Group 2 Herbicide

PEEL HERE TO OPEN

Chopper® Gen2™

Herbicide

STATE OF HAWAII
Department of Agriculture
ACCEPTED
LICENSE NO. 9131.123

For control of vegetation on forestry sites

Active Ingredient:

isopropylamine salt of imazapyr: (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1*H*-imidazol-2-yl]-3-pyridinecarboxylic acid)*	26.7%
Other Ingredients:	73.3%
Total:	100.0%

*Equivalent to 21.8% (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1*H*-imidazol-2-yl]-3-pyridinecarboxylic acid) or 2 pounds acid per gallon

EPA Reg. No. 241-430

KEEP OUT OF REACH OF CHILDREN
CAUTION/PRECAUCION

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.)

See inside for complete **First Aid**, **Precautionary Statements**, **Directions For Use**, **Conditions of Sale and Warranty**, and state-specific crop and/or use site restrictions.

In case of an emergency endangering life or property involving this product, call day or night 1-800-832-HELP (4357).

81045523

Product of U.S.A

NVA 2015-05-286-0248

Produced and Packaged* by:
BASF Corporation
26 Davis Drive, Research Triangle Park, NC 27709
*Packaged for BASF if EPA Est. No. does not begin with 241

BASF
We create chemistry

FIRST AID	
If swallowed	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • **DO NOT** induce vomiting unless told to by a poison control center or doctor. • **DO NOT** give anything to an unconscious person.
If in eyes	• Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after first 5 minutes; then continue rinsing eyes. • Call a poison control center or doctor for treatment advice.
If on skin or clothing	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
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.
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact BASF Corporation for emergency medical treatment information: 1-800-832-HELP (4357).	

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION. Harmful if swallowed, causes moderate eye irritation. Avoid contact with eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Personal Protective Equipment (PPE)

Some materials that are chemically resistant to this product are made out of any waterproof material. If you want more options, follow the instructions for **Category A** on an EPA chemical-resistance category selection chart.

Mixers, loaders, applicators, and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material (except for pilots)
- Shoes plus socks

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

Engineering Controls

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)].

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE 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.

Physical and Chemical Hazards

Mix, store, and apply spray solutions of **Chopper® Gen2™ herbicide** only in stainless steel, fiberglass, plastic, and plastic-lined steel containers.

DO NOT mix, store, or apply **Chopper Gen2** or spray solutions of **Chopper Gen2** in unlined steel (except stainless steel) containers or spray tanks.

Environmental Hazards

This product is toxic to plants. Drift and runoff may be hazardous to plants in water adjacent to treated areas. **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 disposing of equipment washwater or rinsate. See **Directions For Use** for additional precautions and requirements.

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. The requirements in this box apply to use on trees being grown for sale or other commercial use, or for commercial seed production, or for production of timber or wood products, or for research purposes.

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:

- Protective eyewear
- Coveralls
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

NONAGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard (WPS) 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.

Noncrop weed control is not within the scope of the Worker Protection Standard. See the **Product Information** section of this label for a description of noncrop sites.

Except for applicator during application of **Chopper® Gen2™ herbicide**, **DO NOT** enter or allow others to enter treated areas until sprays have dried.

Chopper Gen2 must be used only in accordance with instructions and restrictions in this leaflet label. Keep containers closed to avoid spills and contamination.

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal.

Pesticide Storage

DO NOT store below 10° F.

Pesticide Disposal

Wastes resulting from the use of this product must be disposed of on-site or at an approved waste disposal facility.

Container Handling

Nonrefillable Container. DO NOT reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Triple rinse containers small enough to shake (capacity ≤ 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

(continued)

STORAGE AND DISPOSAL *(continued)*

Container Handling *(continued)*

Triple rinse containers too large to shake (capacity > 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank, or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable Container. Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Triple rinsing the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

Triple rinse as follows: To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

When this container is empty, replace the cap and seal all openings that have been opened during use; return the container to the point of purchase or to a designated location. This container must only be refilled with a pesticide product. 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 transport. **DO NOT** transport if this container is damaged or leaking. If the container is damaged, or leaking, or obsolete and not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling, if available, or dispose of container in compliance with state and local regulations.

In Case of Spill

In case of large-scale spillage regarding this product, call:

- CHEMTREC 1-800-424-9300
- BASF Corporation 1-800-832-HELP (4357)

RESTRICTIONS

DO NOT use on food or feed crops. **DO NOT** apply to the inside of ditches used to transport irrigation water. Keep from contact with fertilizers, insecticides, fungicides, and seeds to prevent unintentional exposure of desirable vegetation to **Chopper® Gen2™ herbicide**. **DO NOT** apply or drain or flush equipment on or near sensitive desirable 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 Christmas trees.

