

**2017 San Francisco Reduced Risk Pesticide List:  
Restrictions on “most hazardous” (Tier I) herbicides  
3/21/17 DRAFT**

**Background**

The restrictions below were created in a public process by the San Francisco Department of the Environment Integrated Pest Management Program in close consultation with all City & County of San Francisco departments involved in land management activities, in keeping with the Precautionary Principle and Integrated Pest Management ordinances (Environment Code, Chapters 1 and 3). These restrictions apply only to “most hazardous” herbicides, defined here as herbicide products rated as “Tier I” using San Francisco’s Pesticide Hazard Screening Protocol. US EPA label restrictions take precedence and must be followed. *All other uses of “most hazardous” herbicides require an exemption granted by the San Francisco Department of the Environment.*

**Goals**

The goals of the restriction process are to:

1. Reduce the use of Tier I herbicides to those situations where they are most critical to public health, public safety, and protection of major public assets, including biodiversity assets,
2. Ensure that the restrictions are attainable through continued collaboration among City IPM staff.
3. Minimize potential harm to the environment, City workers, and the general public, in keeping with the Precautionary Principle.
4. Maximize the ability of city residents to know when and where these products are being used.

**Conditions of use for “most hazardous” herbicides**

*General requirements*

5. All postings must clearly identify the area to be treated, be set up three days before treatment, and be identifiable for four days after the treatment. Postings should be placed in location(s) most likely to be seen by users of the treated area. Blue indicator dyes must be used for spray treatments except on golf courses or in cases where posting is not otherwise required. The use of blue dye must be noted on the posting. Dye must be mixed at a concentration that makes it clearly visible.
6. For treatment sites that cannot be readily described using the posting sign alone, a map showing the general location of expected treatment area(s) must be attached to the posting sign.
7. Contractors must be fully briefed and trained in the San Francisco IPM program’s ordinance, requirements and policies.
8. Any application of ‘most hazardous’ herbicides on City property within the City limits or at San Francisco International Airport must be under the direct supervision of a licensed person. A licensed person is defined for these purposes as a person possessing either an Agricultural Pest Control Advisor license, a Qualified Applicator License, or a Qualified Applicator Certificate issued by the California Department of Pesticide Regulation. “Direct supervision” means that the licensed person must be physically present at the site of application.
9. Within the City limits, when ‘most hazardous’ herbicides are used on publicly accessible parcels a physical demarcation must be set up around or block access to the treated area, with the exception of golf courses and areas managed for habitat conservation. Acceptable physical demarcations include fencing, rope, tape, or staked plastic cones.

*General prohibitions:*

10. No use for purely cosmetic purposes. .
11. No use within 15 feet of designated, actively maintained public paths. “Designated public paths” are walking paths that appear on City maps. If maps do not exist, then “designated public paths” means paths that are actively maintained by City operations.
12. No broadcast spraying using a spray boom is permitted, except for targeted treatments at Harding Park golf course in preparation for tournament play. Use of a backpack sprayer does not qualify as broadcast spraying, provided that the applicator is targeting specific plants that have been identified for treatment.

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13. No use on the grounds of or within 15 feet of the boundaries of schools, preschools, childrens' playgrounds or other areas frequented by children.
14. No use in areas restricted by the California Red-legged Frog Stipulated Injunction.
15. No use on blackberry (*Rubus*) plants when fruits are present.

*Allowed Uses/Exceptions (only as method of last resort):*

16. Areas falling under state or federal vegetation management requirements, including airport runways, utility rights of way and easements, dams, reservoir embankments, and watershed lands. If treatments are required within 15 feet of public paths in these areas, a physical demarcation must still be set up around or block access to the treated area.
17. Cases judged by City pest management professionals as posing a significant public safety, public health or fire risk, for example, poison oak along popular trails or resprouting trees that constitute a fire hazard. If such treatments are necessary within 15 feet of a designated public path, a physical demarcation must be set up around or block access to the treated area.
18. Landscape renovations, provided that weed prevention measures are put in place and a physical demarcation is set up around or block access to the treated area for four days after treatment. A landscape renovation is defined as a contiguous area of land where all or most of the existing vegetation is removed and replaced, with a minimum size of 100 square feet.
19. Invasive species that pose a threat to local, native, rare, threatened or endangered species or ecosystems, and which cannot be controlled by other means. Prohibitions #10-15 still apply.
20. Street median strips in situations where alternative control measures pose safety risks to applicators or the public.

