

This information is for promotional purposes only. Space considerations may require information to be omitted. Always refer to the actual package for complete label verbiage. This product may not yet be available or approved for sale or use in your area.

IMAZAMOX	GROUP	2	HERBICIDE
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# CASTAWAY™

**Contains imazamox, the active ingredient used in Clearcast®.**

**For the Control of Vegetation in and Around Aquatic and Noncropland Sites  
Including Areas That May Be Grazed or Cut for Hay**

**ACTIVE INGREDIENT:** (% by weight)

Ammonium salt of imazamox: 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-5-(methoxymethyl)-3-pyridinecarboxylic acid\* ..... 12.1%

**OTHER INGREDIENTS:** ..... 87.9%

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

\*Equivalent to 11.4% 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-5-methoxymethyl)-3-pyridinecarboxylic acid

1 gallon contains 1.0 pound of active ingredient as the free acid.

EPA Reg. No.: 91234-90

**KEEP OUT OF REACH OF CHILDREN  
CAUTION/PRECAUTION**

**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.)**

See below for additional Precautionary Statements.

FIRST AID	
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If in eyes:</b>	<ul style="list-style-type: none"> <li>Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>Remove contact lenses, if present, after first 5 minutes; then continue rinsing eyes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled:</b>	<ul style="list-style-type: none"> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably mouth to mouth if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact SafetyCall at <b>1-844-685-9173</b> for emergency medical treatment information.	

**For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident**

**Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 or +1 703-527-3887 (collect calls accepted)**

Castaway™ is not manufactured, or distributed by BASF, seller of Clearcast®.



Manufactured for:  
**Atticus, LLC**  
940 NW Cary Parkway, Suite 200  
Cary, NC 27513

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

Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**Applicators and other handlers must wear:**

1. Long-sleeved shirt and long pants
2. Chemical-resistant gloves such as barrier laminate, butyl rubber >14 mils, nitrile rubber > 14 mils, neoprene rubber > 14 mils, natural rubber (includes natural rubber blends and laminates) >14 mils, polyethylene, polyvinyl chloride (PVC) > 14 mils, or viton > 14 mils
3. Shoes plus socks

**User Safety Requirements**

Follow the 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.

**USER SAFETY RECOMMENDATIONS**

**Users should:**

- Wash thoroughly with soap and water after handling and 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.

**ENVIRONMENTAL HAZARDS**

This pesticide may be hazardous to plants outside the treated area. DO NOT apply to water except as specified in this label. DO NOT contaminate water when disposing of equipment washwaters and rinsate.

**Non-Target Organism Advisory Statement**

This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated site. Protect the forage and habitat of non-target organisms by following label directions intended to minimize spray drift.

**Groundwater Advisory**

Imazamox has properties and characteristics associated with chemicals detected in groundwater. Imazamox may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

**Surface Water Advisory**

This product may impact surface water quality due to runoff of rainwater. This is especially true for poorly draining soils and soils with shallow ground water.

This product is classified as having high potential for reaching surface water via runoff for several months or more after application.

A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of imazamox from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

**PHYSICAL AND CHEMICAL HAZARDS**

**DO NOT** mix or allow contact with oxidizing agents, as a hazardous chemical reaction may occur.

**DIRECTIONS FOR USE**

It is a violation of federal law to use this product in a manner inconsistent with its labeling. This labeling must be in the possession of the user at the time of pesticide application.

**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.

Ensure spray drift to nontarget susceptible species does not occur.

**DO NOT** apply **Castaway** in any manner not specifically described in this label.

Observe all cautions and limitations on this label and on the labels of products used in combination with **Castaway**. **DO NOT** use **Castaway** other than in accordance with the instructions set forth on this label. Keep containers closed to avoid spills and contamination.

**PRODUCT INFORMATION**

**Castaway** is an aqueous formulation that may be diluted in water and either applied directly to water for the control/suppression of certain submerged aquatic vegetation or applied as a broadcast or spot spray to floating and emergent vegetation. Aquatic sites that may be treated include estuarine and marine sites, ponds, lakes, reservoirs, wetlands, marshes, swamps, bayous, arroyos, ditches, canals, streams, rivers, creeks and other slow-moving or quiescent bodies of water. **Castaway** may also be used during drawdown conditions.



**Castaway** may also be applied for terrestrial and riparian vegetation control in industrial noncropland sites, and railroad, utility, and highway rights-of-way. Industrial noncropland sites include utility plant sites, tank farms, pumping installations, storage areas, fence rows and ditch banks. **Castaway** may also be used for the establishment and maintenance of wildlife openings. **Castaway** may also be used on those sites listed above that may be grazed or cut for hay.

**Castaway** is quickly absorbed by foliage and/or plant roots and rapidly translocated to the growing points stopping growth. Susceptible plants may develop a yellow appearance or general discoloration and will eventually die or be severely growth-inhibited.

**Castaway** is herbicidally active on many submerged, emergent and floating broadleaf and monocot aquatic plants. The relative levels of control and selectivity can be manipulated by using a choice of rates and herbicide placement (water-injected or floating/emergent foliar application).