Thoroughly clean application equipment after use. Flush tank, pump, hoses, and boom with several changes of water after removing nozzle tips and screens (clean these parts separately).

Product Information

Chopper Gen2 is an aqueous formulation that is readily mixable with water. For foliar applications, an emulsion may be prepared by mixing **Chopper Gen2** into water and then adding a suitable seed oil at 1% to 12.5% by volume. Maintain adequate agitation with all **Chopper Gen2** emulsion mixtures to prevent phase separation. Test for compatibility in small containers before actual tank mixing with other products, herbicides and carrier oils.

Chopper Gen2 controls vegetation in forestry sites. Roadsides contiguous with the treated area may be included.

Chopper Gen2 controls vegetation in forestry site preparation, in broadcast and directed applications for conifer release, for midrotation release using understory broadcast applications, and late rotation release in Western conifers.

Chopper Gen2 controls undesirable vegetation along nonirrigation ditchbanks and for the establishment and maintenance of wildlife openings, except in the state of California. See use directions for conifer site preparation treatments, directed foliar applications for conifer release and understory broadcast applications for midrotation release.

Chopper Gen2 may be applied on forestry sites that contain areas of temporary surface water caused by the collection of water between planting beds, in equipment ruts, or in other depressions created by forest management activities, except in the states of California and New York. It is permissible to treat drainage ditches, intermittent drainage, intermittently flooded low-lying sites, seasonally dry flood plains, and transitional areas between upland and lowland sites when no water is present, except in the states of California and New York. Only the edge of drainage ditches can be treated for drainage ditches that contain water. It is also permissible to treat marshes, swamps, and bogs after water has receded, as well as seasonally dry flood deltas, except in the states of California and New York.

DO NOT make applications to natural or man-made bodies of water such as lakes, reservoirs, ponds, streams, rivers and canals.

Symptomology

Chopper® Gen2™ herbicide is readily absorbed through foliage, bark and roots and is translocated rapidly throughout the plant, with accumulation in meristematic regions. Treated plants stop growing soon after herbicide application. Chlorosis first appears in the youngest leaf tissue. In perennials, the herbicide is translocated into the roots, thus preventing resprouting. Chlorosis and tissue necrosis may not be apparent in some species for several weeks after application. Woody plants, brush, and trees may not display the full extent of herbicide control until several months following application.

Spray Drift Requirements

Aerial Applications

- Applicators are required to use a coarse or coarser droplet size (ASABE S572) or, if using a spinning atomizer nozzle, applicators are required to use a volume mean diameter (VMD) of 385 microns or greater for release heights below 10 feet. Applicators are required to use a very coarse or coarser droplet size or, if using a spinning atomizer nozzle, applicators are required to use a VMD of 475 microns or greater for release heights above 10 feet. Applicators must consider the effects of nozzle orientation and flight speed when determining droplet size.
- Applicators are required to use upwind swath displacement.
- The boom length must not exceed 60% of the wingspan or 90% of the rotor blade diameter to reduce spray drift.
- Applications with wind speeds less than 3 mph and with wind speeds greater than 10 mph are prohibited.
- Applications into temperature inversions are prohibited.

Ground Boom Applications

- Applicators are required to use a nozzle height below 4 feet above the ground or plant canopy and coarse or coarser droplet size (ASABE S572) or, if using a spinning atomizer nozzle, applicators are required to use a volume mean diameter (VMD) of 385 microns or greater.
- Applications with wind speeds greater than 10 mph are prohibited.
- Applications into temperature inversions are prohibited.

Wind Erosion

Avoid treating powdery, dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.

Spray Volume

- **Aerial Application** - Use 2 or more gallons of water per acre. The actual minimum spray volume per acre is determined by the spray equipment used. Use adequate spray volume to provide accurate and uniform distribution of spray particles over the treated area and to avoid spray drift.
- **Ground Application (Broadcast)** - Use 5 or more gallons of water per acre. The actual minimum spray volume per acre is determined by the spray equipment used. Use adequate spray volume to provide accurate and uniform distribution of spray particles over the treated area and to avoid spray drift.

Mixing Instructions

To mix other herbicides or other spray tank components with **Chopper Gen2**, while agitating, add components in the following order and thoroughly mix after adding each component:

1. Fill spray tank 1/2 to 3/4 full with clean water.
2. Add wettable powders, dispersible granules (**Oust® XP herbicide**, **Oust® Extra herbicide**, **Oustar® herbicide**, **Escort® herbicide**), dry flowable or liquid flowable formulations.
3. Add MSO and emulsifiable concentrates (EC).
4. Add **Chopper Gen2** and other aqueous solution products (glyphosate).
5. While agitating, fill remainder of spray tank with water.

