**Use Precautions and Restrictions:**

- Do not use on creeping grasses such as bentgrass except for spot treatment.
- Do not use on susceptible southern grasses such as St. Augustinegrass.
- Do not use on dichondra or other herbaceous ground covers; legumes may be damaged or killed.
- Do not reapply to a treated area within 21 days of a previous application.
- **Reseeding:** Delay reseeding at least 30 days following application. Preferably, with spring application, reseed in the fall and with fall application, reseed in the spring.
- **Grazing and Haying Restrictions:** If grazing or haying is anticipated, do not apply more than 4 pt/acre of Formula 40 per application. Do not harvest grass for hay from treated areas for 7 days after application. If treated area is grazed within 30 days of application, withdraw meat animals at least 3 days before slaughter.
- Do not apply more than 8 pt/acre of Formula 40 per year.

**Ornamental Turf (Excluding Grasses Grown For Seed or Sod Farms)**

(Includes lawns, golf courses, cemeteries and parks, airfields, roadsides, vacant lots, drainage ditch banks)

**Use Requirements for Ornamental Turf Areas:** When this product is applied to ornamental turf areas, follow PPE and reentry instructions in the "Non-agricultural Use Requirements" section of this label.

<b>Treatment Site (Application Timing)</b>	<b>Formula 40 (pt/acre)</b>	<b>Specific Use Directions</b>
<b>Ornamental Turf (Postemergence)</b>		Apply when weeds are small and actively growing. For best results, apply when soil moisture is adequate for active weed growth.
Seedling grass (five-leaf stage or later)	3/4 to 1	Deep-rooted perennial weeds such as bindweed and Canada thistle may require repeat applications.
Well-established grasses	2 to 4	Do not apply to newly seeded grasses until well established (five-leaf stage or later) and then use a maximum of 1 pt/acre. Cool season grasses are tolerant of higher rates.
Biennial and perennial broadleaf weeds	4	

**Precautions, Restrictions:**

- Do not use on creeping grasses such as bentgrass except for spot treatment.
- Do not use on susceptible southern grasses such as St. Augustinegrass.
- Do not use on dichondra or other herbaceous ground covers; legumes may be damaged or killed.
- **Reseeding:** Delay reseeding at least 30 days following application. Preferably, with spring application, reseed in the fall and with fall application, reseed in the spring.
- Do not make more than 2 broadcast applications per treatment site per year (does not include spot treatments).
- **Grazing and Haying Restrictions:** If grazing or haying is anticipated, do not apply more than 4 pt/acre of Formula 40 per application. Do not harvest grass for hay from treated areas for 7 days after application. If treated area is grazed within 30 days of application, withdraw meat animals at least 3 days before slaughter.
- Do not apply more than 4 pt/acre of Formula 40 per application.

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**Terms and Conditions of Use**

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If terms of the following Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. Otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitations of Remedies.

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**Warranty Disclaimer**

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Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

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**Inherent Risks of Use**

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It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. All such risks shall be assumed by buyer.

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**Limitation of Remedies**

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The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

- (1) Refund of purchase price paid by buyer or user for product bought, or
- (2) Replacement of amount of product used.

Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. In no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer and Inherent Risks of Use above and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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