To help maintain the utility of herbicide programs, the use of herbicides with different modes of action is effective in managing weed resistance.

### WEED RESISTANCE MANAGEMENT

For resistance management, **Castaway** is a Group 2 herbicide. Any weed population may contain or develop plants naturally resistant to **Castaway** and other Group 2 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Appropriate resistance-management strategies should be followed.

Suspected herbicide-resistant weeds may be identified by these indicators:

- Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
- A spreading patch of non-controlled plants of a particular weed species; and
- Surviving plants mixed with controlled individuals of the same species.

To delay herbicide resistance take one or more of the following steps:

- Rotate the use of **Castaway** or other Group 2 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and crop rotation, and that considers tillage (or other mechanical control methods), cultural (e.g., higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicides with a different mode of action, if available.
- Contact your local extension specialist, or certified crop advisors for additional pesticide resistance-management and/or integrated weed management recommendations for specific crops and weed biotypes.

Report any incidence of non-performance of this product against a particular weed species to your Atticus, LLC retailer, representative or call 984-465-4800. If resistance is suspected, treat weed escapes with an herbicide having a different mechanism of action and/or use non-chemicals means to remove escapes, as practical, with the goal of preventing further seed production.

### SPRAY ADJUVANTS

Applications of **Castaway** to emergent, floating or shoreline species require the use of a spray adjuvant. Always use a spray adjuvant that is appropriate for aquatic sites.

#### Nonionic Surfactants

Use a nonionic surfactant at 0.25% volume/volume (v/v) or higher (see manufacturer's label) of the spray solution (0.25% v/v is equivalent to 1 quart in 100 gallons). For best results, select a nonionic surfactant with an HLB (hydrophilic to lipophilic balance) ratio between 12 and 17 with at least 70% surfactant in the formulated product (alcohols, fatty acids, oils, ethylene glycol or diethylene glycol should not be considered as surfactants to meet the above requirements).

#### Methylated Seed Oils or Vegetable Oil Concentrates

Instead of a surfactant, a methylated seed oil or vegetable-based seed, oil concentrate may be used at 1.5 to 2 pints per acre. When using spray volumes greater than 30 gallons per acre, mix methylated seed oil or vegetable-based seed oil concentrates at 1 % of the total spray volume, or alternatively use a nonionic surfactant as described above. Research indicates that these oils may aid in **Castaway** deposition and uptake by plants under stress.

#### Silicone-based Surfactants

See manufacturer's label for specific rate directions. Silicone-based Surfactants may reduce the surface tension of the spray droplet allowing greater spreading on the leaf surface as compared to conventional nonionic surfactants. However, some silicone-based surfactants may dry too quickly, limiting herbicide uptake.



## **Invert Emulsion**

**Castaway** can be applied as an invert emulsion. The spray solution results in an 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.

## **Other**

An antifoaming agent, spray pattern indicator, sinking agent or drift-reducing agent may be applied at the product labeled rate if necessary or desired.

### **SPRAY DRIFT**

#### **Aerial Applications**

- Do not release spray at a height greater than 10 ft above the ground or vegetative canopy, unless a greater application height is necessary for pilot safety.
- For applications prior to the emergence of crops and target weeds, applicators are required to use a coarse or coarser droplet size (ASABE S572.1).
- For all other applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Applicators must use ½ swath displacement upwind at the downwind edge of the field.
- Do not apply when wind speeds exceed 15 mph at the application site. If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- Do not apply during temperature inversions.

#### **Ground Boom Applications**

- User must only apply with the release height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy unless making a turf, pasture, or rangeland application, in which case applicators may apply with a nozzle height no more than 4 feet above the ground.
- For applications prior to the emergence of crops and target weeds, applicators are required to use a coarse or coarser droplet size (ASABE S572.1).
- For all other applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

## **SPRAY DRIFT ADVISORIES**

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.  
BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

### **Information on Droplet Size**

The most effective way to reduce drift potential is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

### **Controlling Droplet Size – Ground Boom:**

**Volume** - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.

**Pressure** - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.

**Spray Nozzle** - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

### **Controlling Droplet Size – Aircraft:**

**Adjust Nozzles** - Follow nozzle manufacturer's recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

### **BOOM HEIGHT - Ground Boom**

For ground equipment, the boom should remain level with the crop and have minimal bounce.

### **RELEASE HEIGHT - Aircraft**

Higher release heights increase the potential for spray drift.

## **SHIELDED SPRAYERS**

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

## **TEMPERATURE AND HUMIDITY**

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

## **TEMPERATURE INVERSIONS**

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

## **WIND**

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.



## AQUATIC USE DIRECTIONS

**Castaway** may be applied directly to the water for the control of submerged aquatic plant species and some emergent and floating species, or as a foliar application specifically for emergent and floating species.