Invert Emulsions

Chopper Gen2 can be applied as an invert emulsion carrier. The carrier is a thick invert water-in-oil spray emulsion designed to minimize spray drift and spray runoff, resulting in more herbicide on the target foliage. The spray emulsion may be formed in a single tank (batch mixing) or injected (in-line mixing). Consult the invert chemical label for proper mixing directions. **DO NOT** exceed 3 quarts per acre of **Chopper Gen2**.

Stump and Cut-stem Treatments

Chopper Gen2 may be used to control undesirable woody vegetation in forest management by applying a solution of the herbicide in water to the cambium area of freshly cut stump surfaces or to cuts on the stem of the target woody vegetation. Applications can be made at any time of the year except during periods of heavy sap flow in the spring. Tree injection and cut-stem treatments are most effective in late summer and early fall.

Mixing

Chopper Gen2 may be mixed as either a concentrated or dilute solution for stump and cut-stem treatments. The dilute solution may be used for applications to the surface of the stump or to cuts on the stem of the target woody vegetation. Concentrated solutions may be used for applications to cuts on the stem. Use of the concentrated solution permits application to fewer cuts on the stem, especially for large diameter trees.

Follow the application instructions to determine proper application techniques for each type of solution.

Application with Dilute Solutions

To prepare a dilute solution, mix 8 to 12 fluid ounces of **Chopper Gen2** with one gallon of water.

Cut-stump Treatments

Spray or brush the solution onto the cambium area of the freshly cut stump surface. Ensure that the solution thoroughly wets the entire cambium area (the wood next to the bark of the stump).

Tree-injection Treatments

Using standard injection equipment, apply 1 mL of solution at each injection site around the tree with no more than 1-inch intervals between cut edges. Ensure that the injector completely penetrates the bark at each injection site.

Frill or Girdle Treatments

Using a hatchet, machete, or similar device, make cuts through the bark at intervals around the tree with no more than 2-inch intervals between cut edges. Spray or brush the solution into each cut until thoroughly wet.

Application with Concentrated Solutions

To prepare a concentrated solution, use undiluted product or mix 2 quarts of **Chopper® Gen2™ herbicide** with no more than 1 quart of water.

Tree-injection Treatments

Using standard injection equipment, apply 1 mL of solution at each injection site. Make at least one injection cut for every three inches of diameter at breast height (dbh) on the target tree. For example, a three-inch dbh tree will receive 1 injection cut, and a six-inch dbh tree will receive 2 injection cuts. On trees requiring more than one injection site, place the injection cuts at approximately equal intervals around the tree.

Hack-and-Squirt Treatments

Using a hatchet or similar device, make cuts at a downward angle completely through the bark and cambium at approximately equal intervals around the tree. Make at least one cut for every three inches of diameter at breast height (dbh) on the target tree. For example, a three-inch dbh tree will receive 1 cut and a six-inch dbh tree will receive 2 cuts. Using a squirt bottle, syringe, or similar device, apply 1 mL of the concentrated mix into each cut, ensuring that the solution does not run out of the cut.

NOTE: Injury may occur to nontarget or desirable woody plants if they extend from the same root system or their root systems are grafted to those of the treated tree.

Conifer Site Preparation Treatments

Chopper Gen2 may be used to control labeled grasses, broadleaf weeds, vines and brambles, and woody brush and trees on forest sites in advance of regeneration for the following conifer crop species:

Common Name	**Scientific Name**	**Rate** (fl ozs/A)
Loblolly pine	*Pinus taeda*	32 to 64
Loblolly x pitch hybrid	n/a	
Longleaf pine	*Pinus palustris*	
Shortleaf pine	*Pinus echinata*	
Slash pine	*Pinus elliottii*	
Virginia pine	*Pinus virginiana*	
Coast redwood	*Sequoia sempervirens*	24 to 48
Douglas fir	*Pseudotsuga menziesii*	
Incense cedar	*Libocedrus decurrens*	
Larch	*Larix* spp.	
Western hemlock	*Tsuga heterophylla*	
California red fir	*Abies magnifica*	24 to 40
California white fir	*Abies concolor*	
Jack pine	*Pinus banksiana*	24 to 32
Lodgepole pine	*Pinus contorta*	
Pitch pine	*Pinus rigida*	
Ponderosa pine	*Pinus ponderosa*	
Red pine[2]	*Pinus resinosa*	
Sugar pine	*Pinus lambertiana*	
White pine	*Pinus strobus*	
Black spruce[1]	*Picea mariana*	
Red spruce	*Picea rubens*	
White spruce[1]	*Picea glauca*	

(continued)

Conifer Site Preparation Treatments *(continued)*

[1] **DO NOT** plant seedlings of black spruce *(Picea mariana)* or white spruce *(Picea glauca)* on sites that have been site-prepared with a broadcast application of **Chopper® Gen2™ herbicide** or into the treated zone of spot or banded site preparation applications for three months following treatment or injury may occur.

