Drugs Approved for Aquaculture Species

updated: 6 November 2007

Drug	Product Name, Supplier & FOI Summary	Species	Indication	Dosage regimen	Limitations & Comments
Immersion					

Formalin	Parasite-S® by Western Chemical; FOI Summary
	
	and
	
	Formalin-F ™ by Natchez Animal Supply Co.; FOI Summary
	
	and
	
	Formacide-B by B.L. Mitchell, Inc. FOI Summary (not yet available)
		All finfish	Control external protozoa *(Chilodonella, Costia, Epistylis, Ichthyophthirius, Scyphidia, Trichodina spp.)*
			
			and
			
			monogenetic trematodes *(Cleidodiscus, Dactylogyrus, Gyrodactylus spp.)*
				• Salmon & trout in tanks and raceways:
				  • Above 50°F: up to 170 µl/L for up to 1 hr
				  • Below 50°F: up to 250 µl/L for up to 1 hr
				• All other finfish up to 250 µl/L for up to 1 hr
				• Earthen ponds: 15 to 25 µl/L indefinitely
					• Drug must not be subjected to temperature below 40°F
					• Do not apply to ponds when water is warmer than 80°F, there is a heavy phytoplankton bloom, or dissolved oxygen is less than 5 mg/L
					• Ponds may be retreated in 5 to 10 days if needed
					• Do not treat ponds containing striped bass
					• Test on a small number from each lot to check for any unusual sensitivity to formalin before proceeding

		All finfish eggs	Control fungi of the family Saprolegniaceae	• All finfish eggs: 1000-2000 ppm for 15 min. • Acipenseriformes up to 1500 ppm for 15 min.	• Preliminary bioassay should be conducted to determine species sensitivity
		Penaeid shrimp	Control protozoan parasites *(Bodo, Epistylis and Zoothamnium spp.)*	• Tanks and raceways: 50 to 100 µl/L for up to and 4 hours daily • Earthen ponds: 25 µl/L as single treatment	• Drug must not be subjected to temperature below 40°F • Do not apply to ponds when water is warmer than 80°F, when there is a heavy phytoplankton bloom, or when dissolved oxygen is less than 5 mg/L • Ponds may be retreated in 5 to 10 days if needed

	Paracide-F® by Argent Laboratories; FOI Summary	Salmon, trout, catfish, largemouth bass, and bluegill	Control external protozoa *(Chilodonella, Costia, Epistylis, Ichthyophthirius, Scyphidia, Trichodina spp.)*
			
			and
			
			monogenetic trematodes *(Cleidodiscus, Dactylogyrus, Gyrodactylus spp.)*
				• Salmon & trout in tanks and raceways:
				  • Above 50 °F: up to 170 µl/L for up to 1 hr
				  • Below 50 °F: up to 250 µl/L for up to 1 hr
				• Catfish, largemouth bass and bluegill: up to 250 µl/L for up to 1 hr
				• Earthen ponds: 15 to 25 µl/L indefinitely
					• Drug must not be subjected to temperature below 40°F
					• Do not apply to ponds when water is warmer than 80 ° F, when there is a heavy phytoplankton bloom, or when dissolved oxygen is less than 5 mg/L
					• Ponds may be retreated in 5 to 10 days if needed
					• Do not treat ponds containing striped bass

		Salmon, trout, and esocid eggs	Control fungi of the family Saprolegniaceae	• 1000-2000 ppm for 15 min.	• Preliminary bioassay should be conducted to determine species sensitivity
Hydrogen Peroxide	35% PEROX-AID® by Eka Chemicals Inc.; FOI Summary	Freshwater-reared finfish eggs	Control mortality due to saprolegniasis	• Coldwater and coolwater: 500 to 1000 mg/L for 15 minutes in a continuous flow system once per day on consecutive or alternate days until hatch • Warmwater: 750 to 1000 mg/L for 15 minutes in a continuous flow system once per day on consecutive or alternate days until hatch	• Initial bioassay on a small number is recommended before treating the entire group
		Freshwater-reared salmonids	Control mortality due to bacterial gill disease *(Flavobacterium branchiophilum)*	• 100 mg/L (30 minutes) or 50 to 100 mg/L (60 minutes) once per day on alternate days for three treatments	• Initial bioassay on a small number is recommended before treating the entire group
		Freshwater-reared coolwater finfish and channel catfish	Control mortality due to external columnaris disease *(Flavobacterium columnare/ Flexibacter columnaris)*	• Fingerling and adults (except northern pike and paddlefish): 50 to 75 mg/L (60 minutes) once per day on alternate days for three treatments • Fry (except northern pike, pallid sturgeon, and paddlefish): 50 mg/L (60 minutes) once per day on alternate days for three treatments	• Use with caution on walleye • Initial bioassay on a small number is recommended before treating the entire group