**Castaway** may be applied by surface and aerial equipment including both fixed-wing aircraft and helicopter.

### RESTRICTIONS:

- **DO NOT** apply **Castaway** to achieve a total active ingredient concentration in the water greater than 500 ppb (173 fl ozs; 1.35 lbs ae\*) per surface acre.
- For aquatic applications, **DO NOT** apply more than 500 ppb (173 fl oz; 1.35 lbs ae) per surface acre.
- For aquatic applications, **DO NOT** apply more than 48.66 gals (48.66 lb ae) per surface acre per year.
- For aquatic applications, **DO NOT** apply more than 36 applications per year.
- For foliar broadcast applications, **DO NOT** apply more than 1 gallon (1 lb ae) of **Castaway** per surface acre per application for the control of emergent and floating vegetation.
- For surface applications, **DO NOT** apply more than 36 gals (36 lb ae) per surface acre per year.
- For surface applications, **DO NOT** apply more than 36 applications per year.
- For foliar spot applications, **DO NOT** apply more than 5% v/v (0.05 lbs ae/gal) of **Castaway** per surface acre per application. **DO NOT** apply more than 1 lb ae per surface acre.
- The retreatment interval is 10 days.

\*ae = acid equivalent

### Foliar Application

#### Targeted Emergent and/or Floating Vegetation Application

To make surface applications targeting emergent or floating vegetation, uniformly apply with properly calibrated broadcast or spot treatment equipment in 10 or more gallons of water per surface acre. Spot treatments can be made with up to 5% (0.05 lb ae/gal; maximum 1 lb ae/surface acre) **Castaway** by volume. To ensure thorough spray coverage, higher spray volumes may be required when treating areas with large and/or dense vegetation. Use an appropriate spray pressure to minimize the drift potential depending upon spray equipment, conditions and application objectives.

#### Foliar Treatment of Emergent and Floating Vegetation Guidelines

- Always use a surfactant for foliar applications of emergent and floating weeds.
- Foliar applications of **Castaway** may be made as a broadcast spray or as a spot spray, with a percent spray solution ranging from 0.25% to 5% (0.0025-0.05 lbs ae/gal; maximum 1 lb ae/surface acre) **Castaway** by volume.
- Control will be reduced if spray is washed off foliage by wave action.

In aquatic sites, those application techniques described in the Terrestrial Use Directions section may be used to treat emergent vegetation.

### Application to Water

#### Water Application to Target Submerged and/or Emergent/Floating Vegetation

**Castaway** may be broadcast-applied to the water surface or injected below the water surface. **Castaway** may be applied as undiluted product or diluted with water prior to application. Under surface-matted conditions, inject **Castaway** below the water surface to achieve better product distribution.

Apply **Castaway** to water to achieve a final concentration of the active ingredient of no more than 500 ppb (173 fl ozs; 1.35 lbs ae) per surface acre. Multiple applications of **Castaway** may be made during the annual growth cycle to maintain the desired vegetation response.

**Castaway Rates per Treated Surface Acre**

Average Water Depth of Treatment Site (feet)	Desired Active Ingredient Concentration (ppb)*			
	50	100	200	500
	Castaway Rate per Treated Surface Acre (fl ozs)			
1	17	35	69	173
2	35	69	138	346
3	52	104	207	518
4	70	138	277	691
5	87	173	346	864
6	104	207	415	1037
7	122	242	484	1210
8	139	277	553	1382
9	157	311	622	1555
10	174	346	691	1728

\***Castaway** contains 1.0 pound of active ingredient per gallon. There are 128 fl ozs in one gallon.

### Aerial Application

**Castaway** may be applied by both fixed-wing aircraft and helicopter. There is no minimum spray volume when making applications directly to the water. For applications targeting emergent and/or floating vegetation, uniformly apply with properly calibrated equipment in 5 or more gallons of water per surface acre. For best results, make aerial applications using a minimum of 20 gallons per surface acre.

### Drawdown Application

**Castaway** may be used in drawdown situations to provide postemergence and/or preemergence control/suppression of aquatic vegetation. Apply **Castaway** as a broadcast spray at rates up to 1 gallon/A (1 lb ae/A), or as a spot spray treatment with up to 5% (0.05 lbs ae/gal; maximum 1 lb ae/surface acre) **Castaway** by volume. Make applications when water has receded and exposed soil is moist to dry. For postemergence (foliar) applications, wait at least two weeks after application before reintroducing water. When treating irrigation canals, the initial flush of recharge water after application must not be used for irrigation purposes.

