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PRODUCT DATA SHEET

Rid-Ich

Controls Diseases Caused by Ichthyophthiriasis ("Ich")

PRODUCT DESCRIPTION

Kordon's Rid-Ich+ is a combination of two powerful medications which have proven effective in the control of many diseases of freshwater fishes caused by external protozoan (single cell) parasites such as white spot disease, *Ichthyophthiriasis*, *Costia*, *Trichodina*, *Chilodonella* and saltwater external parasites such as *Cryptocaryon* and *Amyloodinium*. The medication can also treat fungal infections in fishes. Rid-Ich+ is recommended as the best treatment for Ich, (white spot disease). Efficacy is improved and the treatment time is often reduced when compared to treatment with either malachite or formalin alone. Additionally, the Rid-Ich+ formula utilizes the less common but also less toxic chloride salt of malachite green (this is the same salt used in Kordon's Malachite Green). The recommended treatment concentration of Rid-Ich+ should be approached with caution, carefully observing the reactions of the treated fishes and ceasing treatment if any undue stress is noted. Remember, when the first outward signs of Ich (scattered spots) are noticed, the fish is often quite heavily parasitized in the gills - lowering the fish's ability to withstand additional stress. The weaker the fishes' condition the poorer its response to any medication. Rid-Ich+ has been shown to be reasonably safe for use on fishes which normally cannot tolerate malachite green alone. Fishes such as the so-called "scale-less" species (loaches, catfish, etc.) tolerate Rid-Ich+ very well, but be sure to follow cautions noted earlier. Some Mormyrids (elephant noses) may be particularly sensitive and should not be treated with any medication containing malachite green, including Rid-Ich+. Rid-Ich+ will not interfere with biological filtration. The lowering of dissolved oxygen levels in treated water is often associated with the use of formalin or formalin-containing medications. The use of Rid-Ich+ allows a lower concentration of formalin to be utilized. This decreases the chances of lowering the dissolved oxygen; however, (as noted above) treated fishes should be carefully observed for any signs of respiratory distress. It should be noted that while increased temperatures will often shorten the life cycle of some disease-causing organisms, it will also cause a decrease in the dissolved oxygen levels of the water. Do not increase the temperature in tanks or ponds used for treatment, unless sufficient oxygen is assured.

General Diagnosis of Parasitic Diseases of Fishes

The following brief summary of clinical signs often associated with the parasitic protozoans discussed above is intended only as an aid for the beginning aquarist. It is not to be thought of as a definitive diagnostic key. It is also important that the aquarist consult appropriate, accurate references for more specific information regarding disease problems of fishes. In addition, if possible, skin and/or gill smears should be made and examined by a qualified fish diagnostician. Microscopic examination is recommended and is always essential for confirmation of a particular disease. In the clinical signs indicated below, a particular description may be followed by a specific disease causing organism in brackets. It should be understood that different clinical signs can be seen during the disease process and that these can occur as the result of more than one disease-causing organism.

Clinical Signs

Increased respiration; excessive skin mucus; loss of normal body color, scratching on the tank bottom or on objects; lethargic behavior; presence of discrete white spots (0.5-1.0 mm in diameter), randomly distributed on the body [Ich].

Specifications

Contains formaldehyde (11.52% formalin) U.S.P. grade 4.26% and premium quality zinc-free chloride salt of malachite green 0.038%. Made in the U.S.A.

Dosage

Use 1 teaspoon (approximately 5 ml) per 10 gallons of water. This produces a concentration of 15 ppm formalin and 0.05 ppm of malachite green. When used at the recommended concentration, 4 ounces of Rid-Ich will treat 240 gallons of water.



Mode of Action

Malachite green is believed to bind strongly with the internal cytoplasmic structure of disease causing organisms interfering in normal metabolism. Formalin is a powerful reducing agent which acts by denaturing cell proteins.

Rid-Ich+ is stable indefinitely in solution. It must be stored above 50° F (10° C) to prevent product precipitation. Do not freeze. Do not use Rid-Ich+, or any product containing formaldehyde that has been frozen. Keep tightly closed when not in use to prevent loss of formaldehyde.