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**2017 DRAFT San Francisco Reduced-Risk Pesticide List**  
for City-owned properties

Product Name	Type	EPA #/ SF code*	Ingredients	Pesticide Hazard Tier**	Use Limitation Type***	Use Limitations Other uses require an exemption (click here)	Changes made	Usage 2015 (lbs a.i)
<b>GENERAL USE PESTICIDES</b>								
Actinovate	Fungicide	73314-1	<i>Streptomyces lydicus</i> WYEC	Least hazardous (Tier III)	Least Limited			0.005
Advion Ant Bait Arena (Dupont)	Insecticide	352-664	Indoxacarb 0.1%	Least hazardous (Tier III)	Least Limited			
Advion Ant Gel (Dupont)	Insecticide	352-746	Indoxacarb 0.05%	Least hazardous (Tier III)	Least Limited			0.007
Advion Cockroach Bait Arena (Dupont)	Insecticide	352-668	Indoxacarb 0.5%	Least hazardous (Tier III)	Least Limited			0.000
Advion Cockroach Gel Bait (Dupont)	Insecticide	352-652	Indoxacarb 0.6%	Least hazardous (Tier III)	Least Limited			0.051
Agri-Fos Systemic Fungicide	Fungicide	71962-1	Potassium phosphite 45.8%	Least hazardous (Tier III)	Least Limited	For use on high-value Coast Live Oaks ( <i>Quercus agrifolia</i> ) susceptible to <i>Phytophthora</i> , or in experiments with <i>Phytophthora</i> control.	Removed "When labelling permits, use on an experimental basis for Anthracnose control on sycamores." Specified Coast Live Oak. Replaced "Sudden Oak Death" with <i>Phytophthora</i> .	9.469
Alligare Rotary 2 SL	Herbicide	81927-6	Imazapyr, isopropylamine salt 28%	More hazardous (Tier II)	More Limited	Alternative to Tier I herbicides. Use caution with adjoining desirable vegetation.	Replaced previous language "...For weeds in rights of way, or invasive species in natural areas where other alternatives are ineffective, especially for invasive legumes and composites such as yellow star thistle and purple star thistle."	
Aquamaster (Roundup Custom) Herbicide	Herbicide	524-343	Glyphosate, isopropylamine salt 53.8%	Most hazardous (Tier I)	Most Limited	Subject to "Limitations on most restricted herbicides" Other limitations: For aquatic uses, use for emergent plants in ponds, lakes, drainage canals, and areas around water or within watershed areas.		121.597
Avenger	Herbicide	82052-1	d-Limonene 60%	Least hazardous (Tier III)	More Limited	Burndown herbicide. Not for use near water.		7.592
Axxe	Herbicide	70299-20	nonanoic acid, 61%	More hazardous (Tier II)	More Limited	Burndown herbicide.	Added - alternative to Tier I herbicides	
Azatin XL	Insecticide	70051-27	Azadirachtin 3%	Most hazardous (Tier I)	More Limited	For greenhouses and established plants for interiorscapes. Do not apply on flowering plants when bees are active. USE UP EXISTING STOCKS - Azatrol is safer alternative.		
Azatrol EC Insecticide	Insecticide	2217-836	Azadirachtin (2328) 1.2%	More hazardous (Tier II)	More Limited	For greenhouses and established plants for interiorscapes. Do not apply on flowering plants when bees are active.		1.016
<i>Bacillus thuringiensis</i> insecticides (excluding mosquito control)	Insecticide	Various	<i>Bacillus thuringiensis</i> (various subsp.)	Least hazardous (Tier III)	Least Limited			
BestYet Cedarcide	Insecticide	exemptprod-009	Cedarwood oil, amorphous silica	Least hazardous (Tier III)	Least Limited			
BioLink Buffer & Penetrant	Adjuvant	exemptprod-010	Citric acid 20%, garlic extract 7%	More hazardous (Tier II)	Least Limited		Added - Organic approved adjuvant, pilot tested with Axxe burndown herbicide	
Bond Spreader-Sticker	Adjuvant	34704-50033	Synthetic carboxylated latex 50%, primary aliphatic oxyalkylated alcohol 10%	Least hazardous (Tier III)	Least Limited			