### Irrigation Restrictions

- **DO NOT** use treated water to irrigate greenhouses, nurseries, or hydroponics until the imazamox concentration has been determined by an acceptable method to be less than or equal to 1.0 ppb.
- **DO NOT** plant sugar beets, onions, potatoes or non-Clearfield® canola in soils that have been previously irrigated with **Castaway** treated water until a soil bioassay successfully demonstrates acceptable levels of crop safety.
- **DO NOT** use **Castaway**-treated waters resulting in a concentration greater than 50 ppb for irrigation until residue levels have been shown to be, less than or equal to 50 ppb by an acceptable method.
- **DO NOT** make applications of this product in and around golf course irrigation, sod farm irrigation, and vineyard irrigation waterbodies without testing potential irrigation water prior to irrigation and confirming the imazamox concentration to be less than or equal to 1.0 ppb.
- In still or quiescent waters, do not use **Castaway**-treated water resulting in a concentration greater than 10 ppb for irrigation of newly seeded or newly established plants until residue levels have been shown to be less than or equal to 10 ppb by an acceptable method.
- Wait 24 hours before irrigating from still or quiescent waters after making a **Castaway** application for submerged vegetation less than 100 feet from an irrigation intake.
- Wait 24 hours before irrigating from still and quiescent waters after making a **Castaway** application to emergent and/or floating vegetation if greater than 25% of the surface area of the water body has been treated or application was made less than 100 feet from an irrigation intake.
- Flowing waters may be used to irrigate allowable sites with no restrictions when **Castaway** is applied at less than or equal to 2 quarts (0.5 lbs ae) per surface acre to waters with an average depth of greater than or equal to 4 feet.
- After application of **Castaway** to dry irrigation canals/ditches, the initial flush of water during recharge must not be used for irrigation purposes unless the imazamox concentration has been determined by an acceptable method to be less than 25 ppb.

**Castaway** applied at less than or equal to 2 quarts (0.5 lbs ae) per surface acre in or on waters with a minimum average depth greater than or equal to 4 feet will result in **Castaway** concentrations less than 25 ppb.

### Other Water Use Restrictions

There are no restrictions on livestock watering, swimming, fishing, domestic use, or use of treated water for agricultural sprays.

### Potable Water

**Castaway** may be applied to potable water sources at concentrations up to 500 ppb (173 fl ozs; 1.35 lbs ae) per surface acre to within a distance of 1/4 mile from an active potable water intake. Within 1/4 mile, of an active potable water intake, **Castaway** may be applied, but water concentrations resulting from injection and/or foliar applications may not exceed 50 ppb. If water concentrations greater than 50 ppb are required, the potable water intake must be shut and, if necessary, an alternate water supply be made available until the water concentration can be shown to be less than 50 ppb by an acceptable method.

### Endangered Plant Species

To prevent potential negative impacts to endangered plant species, **DO NOT** apply **Castaway** in a way that adversely affects federally listed endangered and threatened species.

### Weeds Controlled or Suppressed by Castaway

Efficacy and selectivity of **Castaway** is dependent upon many factors including: dose, time of year, stage of plant growth, plant susceptibility, method of application, and water movement. Rate selection will be partially dependent on characteristics of the treatment area and whether growth regulation or control is desired. Some areas may require a repeat application to control or suppress regrowth. Consult Atticus, LLC to determine best treatment protocols to manage individual species and to meet specific aquatic plant management objectives.

### Emergent, Floating, and Shoreline Species Controlled with Foliar Application

Common Name	Scientific Name	Rate fl ozs/surface A (lbs ae/surface acre)	Comments
Alligatorweed	<i>Alternanthera philoxeroides</i>	64 to 128 (0.5-1)	Repeat applications may be necessary. Add an aquatic glyphosate herbicide for quicker brownout. See tank mix partner label for rates*.
American lotus	<i>Nelumbo lutea</i>	64 to 128 (0.5-1)	
Arrowhead	<i>Sagittaria</i> spp.	32 to 64 (0.25-0.5)	
Cattail	<i>Typha</i> spp.	32 to 64 (0.25-0.5)	Apply after full greenup through killing frost.
Chinese tallowtree	<i>Sapium sebiferum</i>	64 to 128 (0.5-1)	
Common reed	<i>Phragmites</i> spp.	96 to 128 (0.75-1)	Use 1 qt/A methylated seed oil (MSO); apply in late vegetative stage up to killing frost. Also apply as a spot treatment using 1 % to 2% (0.01-0.02 lbs ae/gal; maximum 1 lb ae/surface acre) <b>Castaway</b> per spray volume. Older stands of phragmites and stands growing in water may be more difficult to control and will require follow-up applications.
Common salvinia	<i>Salvinia minima</i>	32 to 64 (0.25-0.5)	Apply with MSO or MSO + silicone-based surfactant; retreatment will be necessary.
Floating heart	<i>Nymphoides</i> spp.	64 to 128 (0.5-1 lb)	Also apply as a spot treatment using 2% to 5% (0.02-0.05 lbs ae/gal; maximum 1 lb ae/surface acre) <b>Castaway</b> and 1% MSO per spray volume.
Floating pennywort	<i>Hydrocotyle ranunculoides</i>	32 to 64 (0.25-0.5)	Repeat applications may be necessary.
Flowering rush	<i>Butomus umbellatus</i>	64 to 128 (0.5-1)	
Four-leaf clover	<i>Marsilea</i> spp.	32 to 64 (0.25-0.5)	
Frog's bit	<i>Lymnobia spongia</i>	16 to 32 (0.125-0.25)	
Giant cane	<i>Arundo donax</i>	64 to 128 (0.5-1 lb)	
Japanese knotweed	<i>Polygonum cuspidatum</i>	64 to 128 (0.5-1)	
Mexican lily	<i>Nymphaea mexicana</i>	32 to 64 (0.25-0.5)	
Mosquito fern	<i>Azolla</i> spp.	--	Apply using 2% to 5% (0.02-0.05 lbs ae/gal; maximum 1 lb ae/surface acre) <b>Castaway</b> and 1 % MSO by volume.
Parrotfeather	<i>Myriophyllum aquaticum</i>	64 to 128 (0.5-1)	Apply only to emergent vegetation.
Pickeralweed	<i>Pontederia cordata</i>	32 to 64 (0.25-0.5)	
Saltcedar	<i>Tamarix</i> spp.	64 to 128 (0.5-1)	Also apply using 2% to 5% (0.02-0.05 lbs ae/gal; maximum 1 lb ae/surface acre) <b>Castaway</b> and 1 %. MSO per spray volume.
Smartweed, ladythumb Pennsylvania swamp	<i>Polygonum persicaria pennsylvanicum coccineum</i>	64 to 128 (0.5-1)	
Spatterdock	<i>Nuphar lutea</i>	64 to 128 (0.5-1)	
Umbrella plant**	<i>Cyperus involucratus</i>	64 (0.5)	Apply with MSO or COC. Also apply as a spot treatment using 5% (0.05 lbs ae/gal; maximum 1 lb ae/surface acre) <b>Castaway</b> per spray volume.