[2] **DO NOT** plant seedlings of red pine *(Pinus resinosa)* on sites that have been site-prepared with a broadcast application of **Chopper Gen2** or into the treated zone of spot or banded site preparation applications for 6 months following treatment or injury may occur.

Use the specified rate of **Chopper Gen2** per acre applied as a broadcast foliar spray for long-term control of labeled woody plants and residual control of herbaceous weeds. Within 4 to 6 weeks of treatment, grasses and other herbaceous weeds will be controlled and may provide fuel to facilitate a site preparation burn, if desired, to control conifers or other species tolerant to the herbicide.

Mixing and Application Instructions for Site Preparation

Apply the specified rate of **Chopper Gen2** per acre in 5 to 20 gallons total spray carrier for helicopter applications or 5 to 40 gallons total spray carrier for mechanical or backpack ground spray applications. Use the higher label rates of **Chopper Gen2** and higher spray volumes when controlling particularly dense or multi-layered canopies of hardwood stands or difficult-to-control species. Make applications during the growing season beginning in the spring after full leaf expansion of the target weed or brush has occurred, and complete applications before leaf drop in the fall.

Tank mixes may be necessary for chemical control of conifers and other species tolerant to **Chopper Gen2** in certain cases. Observe all precautions and restrictions on the product labels. Always follow the most restrictive label. Combinations with other products labeled for forest site preparation may kill certain plants such as legumes and blackberry, which are desirable for wildlife habitat.

Helicopter Spray Equipment

All precautions should be taken to minimize or eliminate spray drift. **DO NOT** make applications under gusty conditions. The use of controlled droplet booms and nozzle configurations is recommended.

IMPORTANT: DO NOT make applications by fixed-wing aircraft. Maintain adequate buffer zones. Thoroughly clean application and mixing equipment, including landing gear, immediately after use. Prolonged exposure of this product to uncoated steel (except stainless steel) surfaces may result in corrosion and failure of the exposed part.

Hardwood Site Preparation Treatments

For site preparation prior to planting hardwood species in the Southeast and Gulf Coast states (Virginia to Texas), use **Chopper Gen2** at a rate of 32 fl ozs per acre and spray before the end of August. **DO NOT** plant hardwood seedlings before January of the year following site preparation or injury may occur.

Herbaceous Weed Control in Loblolly Pine

Use **Chopper Gen2** for selective weeding in loblolly pine at 12 to 20 fl ozs/A.

Chopper Gen2 may be applied as a broadcast treatment, banded over tree rows, or as a directed spray for release of young conifers from herbaceous weeds. To prevent possibility of conifer injury, **DO NOT** apply **Chopper Gen2** when conifers are under stress from drought, diseases, animal or winter injury, planting shock, or other stresses reducing conifer vigor. Broadcast applications may be made by helicopter, ground, or backpack sprayer. For difficult-to-control weeds, use the higher labeled rates. Some minor conifer growth inhibition may be observed when herbaceous weed control treatments are made during periods of active conifer growth.

Chopper Gen2 may also be applied using backpack or handheld sprayers to control herbaceous weeds around individual conifer seedlings. Mix 0.8 to 1.2 fl ozs **Chopper Gen2** per gallon of water. Direct the spray to the weeds and minimize the amount applied to conifer foliage for best conifer tolerance. **DO NOT** exceed maximum labeled rates per acre for listed crop species.

Chopper Gen2 may be tank mixed with **Oust® XP herbicide** to broaden the spectrum of weeds controlled. For loblolly pine, apply 8.0 to 12.0 fl ozs **Chopper Gen2** plus 1.0 to 2.0 ozs **Oust XP** (product) per acre.

Loblolly Pine Release Treatments

Chopper Gen2 may be applied as a broadcast or directed spray application for suppression of labeled brush, tree, and herbaceous weed species. Directed spray applications may be made with low-volume applications in conifer stands of all ages by targeting the unwanted vegetation and avoiding direct application to the conifer. Ensure that maximum labeled rate per acre is not exceeded.

Apply **Chopper Gen2** at 24.0 to 32.0 fl ozs/A when making broadcast applications with helicopter or ground spray equipment. Refer to mixing and application instructions for proper spray volumes.

Use the higher label rates of **Chopper® Gen2™ herbicide** when controlling particularly dense stands or difficult-to-control species.

Some minor conifer growth inhibition may be observed when release treatments are made during periods of active conifer growth. To minimize potential conifer height growth inhibition, broadcast release treatments may be made late in the growing season. To prevent possibility of conifer injury, **DO NOT** apply **Chopper Gen2** when conifers are under stress from drought, diseases, animal or winter injury, or other stresses reducing conifer vigor.