Compatibilities

Kordon's Rid-Ich+ should not be used with any other medication. When used as directed, the product is safe for use in aerated aquaria and ponds or in recirculation systems utilizing biological filtration. NovAqua® can be used during or following treatment after a water change of 20-30 %.

Contraindications

This medication is not intended for use in the control of bacterial infections, flukes (monogenetic trematodes), or copepods. Rid-Ich+ is primarily for the control and treatment of diseases of freshwater and marine fishes caused by external protozoan and sporozoan parasites.

Toxicity

The Rid-Ich+ combination in this formulation is relatively non-toxic for fishes, but may not be tolerated by certain invertebrates, when used as directed. It may be used for the treatment of "scaleless" fishes. As with any medication, caution should be exercised whenever utilizing a chemical for the first time on a species of fish for which its tolerance is unknown. Always terminate treatments early (with partial water changes or filtration with granular activated carbon) if signs of undue stress occur. Do not treat fishes which cannot be directly observed during treatment. Be aware that some mormyrids (i.e. elephant noses) and freshwater stingrays may be adversely affected by Rid-Ich+. Rid-Ich+ is not recommended for use in aquariums containing invertebrates and may cause severe stress or death to certain of these animals. If Rid-Ich+ must be used in aquariums containing invertebrates, tests should be performed to determine a particular animals' tolerance to this medication.

Suggested Treatment Procedures

The following procedures are suggested for both freshwater and saltwater systems. It is important to note that activated carbon will remove the malachite green component of the formulation. Formalin can also be removed somewhat; however, the amount is insignificant.

Treatment of Freshwater and Saltwater External Parasites

The following procedure is applicable when treating the diseased fishes in their original aquarium or pond:

- (a) Remove any invertebrates you wish to save.
- (b) Remove carbon and clean outside filter. Replace with clean mechanical filter media, such as Kordon's Bio-Mech® , and return to use without the carbon.
- (c) Perform a partial water change of at least 25%. Repeat water changes before each re-treatment with Rid-Ich+.
- (d) Calculate the actual volume of water to be treated, taking into consideration the displacement of water by gravel, rock, and ornaments. (To calculate the aquarium's capacity measure its length, height and width in inches, multiply these dimensions together and divide the result by 232. Your answer will be the amount of water in gallons.)
- (e) Add 1 teaspoon of Rid-Ich+ per 10 gallons of water. This produces a concentration of 15 ppm of formalin and 0.05 ppm of malachite green.
- (f) Treatments may be repeated as often as every 6 hours (depending upon the severity of the particular disease and the tolerance of the diseased fishes). Treatment should be repeated no less than every 24 hours (see step c) and continued for at least 3 days beyond the disappearance of all sign of disease. Typical treatments of freshwater ich will be six to seven days long (meaning six to seven partial water changes followed by re-dosing of Rid-Ich+). The actual time necessary will depend upon the particular disease, the degree to which the fish are affected, and how early the disease is detected and appropriate treatment



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started. Note: Failure to properly diagnose a given disease and failure to start appropriate treatment early enough will often result in the death of some or all of the diseased fishes.

(g) After treatment, make a 40% water change. Add Kordon's NovAqua® and AmQuel® before replacing water in the tank.

Some situations may warrant the transfer of the affected fishes to a separate quarantine tank. If you elect to follow this procedure, the original aquarium or pond should remain devoid of any fishes for a period of not less than 4 days to insure that any remaining parasites have expired. Carefully inspect the fishes prior to returning them to the original aquarium or pond to insure that all signs of the infestation are gone.

Life Cycle of Ichthyophthiriasis ("Ich")

Ich has several stages in its life cycle, of which only one stage, the tomites, is vulnerable to treatment. The maturing stage of Ich is the white spots seen on the fish's skin, which are technically called trophozoite cysts. This is the only stage that can be readily observed. When mature, the trophozoites become trophonts, leave the fish, and each produce 200 to 1,000 minute "swarmers", which are released into the water to become motile infecting tomites; these tomites must find a host within 2-3 days or die. It is during this time that Rid-Ich+ is effective in treatment. At a water temperature of about 75° F (24° C), the complete life cycle is usually a week or less in duration; in colder water the cycle becomes longer.