

CITY OF BOULDER APPROVED PESTICIDE LIST

Forestry				
Active Ingredient	Product	Hazard Tier	Use	Notes
Rosemary Oil, Geraniol, Peppermint Oil	Ecotrol	Allowed (OMRI)	Scale insects on trees	Toxic to other insects. Timing of treatments during the fall and winter months mitigates non-target exposures.
Emamectin Benzoate (insecticide)	TreeAGE (and others)	Special Use	Emerald ash borer	Systemic insecticide that is persistent and extremely toxic to other wildlife. Due to the magnitude of the emerald ash borer infestation and the importance of trees for ecosystem services, a detailed plan limits the use of emamectin benzoate as much as possible, while balancing with other important city objectives.
Azadirachtin (insecticide)	TreeAzin (and others)	Allowed (OMRI)	Emerald ash borer and other tree pests	Moderately toxic to bees and other animals. Breaks down quickly and is not detected in leaf litter after tree injection.
Natural Lands Herbicides (OSMP and Urban Resources)				
Active Ingredient	Product	Hazard Tier	Use	Notes
Imazamox (herbicide)	Clearcast	Conditional	Used for forbs, grasses, shrubs and cut-stump applications.	Eye and skin irritant. Potential health impacts. Avoid non-target exposure – moderately toxic to bees and earthworms. High probability of leaching.
Clethodim (herbicide)	Envoy	Special Use	Restricted to tall oatgrass only when other methods are not effective	Eye and skin irritant. Many records of plant resistance. Moderately toxic to bees, birds, fish, mammals and soil microorganisms. Inert ingredient, naphthalene is probable carcinogen and toxic to insects.
Metsulfuron (herbicide)	Escort	Conditional	A and B list weeds	Toxic at low concentrations to non-target plants. Can cause reproductive impacts at very low doses to susceptible plants, eliminating seed set with no visible herbicide damage. Can affect germination and resulting vegetative cover.
Triclopyr (herbicide)	Garlon 4, Pathfinder II (and others)	Special Use	Shrub and cut stump applications: Use Clearcast or Habitat first if effective for tree and shrub species. Tryclopyr is last option in absence of other effective options Targeted aquatic application for Eurasian	PPE very important – can exceed occupational thresholds with contaminated glove or backpack sprayer. Protect from inhalation due kerosene in Garlon 4. Keep public away from treated areas. Suppresses buffalograss, blue grama, and sideoats grama germination. Reduces legume and composite biomass (1.09 and 2.17 kg/ha), native plant species richness and lichen and bryophyte diversity and long-term abundance. Persistent in plants, including fallen leaves. Toxic to fish – can be lethal. May be collected by native bees. Greater resistance of forest pioneer and drought-tolerant species and the common sunflower at low concentrations.

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			watermilfoil as a component of a management plan that is approved by department(s) management and the IPM coordinator.	
Imazapyr (herbicide)	Habitat Polaris	Conditional	Shrub and cut stump applications Forbs and grasses	Although low in acute toxicity, imazapyr is a Category II for inhalation and Category I for eye irritation, with some formulations causing irreversible eye damage. Handle with extra care and always use appropriate PPE. Read label carefully for any restrictions near water. A study indicated neighboring tree mortality next to injected trees. Be cautious if treated area is next to valuable trees.
Aminopyralid (herbicide)	Milestone	Conditional	A and B list weeds.	Extremely persistent and highly toxic to plants at very low doses. Keep out of compost stream. Moderately toxic to terrestrial and aquatic invertebrates. High leaching potential.
Imazapic (herbicide)	Plateau	Conditional	Forbs and grasses	Variable effects on native seed germination after treatment with imazapic. Relatively nontoxic with minimal eye irritation.
Chlorsulfuron (herbicide)	Telar	Special Use	Restricted to toadflax only	The most concerning issue is that very low concentrations can decrease seed production by 99% in susceptible plants with no sign of herbicide damage.
Clopyralid (herbicide)	Transline, Lontrel, others	Conditional	Forbs	Avoid inhalation and contact with skin. Keep treated plants and manure from animals grazing on treated plants out of compost stream – not degradable and extremely toxic to plants. Can inhibit desirable plant germination, highly mobile and likely to leach. Little effect on Brassicaceae (mustard) family or ponderosa pine. Moderate toxicity to beneficial predator insects. Both native and nonnative forbs (e.g., sunflower, legume, nightshade, knotweed or buckwheat, and violet families) typically decrease following exposure to clopyralid.
Golf Course				
Active Ingredient	Product	Hazard Tier	Use	Notes
Iprodione (fungicide)	25 Gt Chipco	Special Use	Snow mold on golf course greens only	Last resort if non-chemical methods ineffective. Use lowest concentration and smallest amount possible due to toxicity to non-target mammals, fish and aquatic organisms. Handle carefully and always use PPE due to human health risks, including reproductive/developmental effects, potential carcinogen, and potential endocrine disruptor. Respiratory tract irritant.