Chopper Gen2 may be used to release loblolly pine seedlings during the first growing season following planting or for one-year-old natural loblolly pine regeneration. For one-year-old loblolly pine release, apply 24.0 to 32.0 fl ozs/A of **Chopper Gen2** after July 15. The use of rates below 24.0 fl ozs/A is intended for hardwood growth suppression; some hardwood resprouting should be expected.

Directed Foliar Applications for Conifer Release

Chopper Gen2 may be applied as a directed spray using water or oil emulsion carrier for control and suppression of labeled brush and weed species. Directed spray applications may be made using low carrier volumes (generally 10 gallons total spray per acre or less) in labeled conifer stands of all ages by targeting the unwanted vegetation and avoiding direct application to the conifer. **DO NOT** exceed maximum labeled rates per acre for listed conifer species.

Use directed foliar applications of Chopper Gen2 for release of the following conifers from hardwood competition:

Common Name	**Scientific Name**	**Rate** (fl ozs/A)
Loblolly pine	*Pinus taeda*	24 to 40
Loblolly x pitch hybrid	n/a	
Virginia pine	*Pinus virginiana*	
Longleaf pine	*Pinus palustris*	24 to 32
Pitch pine	*Pinus rigida*	
Shortleaf pine	*Pinus echinata*	
Slash pine	*Pinus elliottii*	
Coast redwood	*Sequoia sempervirens*	16 to 32
Incense cedar	*Libocedrus decurrens*	
White pine	*Pinus strobus*	

(continued)

Use directed foliar applications of Chopper Gen2 for release of the following conifers from hardwood competition: *(continued)*

Common Name	**Scientific Name**	**Rate** (fl ozs/A)
Douglas fir	*Pseudotsuga menziesii*	16 to 24
Lodgepole pine	*Pinus contorta*	
Black spruce	*Picea mariana*	12 to 24
Jack pine	*Pinus banksiana*	
Red spruce	*Picea rubens*	
White spruce	*Picea glauca*	

For applications directed to the foliage of undesirable brush, mix 2% to 5% **Chopper Gen2** in water. Apply the spray solution or emulsion to at least 2/3 of each hardwood crown using backpack sprayers or handheld equipment. **DO NOT** spray to the point of runoff and avoid spraying the conifers for best results. For low-volume foliar applications to control big leaf maple, use a 5% by volume **Chopper Gen2** solution or emulsion.

Some minor conifer growth inhibition may be observed when release treatments are made during periods of active conifer growth. To minimize potential conifer height growth inhibition, release treatments may be made late in the growing season after formation of final conifer resting buds. To prevent possibility of conifer injury, **DO NOT** apply **Chopper Gen2** when conifers are under stress from drought, diseases, animal or winter injury, or other stresses reducing conifer vigor.

Injury may occur to nontarget or desirable hardwoods if they extend from the same root system as treated stems, or their root systems are grafted to those of the treated tree, or if their roots extend into the soil near treated trees.

Spray Solution Mixing Guide for Directed Foliar Applications

Prepared Spray Solution (gallons)	Desired Concentration (fluid volume)			
	2%	3%	4%	5%
	Chopper® Gen2™ herbicide			
1	2.6 fl ozs	3.8 fl ozs	5.1 fl ozs	6.4 fl ozs
3	7.7 fl ozs	11.5 fl ozs	15.4 fl ozs	19.2 fl ozs
4	10.2 fl ozs	15.4 fl ozs	20.5 fl ozs	25.6 fl ozs
5	12.8 fl ozs	19.2 fl ozs	25.6 fl ozs	32.0 fl ozs
50	1.0 gallon	1.5 gallons	2.0 gallons	2.5 gallons
100	2.0 gallons	3.0 gallons	4.0 gallons	5.0 gallons

Bag and Broadcast Applications for Conifer Release

In Douglas fir and Ponderosa pine stands, broadcast applications of **Chopper Gen2** up to 32.0 fl ozs per acre are permissible when the trees are covered by bags prior to the application. The bags must prevent the spray mix from contacting the conifer foliage. On sites with coarse-texture soils (e.g. decomposed granite, pumice, sandy or rocky sites) or low levels of soil organic matter (generally 5% or less), significant conifer growth inhibition and mortality is possible. **DO NOT** use this treatment on these types of sites if conifer growth inhibition and mortality cannot be tolerated.

Late Rotation Vegetation Control in Western Conifers

In California, the Pacific Northwest and inland Northwest, broadcast aerial applications of **Chopper Gen2** up to 48.0 fl ozs per acre are permissible in conifer stands that are targeted for harvesting the year following treatment. Use a minimum spray volume of 15 gallons per acre. Significant conifer injury or mortality must be expected. **DO NOT** use this treatment if conifer injury or mortality cannot be tolerated.

Understory Broadcast Applications for Mid-rotation Release

Chopper Gen2 may be applied as a broadcast application below the conifer canopy for control and suppression of labeled brush and tree species. Ground spray machinery or handheld equipment may be used to broadcast **Chopper Gen2** in water or oil emulsion carrier below the crop tree canopy to minimize spray contact by the live crown of crop trees.