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Cimexa Insecticide Dust	Insecticide	73079-12	Amorphous silica gel 100%	Least hazardous (Tier III)	Least Limited	Only for use on rat mites, bedbugs, lice, and yellowjackets in walls when nonchemical techniques prove ineffective.		0.384
CMR Silicone Surfactant	Adjuvant	1050775-50025 [INACTIVE]	Polymethylsiloxane, nonionic	Least hazardous (Tier III)	More Limited			
Competitor	Adjuvant	2935-50173	Ethyl oleate	Least hazardous (Tier III)	Least Limited			
Conserve SC Turf and Ornamental	Insecticide	62719-291	Spinosad 11.6%	More hazardous (Tier II)	Least Limited	For use as a last resort in greenhouses. If feasible, alternate with other products to avoid the development of resistance. Use on high value ornamentals only.		
Critter Ridder	Mammal repellent	50932-10	Oil of black pepper 0.48%	Least hazardous (Tier III)	Least Limited			
Debug Turbo	Nematicide	70310-5	Fats & glyceridic oils margosa 65.8%, azadirachtin 0.7%	More hazardous (Tier II)	Least Limited			42.739
Detour	Mammal repellent	exemptprod-015	White pepper 3%, white mineral oil 87%, silica 10%	Least hazardous (Tier III)	Least Limited			
Eco Exempt/Essentria Jet Wasp and Hornet Killer	Insecticide	exemptprod-007	2-phenethyl propionate 2%, rosemary oil 3%	Least hazardous (Tier III)	Least Limited	Preferred alternative to Wasp Freeze but may not act quickly enough during late summer, when yellowjackets are most aggressive. Consider digging up nest and baiting with honey in evening to attract raccoons.		
Enstar II Insect Growth Regulator (Enstar 5E)	Insecticide	2724-476	S-kinoprene 64.1%	More hazardous (Tier II)	More Limited	USE UP EXISTING STOCKS. For use only in nurseries and on roses.		
Essentria IC3	Insecticide	exemptprod-013	Rosemary oil 10%, geraniol 5%, peppermint oil 2%, wintergreen oil, white mineral oil, vanillin, polyglyceryl oleate	Least hazardous (Tier III)	Least Limited			
Fiesta	Herbicide	67702-26	Iron HEDTA 26.52%	Most hazardous (Tier I)	More Limited	USE UP EXISTING STOCKS.	Added "USE UP EXISTING STOCKS." Phasing out; little use and questions on long term effectiveness.	18.831
Garlon 4 Ultra	Herbicide	62719-527	Triclopyr, butoxyethyl ester 60.45%	Most hazardous (Tier I)	Most Limited	Subject to "Limitations on most restricted herbicides" Use only for targeted treatments of high profile or highly invasive exotics via dabbing or injection. May use for targeted spraying only when dabbing or injection are not feasible. HIGH PRIORITY TO FIND ALTERNATIVE		42.964
Gentrol Point Source Roach Control Device	Insecticide	2724-469	Hydroprene 96%	Least hazardous (Tier III)	Least Limited			0.229
Habitat	Herbicide	241-426	Imazapyr, isopropylamine salt, 28%	More hazardous (Tier II)	More Limited	Alternative to Tier I herbicides. Use caution with adjoining desirable vegetation.	Replaced previous language "...For weeds in rights of way, or invasive species in natural areas where other alternatives are ineffective, especially for invasive legumes and composites such as yellow star thistle and purple star thistle."	0.438
Intice Thiquid Ant Bait	Insecticide	73079-7	Borax, 5%	Most hazardous (Tier I)	Least Limited			1.303
M-pede Insecticide/Fungicide	Insecticide	62719-515	Potash soap 49%	More hazardous (Tier II)	More Limited	Nursery, specialty gardens, and Africanized Honey Bees.		19.814
Maxforce FC Magnum Roach Killer Bait Gel	Insecticide	432-1460	Fipronil 0.05%	More hazardous (Tier II)	More Limited	Not for use in outdoor areas with potential rain exposure		
Maxforce FC Professional Insect Control Ant Bait Stations	Insecticide	432-1256	Fipronil 0.01%	More hazardous (Tier II)	More Limited	Not for use in outdoor areas with potential rain exposure		0.000