(continued)

Common Name	Scientific Name	Rate fl ozs/surface A (lbs ae/surface acre)	Comments
Variable-leaf milfoil	<i>Myriophyllum heterophyllum</i>	64 to 128 (0.5-1)	Apply with MSO (1 % v/v) as an emergent foliar treatment when plants have emerged on the surface. Also apply as a spot treatment using 1% to 3% (0.01-0.03 lbs ae/gal; maximum 1 lb ae/surface acre) <b>Castaway</b> per spray volume.
Water chestnut	<i>Trapa natans</i>	64 to 128 (0.5-1)	Apply with MSO to emergent part of plant. Also apply as a spot treatment using 2% to 5% (0.02-0.05 lbs ae/gal; maximum 1 lb ae/surface acre) <b>Castaway</b> per spray volume.
Water hyacinth	<i>Eichhornia crassipes</i>	16 to 32 (0.125-0.25)	
Water lettuce	<i>Pistia stratiotes</i>	48 to 96 (0.375-0.75)	
Water lily	<i>Nymphaea</i> spp.	32 to 64 (0.25-0.5)	
Water primrose	<i>Ludwigia</i> spp.	32 to 64 (0.25-0.5)	Add an aquatic glyphosate herbicide for quicker brownout. See tank mix partner label for rates*.
Watershield	<i>Brasenia schreberi</i>	48 to 64 (0.375-0.5)	
Wild taro	<i>Colocasia esculenta</i>	96 to 128 (0.75-1)	

\*It is the pesticide user's responsibility to ensure that all products are registered for the intended use.

Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

\*\*Use not permitted in California

### Species Susceptible to Water-injected Applications

The following categories are provided to define species' that may be growth regulated or controlled with 50 to 500 ppb (17-173 fl oz; 0.133-1.35 lbs ae) per surface acre **Castaway** following in-water applications: susceptible, moderately susceptible, and less susceptible. The rates associated with each susceptibility category, including the Special Weed Control section, are provided as guidance with the overriding allowance that an application rate from 50 to 500 ppb (17-173 fl oz; 0.133-1.35 lbs ae) per surface acre may be used depending on the aquatic vegetation management objective and the characteristics of the aquatic vegetation and water body being treated.

Some species that are susceptible to foliar applications of **Castaway** may be less susceptible to in-water applications. Use of higher rates are necessary to achieve desired control/suppression in areas of greater water exchange; when treating more mature or less susceptible plants; when targeting more difficult-to-control aquatic species; and when treating small areas in larger bodies of water (partial or spot treatments). Lower concentrations are generally used when conducting early season large-scale treatments; when greater selectivity is desired; and treating larger areas, more immature or susceptible plants, and areas with less potential for rapid water exchange.

Use of lower rates may increase selectivity on some species within the same category. Effects on susceptible plants can range from control to growth regulation depending on treatment site characteristics, exposure time, and application rate. Susceptible plant species may exhibit herbicide stress or reduced growth during active treatment phases. Whole lake applications with lower rates may provide plant growth regulation or greater selectivity while higher rates will generally provide broader activity.

### Susceptible Vascular Aquatic Plants (50 to 200 ppb; 17-69 fl oz; 0.133-0.539 lbs ae/surface acre)

Common Name	Scientific Name
Curlyleaf pondweed	<i>Potamogeton crispus</i>
Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Sago pondweed	<i>Stuckenia pectinata</i>
Water hyacinth	<i>Eichhornia crassipes</i>
Water stargrass	<i>Heteranthera dubia</i>