Drug	Product Name, Supplier & FOI Summary	Species	Indication	Dosage regimen	Limitations & Comments
Immersion (con't)					
Oxytetracycline hydrochloride	OxyMarine by Alpharma Inc.; FOI Summary and Oxytetracycline HCl Soluble Powder-343 by Phoenix Scientific, Inc FOI Summary and TERRAMYCIN-343 Soluble Powder by Pfizer, Inc. FOI Summary and TETROXY Aquatic Soluble Powder by Cross Vetpharm Group Ltd.	Finfish fry and fingerlings	Mark skeletal tissues	• 200 to 700 mg oxytetracycline hydrochloride (buffered) per liter of water for 2 to 6 hours	
Tricaine methanesulfonate	Finquel® by Argent Laboratories FOI Summary and Tricaine-S by Western Chemical, Inc. FOI Summary	Fish (Ictaluridae, Salmonidae, Esocidae, Percidae), aquatic amphibians, and other aquatic poikilotherms	Temporary immobilization	• 15 to 330 mg/L (fish) • 1:1,000 to 1:20,000 (other poikilotherms)	• Powder is added to water • Concentration depends upon desired degree of anesthesia, species, size, water temperature and softness, stage of development; preliminary tests of solution should be made with a few fish • 21 day withdrawal time (fish); laboratory or hatchery use only in other poikilotherms --Water temperature over 50° F (10° C)
Injectable					
Chorionic Gonadotropin	Chorulon® by Intervet Inc.; FOI Summary	Male and female brood finfish	Aid in improving spawning function	• 50 to 510 IU/lb males • 67 to 1816 IU/lb females	• Intramuscular injection • Up to three doses. Total dose not to exceed 25,000 IU in fish intended for human consumption • Prescription product restricted to use by or on the order of a licensed veterinarian
Medicated Article/Feed					
Oxytetracycline dihydrate	Terramycin® 200 for Fish by Phibro Animal Health FOI Summary	Pacific salmon	Mark skeletal tissue	• 250 mg/kg/day for 4 days	• salmon < 30 g • In feed as sole ration • 7 day withdrawal time
		Salmonids	Control ulcer disease, furunculosis, bacterial hemorrhagic septicemia, and pseudomonas disease *(Hemophilus piscium, Aeromonas salmonicida, A. liquefaciens, Pseudomonas)*	• 2.5 to 3.75 g/100 lb/day for 10 days	• In mixed ration • Water temperature not below 48.2°F • 21 day withdrawal time
		Catfish	Control bacterial hemorrhagic septicemia and pseudomonas disease *(A. liquefaciens, Pseudomonas)*	• 2.5 to 3.75 g/100 lb/day for 10 days	• In mixed ration • Water temperature not below 62°F • 21 day withdrawal time
		Lobster	Control gaffkemia *(Aerococcus viridans)*	• 1 g/lb medicated feed for 5 days	• In feed as sole ration • 30 day withdrawal time
Sulfadimethoxine & ormetoprim	Romet®-30 by Pharmaq AS FOI Summary	Salmonids	Control furunculosis *(Aeromonas salmonicida)*	• 50 mg/kg/days for 5 days	• In feed • 42 day withdrawal time
		Catfish	Control enteric septicemia *(Edwardsiella ictaluri)*		• In feed • 3 day withdrawal time
Sulfamerazine	Alpharma, Inc.	Rainbow, brook, and brown trout	Control furunculosis	• 10 g/100 lb/day for up to 14 days	• In feed • 21 day withdrawal time • **Not currently available**

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Medicated Article/Feed (con't)					
Florfenicol	Aquaflor® by Schering-Plough Animal Health Corporation; FOI Summary	Catfish	Control of mortality due to enteric septicemia of catfish associated with *Edwardsiella ictaluri*	• 10 mg/kg/day for 10 consecutive days	• Veterinary Feed Directive (VFD) drug • 12 day withdrawal time
			Control of mortality due to columnaris associated with *Flavobacterium columnare*		• Veterinary Feed Directive (VFD) drug • 12 day withdrawal time • Conditional Approval • Must use Aquaflor®-CA1 product
		Freshwater-reared salmonids	control of mortality due to furunculosis associated with *Aeromonas salmonicida*	• 10 mg/kg/day for 10 consecutive days	• Veterinary Feed Directive (VFD) drug • 15 day withdrawal time
			Control of mortality due to coldwater disease associated with *Flavobacterium psychrophilum*		