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Maxforce FC Professional Insect Control Roach Bait Stations	Insecticide	432-1257	Fipronil 0.05%	More hazardous (Tier II)	More Limited	Not for use in outdoor areas with potential rain exposure		0.044
Maxforce FC Professional Insect Control Roach Killer Bait Gel	Insecticide	432-1259	Fipronil 0.01%	More hazardous (Tier II)	More Limited	Not for use in outdoor areas with potential rain exposure		0.000
Milestone	Herbicide	62719-519	Aminopyralid, triisopropanolamine salt (5928) 40.6%	More hazardous (Tier II)	More Limited	For invasive species in natural areas or parklands where other alternatives are ineffective, especially for invasive legumes and composites such as yellow star thistle and purple star thistle.		0.094
Milestone VM Plus	Herbicide	62719-572	Aminopyralid, triisopropanolamine salt, 2%; Triclopyr, triethylamine salt, 16%	More hazardous (Tier II)	More Limited	Use only for cut stump or injection		
Nufarm Polaris Herbicide	Herbicide	228-534	Imazapyr, isopropylamine salt, 28%	More hazardous (Tier II)	More Limited	Alternative to Tier I herbicides. Use caution with adjoining desirable vegetation.	Replaced previous language" "...Preferred alternative to triclopyr for use on invasive weeds in natural areas, such as broom, Cotoneaster, or	0.896
OhYeah!	Insecticide	exemptprod-002	Sodium lauryl sulfate	Least hazardous (Tier III)	Least Limited			
Orange Guard	Insecticide	61887-1	D-limonene 5.8%	More hazardous (Tier II)	More Limited	Soap spray is preferred for removing ant trails. Minimize use in enclosed areas due to scent. Potential aquatic hazard - do not apply directly to water.	Removed: "wear protective equipment." Redundant with label.	
Organocide	Insecticide	exemptprod-010	Sesame oil 5%	Least hazardous (Tier III)	Least Limited			
Oust XP Herbicide (DuPont)	Herbicide	352-601	Sulfometuron-methyl 75%	More hazardous (Tier II)	Most Limited	For use only on airport operational areas subject to FAA requirements.		8.564
Pentrabark	Adjuvant	83416-50001	Polyalkyleneoxide modified heptamethyltrisiloxane	Least hazardous (Tier III)	More Limited			
Prescription Treatment Brand Perma-Dust	Insecticide	499-384	Boric acid 35%, petroleum distillates, hydrotreated light 10%, HFC-134A, 1,1 difluoroethane	Most hazardous (Tier I)	More Limited	Use in situations where adhesion of dust is important and non-aerosol boric acid products are ineffective.		0.026
Prescription Treatment Brand Wasp-Freeze Wasp and Hornet Killer Formula 1	Insecticide	499-362	Phenothrin 12%, d-trans allethrin .129%, CO2	Most hazardous (Tier I)	Most Limited	Use only when a concern for public safety, and in situations where use of EcoExempt product is inadequate or unsafe.		
Roundup Promax Herbicide	Herbicide	524-579	Glyphosate, isopropylamine salt 48.7%	Most hazardous (Tier I)	Most Limited	Subject to "Limitations on most hazardous herbicides" Use of Aquamaster + Competitor is preferred except in situations where rainfastness is needed.		560.455
Shake-Away Coyote Urine Repellant Granules	Mammal repellent	exemptprod-014	Coyote urine 5%, limestone 95%	Least hazardous (Tier III)	Least Limited			
Sluggo Slug and Snail Bait	Molluscicide	67702-3	Phosphoric acid, iron(3+) salt (1:1) 1%	Least hazardous (Tier III)	Least Limited			0.022
Spraytech Oil	Insecticide	65328-50001	Soybean oil	More hazardous (Tier II)	Least Limited			