### Moderately Susceptible Vascular Aquatic Plants (100 to 300 ppb; 35-103.8 fl oz; 0.273-0.811 lbs ae/surface acre)

Common Name	Scientific Name
American pondweed	<i>Potamogeton nodosus</i>
Bladderwort	<i>Utricularia</i> spp.
Frog's bit	<i>Lymnobia spongia</i>
Illinois pondweed	<i>Potamogeton illinoensis</i>
Pickrelweed	<i>Pontederia cordata</i>
Salvinia	<i>Salvinia</i> spp.
Spikerush	<i>Eleocharis baldwinii</i>
Variable-leaf milfoil	<i>Myriophyllum heterophyllum</i>
Wigeon grass	<i>Ruppia maritima</i>

**Less Susceptible Vascular Aquatic Plants (200 to 500 ppb; 69-173 fl oz; 0.539-1.35 lbs ae/surface acre)**

Common Name	Scientific Name
Bulrush	<i>Schoenoplectus californicus</i>
Cattail	<i>Typha</i> spp.
Coontail	<i>Ceratophyllum demersum</i>
Eelgrass, Japanese	<i>Zostera japonica</i>
Egeria	<i>Egeria densa</i>
Flowering rush	<i>Butomus umbellatus</i>
Southern naiad	<i>Najas guadalupensis</i>
Spatterdock	<i>Nuphar lutea</i>
Water lily	<i>Nymphaea odorata</i>
Watershield	<i>Brasenia schreberi</i>

**Special Weed Control**

**Eurasian Watermilfoil.** Apply **Castaway** at 100 to 200 ppb (35-69 fl oz; 0.273-0.539 lbs ae) per surface acre to actively growing plants early in the growing season. Applications made to mature Eurasian watermilfoil (vegetation topped out) may require multiple applications.

**Japanese Eelgrass.** Japanese eelgrass is a submerged aquatic plant which can be found in tidal and intertidal areas. **Castaway** may be applied directly to the water or directly to the plant (e.g. at low tide).

**TERRESTRIAL USE DIRECTIONS****RESTRICTIONS:**

- The maximum amount of this product that can be applied is 1 gallon (equivalent to 1 pound of active ingredient as the free acid) per acre per year.
- DO NOT exceed 1 gallon (128 fl oz; 1 lb ae/A\*) of product per acre per application.
- DO NOT exceed 2 applications of this product per year when using reduced application rates.
- The retreatment interval is 7 days.

\*ae = acid equivalent

**Castaway** may be applied with ground and aerial equipment including both fixed-wing aircraft and helicopter. Applications may be made using foliar broadcast spray, foliar spot spray, injection (hack and squirt), frill and girdle, cut stump, or basal methods.

**Broadcast Spray Application**

DO NOT apply more than 1 gallon (1 lb ae/A) of **Castaway** per acre per year.

**Foliar Spot Application**

Apply **Castaway** as a percent solution, containing up to 5% **Castaway** by volume and not to exceed 1 gallon (1 lb ae/A).

**Injection (Hack and Squirt), Frill and Girdle, and Cut Stump Application**

Treatments may be made using up to 100% **Castaway** by volume.

**Basal Application**

Treatments can be made using up to 25% **Castaway** by volume. Basal applications require the use of a good emulsion system to maintain **Castaway** in a stable emulsion with the penetrating agent being used. All foliar applications of **Castaway** require the use of a spray adjuvant. Refer to Spray Adjuvants section for additional information.

To the extent consistent with the applicable law, applicator is responsible for any loss or damage which results from spraying **Castaway** in a manner other than directed in this label. In addition, applicator must follow all applicable state and local regulations and ordinances in regard to spraying.

**Castaway** may be used for the control of the following plant species. **Castaway** may be effective for the control or suppression of additional plant species not listed below. The use of **Castaway** for the control or suppression of undesirable plants not listed below may be done at the discretion of the user.

To the extent consistent with applicable law, the user assumes responsibility for any lack of control or suppression associated with application to weeds not listed on this label.