DO NOT exceed maximum labeled rates per acre for listed crop species.

Common Name	Scientific Name	Rate (fl ozs/A)
Loblolly pine	*Pinus taeda*	64
Loblolly x pitch hybrid	n/a	
Virginia pine	*Pinus virginiana*	
Longleaf pine	*Pinus palustris*	32
Pitch pine	*Pinus rigida*	
Shortleaf pine	*Pinus echinata*	
Slash pine	*Pinus elliottii*	

Weeds Controlled

Chopper Gen2 will provide postemergence control and some residual control of the following target vegetation species. Degree of control is both species and rate dependent.

Grasses

The species of annual and perennial grasses controlled by **Chopper Gen2** include the following:

Common Name	Scientific Name
Annual bluegrass	*Poa annua*
Bahiagrass	*Paspalum notatum*
Barnyardgrass	*Echinochloa crus-galli*
Beardgrass	*Andropogon* spp.
Bermudagrass	*Cynodon dactylon*
Big bluestem	*Andropogon gerardii*
Broadleaf signalgrass	*Brachiaria platyphylla*

(continued)

Weeds Controlled *(continued)*

Grasses *(continued)*

Common Name	Scientific Name
Canada bluegrass	*Poa compressa*
Cattail	*Typha* spp.
Cheat	*Bromus secalinus*
Cogongrass[1]	*Imperata cylindrica*
Crabgrass	*Digitaria* spp.
Crowfootgrass	*Dactyloctenium aegyptium*
Dallisgrass	*Paspalum dilatatum*
Downy brome	*Bromus tectorum*
Fall panicum	*Panicum dichotomiflorum*
Feathertop	*Pennisetum villosum*
Fescue	*Festuca* spp.
Foxtail	*Setaria* spp.
Giant reed	*Arundo donax*
Goosegrass	*Eleusine indica*
Guineagrass	*Panicum maximum*
Italian ryegrass	*Lolium multiflorum*
Itchgrass	*Rottboellia exaltata*
Johnsongrass	*Sorghum halepense*
Junglerice	*Echinochloa colonum*
Kentucky bluegrass	*Poa pratensis*
Lovegrass	*Eragrostis* spp.
Orchardgrass	*Dactylis glomerata*
Panicum spp.	*Panicum* spp.
Paragrass	*Brachiaria mutica*
Phragmites	*Phragmites australis*
Pinegrass[2]	*Calamagrostis rubescens*
Prairie cordgrass	*Spartina pectinata*
Prairie threeawn	*Aristida oligantha*

(continued)

Weeds Controlled *(continued)*

Grasses *(continued)*

Common Name	Scientific Name
Quackgrass	*Agropyron repens*
Reed canary grass	*Phalaris arundinacea*
Saltgrass	*Distichlis stricta*
Sand dropseed	*Sporobolus cryptandrus*
Sandbur	*Cenchrus* spp.
Smooth brome	*Bromus inermis*
Sprangletop	*Leptochloa* spp.
Timothy	*Phleum pratense*
Torpedograss	*Panicum repens*
Vaseygrass	*Paspalum urvillei*
Wild barley	*Hordeum* spp.
Wild oats	*Avena fatua*
Wirestem muhly	*Muhlenbergia frondosa*
Witchgrass	*Panicum capillare*
Woolly cupgrass	*Eriochloa villosa*

[1] Use minimum of 48.0 fl ozs per acre.

[2] **Chopper® Gen2™ herbicide** is not registered for use on pinegrass in California.

Broadleaf Weeds

The species of annual and perennial broadleaf weeds controlled by **Chopper® Gen2™ herbicide** include the following:

Common Name	Scientific Name
Arrowwood	*Pluchea sericea*
Broom snakeweed	*Gutierrezia sarothrae*
Bull thistle	*Cirsium vulgare*
Burclover	*Medicago* spp.
Burdock	*Arctium* spp.
Camphorweed	*Heterotheca subaxillaris*
Carolina geranium	*Geranium carolinianum*
Carpetweed	*Mullugo verticillata*
Chickweed, common	*Stellaria media*
Chickweed, mouseear	*Cerastium vulgatum*
Clover	*Trifolium* spp.
Cocklebur	*Xanthium strumarium*
Common ragweed	*Ambrosia artemisiifolia*
Cudweed	*Gnaphalium* spp.
Dandelion	*Taraxacum officinale*
Desert camelthorn	*Alhagi pseudalhagi*
Diffuse knapweed	*Centaurea diffusa*
Dock	*Rumex* spp.
Dogfennel	*Eupatorium capillifolium*
Fiddleneck	*Amsinckia intermedia*
Filaree	*Erodium* spp.
Fleabane	*Erigeron* spp.
Giant ragweed	*Ambrosia trifida*
Goldenrod	*Solidago* spp.
Gray rabbitbrush	*Chrysothamnus nauseosus*
Henbit	*Lamium amplexicaule*

