



NOVALEK, INC.

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PRODUCT DATA SHEET

Formalin-3®

Controls diseases caused by external parasites

PRODUCT DESCRIPTION:

Formalin-3 is a convenient, pre-diluted form of formalin (37% formaldehyde solution) and is scientifically recognized as an effective medication for the treatment and control of the diseases caused by fungi, protozoans and monogenetic trematodes of freshwater and marine aquarium fishes. Formalin-3 will control or prevent diseases of fishes caused by the following disease organisms: Ichthyophthirius (freshwater "ich"), Costia, Chilodonella, Ambiphyra, Cryptocaryon (saltwater "ich"), Epistylis, Oodinium, Amyloodinium, and Trichodina. Formalin-3 is also effective against the common external fungal infections of fishes and their eggs caused by Achlya and Saprolegnia. Extensive literature exists which supports these disease treatment claims, as well as its use in the control of certain external bacterial infections.

GENERAL DIAGNOSIS OF PARASITIC DISEASES OF FISHES

The following is a brief summary of the clinical signs often associated with the diseases mentioned above; it is intended only as an aid for the beginning aquarist, and is not to be considered a definitive diagnostic key. It is important that the aquarist consult appropriate references for more specific information regarding aquarium fish diseases. If possible, skin and/or gill smears should be made and examined by a qualified aquarium fish disease diagnostician. Microscopic examination is recommended and is always essential for confirmation of a particular disease. For the clinical signs indicated below, a particular description may be followed by a specific causative agent or disease in brackets. This indicates that there is high probability that the cause of the particular disease is the indicated agent. It should be understood that different clinical signs can be exhibited by fishes during the course of a given disease and that these can occur not only as a result of the age, sex and species of the fishes affected, but also may be the result of more than one causative agent.

CLINICAL SIGNS

Increased respiration; loss of normal body color; presence of discrete white spots (freshwater or saltwater "ich"); white areas on the body with circumscribed, reddish perimeter (Epistylis and/or bacterial infection); scratching on tank bottom or objects, lethargy, white cottony tufts or strands on body (fungus); dust-like, "peppered", yellowish spots on body surface (Oodinium); whitish skin slime or filmy body covering or patches (columnaris disease); disintegrating fins or fin edges (fin rot); mouth "fungus" (bacterial infection); pustules, furuncles or ulcers. For more details on fresh water "ich", click here : [THE LIFE CYCLE OF ICH](#)

SPECIFICATIONS

Contains formaldehyde, less than 3% by weight derived from fisheries grade (CFC) formalin, in an aqueous solution. Made in the U.S.A.

Dosage: Use 1 teaspoon (approximately 5 ml) per 10 gallons of water for most treatments to achieve a concentration of 10 ppm. Formalin-3 may be used at twice the usual dosage, or 2 teaspoons per 10 gallons (see "Toxicity" and suggested "Treatment Procedures" for qualifying information). At the rate of 1 teaspoon per 10 gallons, 4 ounces of Formalin-3 will treat 240 gallons of water.

MODE OF ACTION

The active ingredient, formaldehyde, reacts strongly with both external and internal cellular protein to denature it. This action kills the causative disease agent.

CONTRAINDICATIONS

Formalin-3 is similar to standard formalin in that its use may cause hypoxia in fishes due to the reduction of dissolved oxygen in aquarium water. This condition will be most noticeable, and more likely to occur, when the conditions of the aquarium water being treated are initially poor (i.e., high in dissolved organics and low in dissolved oxygen). Partial water changes prior to the use of Formalin-3 will help insure that dissolved oxygen levels will not be seriously affected. Formalin-3 may not be safe for use with invertebrates. Not recommended for treatment of systemic bacterial infections.



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Generally, fishes under stressful conditions can tolerate as much formaldehyde as they can in the absence of stress. Heavily parasitized fishes must be treated with caution, and if signs of stress increase (piping or gulping at the surface, heavy coughing, head or body jerking, or sudden unprovoked darting about) an immediate, partial (minimum of 25%) water change must be performed.

Treating with Formalin-3 immediately following feeding should not be done due to the higher oxygen requirements of the metabolizing fishes.

STABILITY

Formalin-3 is stable indefinitely if proper storage requirements are observed: keep closed when not in use, store at room temperature (above 60° F and below 100° F), do not store in direct sunlight. **Do not freeze**.

COMPATIBILITIES

Formalin-3 is compatible with Kordon's Malachite Green. While compatible with Methylene Blue, Copper-Tru®, Acriflavine and Chelated Copper Solution, such combinations are not recommended. In addition Formalin-3 is compatible with AmQuel®.