### Weeds Controlled

Common Name	Scientific Name	Rate Foliar fl ozs/A (lbs ae/A)	Comments
Alligator weed	<i>Alternanthera philoxeroides</i>	64 to 128 (0.5-1)	Add an aquatic glyphosate herbicide for quicker brownout. See tank mix partner label for rates.**
Annual ryegrass	<i>Lolium multiflorum</i>	16 to 32 (0.125-0.25)	
Artichoke, Jerusalem	<i>Helianthus tuberosus</i>	64 to 128 (0.5-1)	
Bedstraw	<i>Galium aparine</i>	64 to 128 (0.5-1)	
Beet, wild	<i>Beta procumbens</i>	64 to 128 (0.5-1)	
Brazilian pepper*** Christmasberry***	<i>Schinus terebinthifolius</i>	96 to 128 (0.75-1)	Also apply using 2% to 5% (0.02-0.05 lbs ae/gal; maximum 1 lb ae/A) <b>Castaway</b> per spray volume.
Buckwheat, wild	<i>Polygonum convolvulus</i>	64 to 128 (0.5-1)	
Buttercup	<i>Ranunculus</i> spp.	64 to 128 (0.5-1)	
California bulrush***	<i>Schoenoplectus californicus</i>	64 to 128 (0.5-1)	
Camphor tree***	<i>Cinnamomum camphora</i>	2% to 5% v/v (0.02-0.05 lbs ae/gal; maximum 1 lb ae/A)	
Canola, volunteer (non-Clearfield®)	<i>Brassica campestris</i> <i>Brassica napus</i>	64 to 128 (0.5-1)	
Cattail	<i>Typha</i> spp.	32 to 64 (0.25-0.5)	
Chickweed, common	<i>Stellaria media</i>	64 to 128 (0.5-1)	
Chinese tallowtree Popcorn tree	<i>Sapium sebiferum</i>	64 to 128 (0.5-1)	See Special Weed Control section.
Cocklebur, common	<i>Xanthium strumarium</i>	64 to 128 (0.5-1)	
Filaree, redstem whitestem	<i>Erodium cicutarium</i> <i>Erodium moschatum</i>	64 to 128 (0.5-1)	
Flixweed	<i>Descurainia sophia</i>	64 to 128 (0.5-1)	
Frog's bit, Sponge plant	<i>Lymnobia</i> spp.	16 to 32 (0.125-0.25)	
Giant ragweed*	<i>Ambrosia trifida</i>	32 to 64 (0.25-0.5)	
Henbit	<i>Lamium amplexicaule</i>	64 to 128 (0.5-1)	
Jamaican nightshade***	<i>Solanum jamaicense</i>	2% to 5% v/v (0.02-0.05 lbs ae/gal; maximum 1 lb ae/A)	
Japanese stiltgrass	<i>Microstegium vimineum</i>	32 to 64 (0.25-0.5)	Use MSO at 1% by spray volume. <b>Castaway</b> will provide some residual control of subsequent seedling emergence.
Jimsonweed	<i>Datura stramonium</i>	64 to 128 (0.5-1)	

(continued)

Common Name	Scientific Name	Rate Foliar fl ozs/A (lbs ae/A)	Comments
Johnsongrass, rhizome seedling	<i>Sorghum halepense</i>	32 to 64 (0.25-0.5) 16 to 32 (0.125-0.25)	
Knotweed, prostrate	<i>Polygonum aviculare</i>	64 to 128 (0.5-1)	
Kochia	<i>Kochia scoparia</i>	64 to 128 (0.5-1)	
Lambsquarters, common	<i>Chenopodium album</i>	64 to 128 (0.5-1)	
Lettuce, miner's	<i>Montia perfoliata</i>	64 to 128 (0.5-1)	
Mallow, common Venice	<i>Malva neglecta</i> <i>Hibiscus trionum</i>	64 to 128 (0.5-1)	
Mustard spp.	<i>Brassica</i> spp.	64 to 128 (0.5-1)	
Nettle, burning	<i>Urtica urens</i>	64 to 128 (0.5-1)	
Nettleleaf goosefoot	<i>Chenopodium murale</i>	64 to 128 (0.5-1)	
Nightshade, black Eastern black hairy	<i>Solanum</i> <i>nigrum</i> <i>ptycanthum</i> <i>sarrachoides</i>	64 to 128 (0.5-1)	
Old World climbing fern***	<i>Lygodium microphyllum</i>	5% v/v	
Pennycress, field	<i>Thlaspi arvense</i>	64 to 128 (0.5-1)	
Phragmites***	<i>Phragmites australis</i>	64 to 128 (0.5-1)	Use 1 qt/A methylated seed oil (MSO); apply in late vegetative stage up to killing frost. Also apply as a spot treatment using 1 % to 2% (0.01-0.02 lbs ae/gal; maximum 1 lb ae/A) <b>Castaway</b> per spray volume. Older stands of phragmites and stands growing in water may be more difficult to control and will require follow-up applications.
Pigweed, prostrate redroot smooth spiny	<i>Amaranthus</i> <i>blitoides</i> <i>retroflexus</i> <i>hybridus</i> <i>spinosus</i>	64 to 128 (0.5-1)	
Puncturevine	<i>Tribulus terrestris</i>	64 to 128 (0.5-1)	
Purple loosestrife***	<i>Lythrum salicaria</i>	32 to 64 (0.25-0.5)	
Purslane, common	<i>Portulaca oleracea</i>	64 to 128 (0.5-1)	
Radish, wild	<i>Raphanus raphanistrum</i>	64 to 128 (0.5-1)	
Ragweed, common giant	<i>Ambrosia</i> <i>artemisiifolia</i> <i>trifida</i>	64 to 128 (0.5-1)	

(continued)