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Stalker herbicide	Herbicide	241-398	Imazapyr, isopropylamine salt 28%	More hazardous (Tier II)	More Limited	Alternative to Tier I herbicides. Use caution with adjoining desirable vegetation. USE UP EXISTING STOCK	Replaced previous language: "For invasive species in natural areas where other alternatives are ineffective, especially for invasive legumes and composites such as yellow star thistle and purple star "	0.486
Terro Ant Killer II, Terro Ant Killer II Liquid Ant Baits, Terro-PCO Liquid Ant Bait	Insecticide	149-8	Sodium tetraborate decahydrate 5.4%	Most hazardous (Tier I)	Least Limited			0.065
<b>GOLF PRODUCTS</b>								
Civitas One	Fungicide	69526-17	Mineral oil, refined, 89%	Least hazardous (Tier III)	Least Limited		Added	
Fosphite Fungicide	Fungicide	68573-2	Potassium phosphate	Least hazardous (Tier III)	More Limited	Only for use on golf courses.		238.747
Heritage Fungicide	Fungicide	100-1093	Azoxystrobin 50%	Most hazardous (Tier I)	Most Limited	For use on Harding Park/Fleming golf courses only in preparation for tournament play		4.675
Lontrel Turf and Ornamental Herbicide	Herbicide	62719-305	Clopyralid, 40.9%	More hazardous (Tier II)	More Limited	For use on Harding Park/Fleming golf courses only in preparation for tournament play. May be used 1x/year in other golf courses on greens only.		6.845
Nufarm Quinclorac SPC 75 DF Herbicide	Herbicide	228-592	Quinclorac, 75%	More hazardous (Tier II)	More Limited	For use on Harding Park/Fleming golf courses only in preparation for tournament play. USE UP EXISTING STOCKS.	Removed - Using Quinclorac 1.5L instead	
Primo Maxx	Growth regulator	100-937	Trinexapac-ethyl 11.3%, tetrahydrofurfuryl alcohol (THFA)	More hazardous (Tier II)	More Limited	Only use on Harding/Fleming golf courses in preparation for major golf tournaments.	Corrected "Most" to "More hazardous"	8.231067
Quinclorac 1.5L	Herbicide	53883-336	Quinclorac, dimethylamine salt, 18.92%	More hazardous (Tier II)	More Limited	For use on Harding Park/Fleming golf courses only in preparation for tournament play.		
Sapphire	Herbicide	62719-547	Penoxsulam	More hazardous (Tier II)	More Limited	Only use on City-owned golf courses in preparation for major golf tournaments.		0.290
Tourney	Fungicide	59639-144	Metconazole, 50%; Silica-crystalline quartz	Most hazardous (Tier I)	More Limited	For management of pink snow mold ( <i>Microdochium nivale</i> ) on Harding Park/Fleming golf courses only in preparation for tournament play.		
Trimmit 2SC Plant Growth Regulator for Turfgrass	Growth regulator	100-1014	Paclobutrazol 22.3%	More hazardous (Tier II)	More Limited	For use only on golf courses in preparation for tournament play.		1.798
Trinity TM	Fungicide	7969-257	Triticonazole, 19.2%	Most hazardous (Tier I)	More Limited	For use on Harding Park/Fleming golf courses only in preparation for tournament play. May be used 1x/year in other golf courses on greens only.		
Turflon Ester	Herbicide	62719-258	Triclopyr, butoxyethyl ester 61.6%	Most hazardous (Tier I)	Most Limited	Subject to "Limitations on most restricted herbicides". Targeted treatment of golf course turf. HIGH PRIORITY TO FIND ALTERNATIVE.		1.097
<b>VECTOR CONTROL PRODUCTS</b>								
Agnique MMF-G	Mosquito control - other	7969-333	Poly(oxy-1,2- ethanediyl),alpha a-isodecyl- omega-hydroxy- phosphate 32%	More hazardous (Tier II)	More Limited	Use for late instar mosquito larvae and pupae, in combination with microbial products. USE UP REMAINING STOCK	Corrected Tier ranking (was Tier III). Corrected EPA number.	35.668
BVA2 Mosquito Larvicide	Mosquito control - other	70589-1	Highly refined petroleum distillate (mineral oil)	More hazardous (Tier II)	More Limited	Use as a pupacide for public health mosquito treatments.		1101.787