(continued)

Broadleaf Weeds *(continued)*

Common Name	Scientific Name
Hoary vervain	*Verbena stricta*
Horseweed	*Conyza canadensis*
Indian mustard	*Brassica juncea*
Japanese bamboo/knotweed	*Polygonum cuspidatum*
Knotweed, prostrate	*Polygonum aviculare*
Kochia	*Kochia scoparia*
Lambsquarters	*Chenopodium album*
Little mallow	*Malva parviflora*
Milkweed	*Asclepias* spp.
Miner's lettuce	*Montia perfoliata*
Mullein	*Verbascum* spp.
Nettleleaf goosefoot	*Chenopodium murale*
Oxeye daisy	*Chrysanthemum leucanthemum*
Pepperweed	*Lepidium* spp.
Pigweed	*Amaranthus* spp.
Plantain	*Plantago* spp.
Pokeweed	*Phytolacca americana*
Primrose	*Oenothera kunthiana*
Puncturevine	*Tribulus terrestris*
Purple loosestrife	*Lythrum salicaria*
Purslane	*Portulaca* spp.
Pusley, Florida	*Richardia scabra*
Rocket, London	*Sisymbrium irio*
Rush skeletonweed	*Chondrilla juncea*
Russian knapweed	*Centaurea repens*
Russian thistle	*Salsola kali*
Saltbush	*Atriplex* spp.

(continued)

Broadleaf Weeds *(continued)*

Common Name	Scientific Name
Shepherdspurse	*Capsella bursa-pastoris*
Silverleaf nightshade	*Solanum elaeagnifolium*
Smartweed	*Polygonum* spp.
Sorrell	*Rumex* spp.
Sowthistle	*Sonchus* spp.
Spurge, annual	*Euphorbia* spp.
Stinging nettle	*Urtica dioica*
Sunflower	*Helianthus* spp.
Sweet clover	*Melilotus* spp.
Tansymustard	*Descurainia pinnata*
Texas thistle	*Cirsium texanum*
Velvetleaf	*Abutilon theophrasti*
Western ragweed	*Ambrosia psilostachya*
Wild carrot	*Daucus carota*
Wild lettuce	*Lactuca* spp.
Wild parsnip	*Pastinaca sativa*
Wild turnip	*Brassica campestris*
Woollyleaf bursage	*Ambrosia grayi*
Yellow starthistle	*Centaurea solstitialis*
Yellow woodsorrel	*Oxalis stricta*

Vines and Brambles

The species of vines and brambles controlled by **Chopper® Gen2™ herbicide** include the following:

Common Name	Scientific Name
Field bindweed	*Convolvulus arvensis*
Hedge bindweed	*Calystegia sepium*
Honeysuckle[1]	*Lonicera* spp.
Morningglory	*Ipomoea* spp.
Poison ivy	*Rhus radicans*
Redvine	*Brunnichia cirrhosa*
Trumpet creeper	*Campsis radicans*
Virginia creeper	*Parthenocissus quinquefolia*
Wild buckwheat	*Polygonum convolvulus*
Wild grape	*Vitis* spp.
Wild rose[1] including Multiflora rose Macartney rose	*Rosa* spp. *Rosa multiflora* *Rosa bracteata*

[1] Use higher labeled rates.

Woody Brush and Trees

The species of woody brush and trees controlled by **Chopper Gen2** include the following:

Common Name	Scientific Name
Alder	*Alnus* spp.
American beech	*Fagus grandifolia*
Ash[1]	*Fraxinus* spp.
Aspen	*Populus* spp.
Autumn olive	*Elaeagnus umbellata*
Bald cypress[4]	*Taxodium distichum*
Bigleaf maple[1]	*Acer macrophyllum*
Birch	*Betula* spp.

(continued)

Weeds Controlled *(continued)*

Woody Brush and Trees *(continued)*

Common Name	Scientific Name
Black oak	*Quercus kelloggii*
Blackgum[2]	*Nyssa sylvatica*
Boxelder	*Acer negundo*
Brazilian peppertree	*Schinus terebinthifolius*
Ceanothis	*Ceanothis* spp.
Cherry[1,2]	*Prunus* spp.
Chinaberry	*Melia azedarach*
Chinese tallow-tree	*Sapium sebiferum*
Chinquapin[4]	*Castanopsis chrysophylla*
Cottonwood	*Populus* spp.
Cypress	*Taxodium* spp.
Dogwood[1]	*Cornus* spp.
Eucalyptus	*Eucalyptus* spp.
Hawthorn	*Crataegus* spp.
Hickory[1]	*Carya* spp.
Holly[1,4,5] including Gallberry[4,5] Tall gallberry[4,5] Yaupon[4,5]	*Ilex* spp. *Ilex glabra* *Ilex coriacea* *Ilex vomitoria*
Huckleberry	*Gaylussacia* spp.
Lyonia spp. including Fetterbush Staggerbush	 *Lyonia lucida* *Lyonia mariana*
Madrone	*Arbutus menziesii*
Manzanita, greenleaf[4]	*Arctostaphylos patula*
Maple	*Acer* spp.
Melaleuca	*Melaleuca quinquenervia*
Mulberry[1,3]	*Morus* spp.