Common Name	Scientific Name	Rate Foliar fl ozs/A (lbs ae/A)	Comments
Rocket, London yellow	<i>Sisymbrium irio Barbarea vulgaris</i>	64 to 128 (0.5-1)	
Saltcedar***	<i>Tamarix</i> spp.	64 to 128 (0.5-1)	Also apply using 2% to 5% (0.02-0.05 lbs ae/gal; maximum 1 lb ae/A) <b>Castaway</b> and 1% MSO per spray volume.
Sedge***, purple yellow	<i>Cyperus rotundus esculentus</i>	32 to 64 (0.25-0.5)	Also apply using 2% to 5% (0.02-0.05 lbs ae/gal; maximum 1 lb ae/A) <b>Castaway</b> per spray volume.
Shepherd's-purse	<i>Capsella bursa-pastoris</i>	64 to 128 (0.5-1)	
Smartweed, ladysthumb Pennsylvania swamp	<i>Polygonum persicaria pennsylvanicum coccineum</i>	64 to 128 (0.5-1)	
Spike rush***	<i>Eleocharis</i> spp.	64 to 128 (0.5-1)	
Spurge, prostrate	<i>Euphorbia maculata</i>	64 to 128 (0.5-1)	
Sunflower, common	<i>Helianthus annuus</i>	64 to 128 (0.5-1)	
Swinecress	<i>Coronopus didymus</i>	64 to 128 (0.5-1)	
Tansymustard, green	<i>Descurainia pinnata</i>	64 to 128 (0.5-1)	
Taro	<i>Taro</i> spp.	64 to 128 (0.5-1) 5% v/v (0.05 lbs ae/A; maximum 1 lb ae/A)	
Thistle, Russian	<i>Salsola iberica</i>	64 to 128 (0.5-1)	
Tropical soda-apple***	<i>Solanum viarum</i>	2% to 5% v/v (0.02-0.05 lbs ae/gal; maximum 1 lb ae/A)	
Umbrella plant***	<i>Cyperus involucratus</i>	64 (0.5-1)	Apply with MSO or COC. Also apply as a spot treatment using 5% (0.05 lbs ae/gal; maximum 1 lb ae/A) <b>Castaway</b> per spray volume.
Water primrose	<i>Ludwigia</i> spp.	32 to 64 (0.25-0.5)	Add an aquatic glyphosate herbicide for quicker brownout. See tank mix partner label for rates.**
Wetland nightshade***	<i>Solanum tampicense</i>	2% to 5% v/v (0.02-0.05 lbs ae/gal; maximum 1 lb ae/A)	
Whitetop*** Hoary cress***	<i>Cardaria draba</i>	8 to 16 (0.063-0.125)	
Willoweed panicle	<i>Epilobium brachycarpum</i>	64 to 128 (0.5-1)	
Velvetleaf	<i>Abutilon theophrasti</i>	64 to 128 (0.5-1)	

\* Suppression of larger, well-established plants

\*\* It is the pesticide user's responsibility to ensure that all products are registered for the intended use.

\*\*\* Use not permitted in California.

Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

**In general, the use of methylated seed oil (MSO) at 1 % v/v will provide the best control with foliar applications.**

### Special Weed Control - Chinese Tallowtree

**Castaway** at 64 to 128 fl ozs/A (0.5-1 lb ae/A) or 0.5 to 2.0% v/v (0.005-0.02 lbs ae/gal; maximum 1 lb ae/A) may be applied as a foliar application for selective control of Chinese tallowtree in and around non-sensitive tree species. Control Chinese tallowtree with foliar applications using aerial, handgun, or backpack application methods. When treating Chinese tallowtree, ensure that application method and spray volume provide adequate coverage of targeted Chinese tallowtree plants. Add methylated seed oil at 32 fl ozs/A (0.25 lb ae/A) for broadcast applications, or at 1% v/v (0.01 lbs ae/gal; maximum 1 lb ae/A) for spot backpack and handgun applications. Non-sensitive hardwood species may exhibit varying degrees of leaf discoloration and temporary injury.

### Areas that may be Grazed or Cut for Hay

Apply **Castaway** to listed aquatic and terrestrial noncrop sites that may be grazed or cut for hay at a maximum use rate of 1 gallon (1 lb ae/A) per acre of **Castaway** or 5% (v/v) (0.05 lbs ae/gal; maximum 1 lb ae/A) spray solution for spot treatments. There are no grazing or haying restrictions.

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** KEEP FROM FREEZING. DO NOT store below 32° 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 Plastic 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.

#### 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.

#### Steps to take if material is released or spilled:

- Dike and contain the spill with inert material (sand, earth, etc.) and transfer liquid and solid diking material to separate containers for disposal.
- Remove contaminated clothing, and wash affected skin areas with soap and water.
- Wash clothing before reuse.
- Keep the spill out of all sewers and open bodies of water.

## LIMITATION OF WARRANTY AND LIABILITY

**IMPORTANT: READ BEFORE USE.** Read the entire Directions for Use, Conditions of Warranties and Limitations of Liability before using this product. If these terms and conditions are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following Disclaimer of Warranties and Limitations of Liability. **CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Ineffectiveness, injury, and other unintended consequences may result because of such factors as manner of use or application (including misuse), the presence of other materials, weather conditions, and other unknown factors, all of which are beyond the control of ATTICUS, LLC. To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

**DISCLAIMER OF WARRANTIES:** To the extent consistent with applicable law, ATTICUS, LLC makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond statements on this label. **LIMITATIONS OF LIABILITY:** To the extent consistent with applicable law, neither ATTICUS, LLC the manufacturer, nor the Seller shall be liable for any indirect, special, incidental or consequential damages resulting from the use, handling, application, storage, or disposal of this product. To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use, handling, application, or storage of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid.

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