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Chlorothalonil (fungicide)	Daconil ZN	Special Use	Snow mold on golf course greens only	Avoid and use as last choice and at as minimal amount as possible. Toxic to mammals, birds, fish, soil organisms, terrestrial and aquatic invertebrates. Handle with extreme care due to human health risk including cancer, reproductive/developmental effects and potential endocrine disruptor. Eye, respiratory tract and skin irritant.
Azoxystrobin (fungicide)	Heritage	Special Use	Turf diseases on golf course greens only	Preferable to iprodione and chlorothalonil – moderately toxic to mammals, fish and aquatic organisms. Use as little as possible and handle with caution. Eye irritant and potential reproductive/developmental health effects in humans.
Carfentrazone-ethyl (herbicide)	Quicksilver	Special Use	Silvery thread moss on golf course only	Moderately toxic to birds, fish and aquatic organisms. Possible carcinogen.
Chlorothalonil, thiophanate (fungicide)	Spectro 90 WDG	Special Use	Snow mold on golf course green only	Avoid and use as last choice. See chlorothalonil above. May be additive effects from thiophanate which has moderate toxicity to fish and aquatic organisms. Human health impacts include reproductive/developmental effects, and potential carcinogen. Thiophanate is a respiratory tract irritant, potential eye and skin irritant and skin sensitizer.

Rats

Active Ingredient	Product	Hazard Tier	Use	Notes
Cholecalciferol (Vitamin D3) (rodenticide)	Various	Special Use	Rats around buildings – For use only in tamper-proof boxes.	Snap traps are best practice. Refer to rat control guide for detailed guidelines to prevent rat issues and to bring rat infestation under control. Toxic to people and mammals from ingestion or inhalation.
Carbon dioxide (rodenticide)	Rat Ice	Special Use	Rat burrows	Follow handling precautions to avoid injury to skin and eyes from dry ice. Only use outdoors. Avoid inhalation. Follow label directions carefully.

Prairie Dogs

Active Ingredient	Product	Hazard Tier	Use	Notes
Deltamethrin (insecticide)	Delta Dust	Special Use	Restricted to treat prairie dog burrows for fleas before relocation only as required by state permitting requirements.	Non-target impacts, particularly to arthropods living in burrows and ground-nesting bees. Impacts immune systems of rodents. Chronic health concerns for human exposure.

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Exhaust – carbon monoxide pesticide device (rodenticide)	PERC	Special Use	For lethal control of prairie dogs in compliance with city policy and permitting.	Pesticide device. See manufacturer documentation.
Pyrethrin (insecticide)	Pyranha	Conditional	Used to treat individual prairie dogs before relocation to new site for control of fleas as required by state permitting requirements.	Toxic to mammals and highly toxic to fish and aquatic organisms. Potential respiratory irritant. Handle carefully according to label instructions.
Special Case				
Active Ingredient	Product	Hazard Tier	Use	Notes
Rotenone (pescicide)	Rotenone (Legumine)	Special Use	Restricted to wetland/riparian restoration projects to remove nonnative fish species and reintroduce native fish. Must be part of comprehensive restoration plan that creates high quality habitat.	Restricted to fisheries management. Requires collaboration with Colorado Parks & Wildlife Aquatic Section experts for project planning and rotenone application (requires special license). Requires department director and IPM Coordinator approval.

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