TOXICITIES

The toxicity of formaldehyde varies with the number of factors including species, age, size, and sex. Prevailing water conditions in the aquarium should also be considered (see "Contraindications"). Caution must be exercised when using this product at dosages higher than 20 ppm (2 teaspoons per 10- gallons) for long-term baths, and 200 ppm (2 teaspoons per 1 gallon) for short-term dips. Consult the scientific literature for additional information or treatments.

Toxicity of formaldehyde increases with an increase in the aquarium water temperature. Treatment in tropical aquaria (whether freshwater or marine) generally requires treatment at the lower concentration (20 ppm).

There are differences between the toxicities of formaldehyde in soft water and hard water, but these differences are of no great importance in aquariums. Formaldehyde toxicity is not affected by salinity differences in marine aquaria. Also pH differences do not appear to affect the toxicity of formaldehyde. Freezing or the storing of Formalin-3 (or any product containing formaldehyde) at temperatures below 50° F may cause the formation of paraformaldehyde, a potentially toxic substance.

SUGGESTED TREATMENT PROCEDURES

The following procedures are suggested for both freshwater and marine systems, unless otherwise noted. It is important to note that some activated carbons can remove formaldehyde from water, but formaldehyde persists for only a few hours in aquariums and does not accumulate in the water.



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SUCCESSFUL DISEASE TREATMENT

Successful treatment of diseases of aquarium fishes relies upon several factors. Firstly, as discussed above ("General Diagnosis of parasitic Diseases of Fishes"), a proper diagnosis of the disease must be made, and this can be one of the most difficult tasks facing an aquarist.

Secondly, the start and duration of a treatment is important. A disease which will usually respond to a given medication may not respond if the treatment is started too late, or if the length of treatment is not long enough.

Lastly, the correct medication at the correct dosage must be used with the proper treatment method. Formalin-3, for instance, will not be effective against systemic (internal) diseases of aquarium fishes because the therapeutic effects of the formaldehyde are restricted to those surfaces of the fishes that contact the treated water.

Water changes are another important factor. Some medications state that water changes are not necessary, but the fact is that water changes are always helpful. Depleted dissolved oxygen levels are replenished, dissolved organics are removed as are free-living disease organisms.

Treatment in a separate treatment or hospital tank, if possible, is also important. However, this is often a nuisance and in many cases the entire aquarium population is diseased.

TREATMENT OF FUNGAL AND PROTOZOAL DISEASES OF FISH (LONG-TERM BATH)

- (a) Since there is conflicting evidence regarding the safety of formaldehyde to biological (nitrifying) filtration, all long-term bath treatments with Formalin-3 may (at the user's discretion) be done in a separate hospital or treatment tank.
- (b) Remove granular activated carbon from all filters used on the treatment tank; clean or change the mechanical filter media (i.e., filter floss), and return the filter(s) to service (minus the carbon).
- (c) Make a partial water change of approximately 25%
- (d) Depending upon the condition of the fishes needing treatment (i.e., the severity of the disease, involvement of the gills and the degree of debilitation), the dosage should be varied from 1 to 2 teaspoons per 10 gallons (10 to 20 ppm.) Severely diseased or debilitated fishes should be treated at the lower dosage.
- (e) The treatment may be repeated every 24 hours, by repeating all of the above steps, including the required water changes.
- (f) The dosage may be increased as the condition of the fishes being treated improves.
- (g) If the fishes were removed to a separate tank, the original aquarium or pond should remain devoid of all fishes for a period of at least 4 days to insure all of the remaining infestation has expired.

METHOD 2 (DIP) FOR THE PREVENTION OR TREATMENT OF FISH DISEASES

- (a) To a clean, non-metallic container (i.e., a plastic bucket), add one or more gallons of fresh tap water treated with Kordon's AmQuel. For marine fish use freshly prepared saltwater adjusted to the same specific gravity (or salinity) as in the original tank. Make sure the temperature in the container is identical to that in the aquarium.
- (b) Add 1 to 2 teaspoons of Formalin-3. This produces a concentration of 100 to 200 ppm. formaldehyde.
- (c) Agitate the solution with an airstone and adjust for a moderately strong flow of air.
- (d) Remove the fishes to be treated and deposit them in the container for a treatment period of not more than 50 minutes. Immediately after the treatment period, or if signs of distress are noted, remove the fishes to a previously prepared recovery tank. The fishes may be returned to their original tank, but the presence of the original disease-causing agents in the tank water may result in a reoccurrence of the disease condition.
- (e) Observe recovering fishes. Make sure that tankmates do not molest them during recovery.
- (f) Repeat treatment as needed, every week. Each treatment is very stressful to the treated fishes. Do not reuse the dip solution.

METHOD 2 (DIP) FOR FISH EGGS

- (a) Proceed as above for fishes, but collect the eggs in a net or grasp the object on which the eggs are attached and dip them for not more than 10 seconds.
- (b) Immediately return the eggs into the original hatchery tank.
- (c) Do not repeat the treatment, and do not reuse the dip solution.