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Contrac All-Weather Blox	Rodenticide	12455-79	Bromadiolone 0.005%	Most hazardous (Tier I)	Most Limited	HIGH PRIORITY FOR REMOVAL. USE UP EXISTING STOCKS. For use only in San Francisco International Airport Terminal Areas, or for commercial lessees on city properties that are not adjacent to natural areas. In commercial establishments, use of product shall be a last resort after other, less-toxic measures have been implemented, including sanitation and trapping, and only where a significant public health hazard is recognized by the SF Dept. of Public Health. In all cases, monitoring shall be used whenever feasible to minimize rodenticide use.		0.005
Mosquito control - microbial	Mosquito control - microbial	Various	<i>Bacillus thuringiensis</i> (Berliner or Israelensis) or <i>Bacillus sphaericus</i>	Least hazardous (Tier III)	Least Limited	Any microbial mosquito larvicide with active ingredients <i>Bacillus thuringiensis</i> (Berliner or Israelensis) or <i>Bacillus sphaericus</i> is categorized as Least limited.		106.354
Mosquito control products - IGRs	Mosquito control - IGRs	Various	S-Methoprene (5026)	Least hazardous (Tier III)	More Limited	Use for tanks with limited access, or other areas where frequent treatments are infeasible. For City catchment basins, microbial products are preferred. Not for use in estuarine environments except under control of San Mateo Mosquito Abatement District.		0.006
Rodent control - diphacinone block baits	Rodenticide	Various	Diphacinone	More hazardous (Tier II)	More Limited	See Site-Specific Limitations. For rat control only in situations with high public health concerns, where trapping is infeasible. In all cases, monitoring shall be used whenever feasible to minimize rodenticide use. HIGH PRIORITY TO FIND ALTERNATIVE.		0.053
Top Gun All Weather Bait Block Rodenticide	Rodenticide	67517-66	Bromethalin 0.01%	Most hazardous (Tier I)	Most Limited	For use only in City-owned sewer lines, San Francisco International Airport Terminal Areas, or for commercial lessees on city properties that are not adjacent to natural areas. In commercial establishments, use of product shall be a last resort after other, less-toxic measures have been implemented, including sanitation and trapping, and only where a significant public health hazard is recognized by the San Francisco Dept. of Public Health. In all cases, monitoring shall be used whenever feasible to minimize rodenticide use.		0.021

\*For products exempt from US EPA registration (usually 'Generally Regarded as Safe'), SF creates its own product code

\*\*A product's tier ranking reflects *hazard* (the possibility of harm) but not *risk* (probability of harm). It does not include consideration of likely exposure.

[It is determined using the SF Pesticide Hazard Screening Protocol, http://sfenvironment.org/download/guide-to-the-reduced-risk-pesticide-list-revised-2013](http://sfenvironment.org/download/guide-to-the-reduced-risk-pesticide-list-revised-2013)

\*\*\*Use limitation type is an informal rating of *risk* (probability of harm), determined by considering a product's hazard tier rating, formulation, likely exposure, and typical uses. Applications of "most limited" pesticides must be justified at an annual public hearing.