(continued)

Weeds Controlled *(continued)*

Woody Brush and Trees *(continued)*

Common Name	Scientific Name
Oak[1,3]	*Quercus* spp.
Persimmon[2]	*Diospyros virginiana*
Poison oak	*Rhus diversiloba*
Popcorn tree	*Sapium sebiferum*
Poplar[2]	*Populus* spp.
Privet	*Ligustrum vulgare*
Red alder	*Alnus rubra*
Red maple	*Acer rubrum*
Saltcedar	*Tamarix pentandra*
Sassafras	*Sassafras albidum*
Sourwood[2]	*Oxydendrum arboreum*
Sumac	*Rhus* spp.
Sweetgum	*Liquidambar styraciflua*
Sycamore	*Platanus occidentalis*
Tanoak[1,4]	*Lithocarpus densiflorus*
Titi[1,4,5]	*Cyrilla racemiflora*
Tree of heaven	*Ailanthus altissima*
Vaccinium spp. including Blueberry Sparkleberry	 *Vaccinium* spp. *Vaccinium arboreum*
Waxmyrtle[4]	*Myrica californica* *Myrica cerifera*
Willow	*Salix* spp.
Yellow poplar[1]	*Liriodendron tulipifera*

[1] Use higher labeled rates.
[2] Best control with applications prior to formation of fall leaf color
[3] The degree of control may be species dependent.
[4] Oil emulsion carrier is recommended.
[5] Suppression only

Conditions of Sale and Warranty

The **Directions For Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION ("BASF") or the Seller. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

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BASF Corporation
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Research Triangle Park, NC 27709

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NOTES

Chopper® Gen2™

Herbicide

Group 2 Herbicide

For control of vegetation on forestry sites

Active Ingredient:

isopropylamine salt of imazapyr: (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1*H*-imidazol-2-yl]-3-pyridinecarboxylic acid)* 26.7%

Other Ingredients: 73.3%

Total: 100.0%

* Equivalent to 21.8% (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1*H*-imidazol-2-yl]-3-pyridinecarboxylic acid) or 2 pounds acid per gallon

EPA Reg. No. 241-430

KEEP OUT OF REACH OF CHILDREN

CAUTION/PRECAUCION

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.)

See attached booklet for complete **First Aid**, **Precautionary Statements**, **Directions For Use**, **Conditions of Sale and Warranty**, and state-specific crop and/or use site restrictions.

In case of an emergency endangering life or property involving this product, call day or night 1-800-832-HELP (4357).

FIRST AID: If swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. **DO NOT** induce vomiting unless told to by a poison control center or doctor. **DO NOT** give anything to an unconscious person. **If in eyes:** Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes; then continue rinsing eyes. Call a poison control center or doctor for treatment advice. **If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice. **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. **HOTLINE NUMBER:** Have the product container or label with you when calling a poison control center or doctor or going for treatment.

You may also contact BASF Corporation for emergency medical treatment information: 1-800-832-HELP (4357).

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION. Harmful if swallowed, causes moderate eye irritation. Avoid contact with eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Physical and Chemical Hazards

Mix, store, and apply spray solutions of **Chopper® Gen2™ herbicide** only in stainless steel, fiberglass, plastic, and plastic-lined steel containers. **DO NOT** mix, store, or apply **Chopper Gen2** or spray solutions of **Chopper Gen2** in unlined steel (except stainless steel) containers or spray tanks.

Environmental Hazards

This product is toxic to plants. Drift and runoff may be hazardous to plants in water adjacent to treated areas. **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 disposing of equipment washwater or rinsate. See **Directions For Use** for additional precautions and requirements.

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal.

Pesticide Storage

DO NOT store below 10° F.

Pesticide Disposal

Wastes resulting from the use of this product must be disposed of on-site or at an approved waste disposal facility.

Container Handling

Nonrefillable Container. DO NOT reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Refillable Container. Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Triple rinsing the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

See attached booklet for complete container handling directions including triple rinsing and pressure rinsing instructions.

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☐ **Refillable Container** ☐ **Nonrefillable Container**

Net Contents:_____ **EPA Est. No.:**_____