AmQuel+® #AM16P

plus

Instant Water Detoxifier

Liquids (see also Kordon Division Reference Guide for further information)
Item No. 33411-1oz; 33444-4oz; 33448-8oz; 33456-16oz; 33461-1gallon; 33475-5 gallon

Dry Powder (see AquaVet Division)
Pure dry powdered AmQuel+ is available in 1 kg, 5 kg, and 25 kg packaging for bulk professional and commercial use.

Use AmQuel+ for water changes, overcrowded aquariums and ponds, the control of toxic nitrogen compounds commonly found in water while the nitrogen cycle is established., as well as afterwards as nitrogen compounds accumulate in the aquarium and pond water.

PURPOSE AND BENEFITS
AmQuel+ is the latest development in state-of-the-art water conditioning technology and is the next step beyond what the original AmQuel product does. In the section in Kordon Product Data Sheet KPD-80 "About Conditioners" find "Comparison between Amquel and AmQuel+" to see the similarities and differences. AmQuel+ has several fundamental purposes and benefits.

1. Its purpose in treating tap water when water is added or water changes are made is to detoxify chlorine and chloramines and its components (chlorine and ammonia) and to make the water safe for aquatic life free of these lethal toxins. (see in KPD-80 "About Conditioners" the section on "Problems When Using Water Conditioners...".

2. A primary purpose in aquariums and ponds is to protect aquarium and pond fishes and invertebrates by quickly eliminating (actually detoxifying) the harmful components of the biological nitrogen cycle - ammonia, nitrites, and nitrates without slowing the nitrogen cycle (see KPD-64 "Biological Filtration"), or interfering with the beneficial bacteria involved, or depriving these bacteria of their food.

3. Also, in overcrowded aquariums and ponds where waste products from the fishes, etc., quickly collect, it can rapidly detoxify toxic organics.

4. Another purpose is to detoxify organic compounds that accumulate in the aquarium and pond water over time, including noxious pheromones released by fish and aquatic invertebrates to signal and repel each other. This is specially important for reducing the frequency of needed water changes. Many larger freshwater and saltwater aquarium fishes release pheromones to establish territoriality and repel other fishes. This is particularly true in fresh water for cichlids and plectognath fishes (triggers, filefish, puffers, boxfish) in salt water.

Among AmQuel+ benefits are that it is easy to use and equally effective in fresh and salt water, and it does not affect the beneficial bacteria of the biological nitrogen cycle. AmQuel+ is compatible with all water conditioners and all Kordon medications and other medications on which it has been tested, and with all aquatic life - including live rock and reef tank inhabitants. Other benefits are that AmQuel+ does not affect pH (acidity and alkalinity), and does not discolor the water. AmQuel+ has a long indefinite shelf life expected to be many years.

Note: Amquel+ has an acerbic odor, but does not affect aquatic life, and the odor quickly disappears in use.

AMQUEL+ - HOW IT WORKS

See KPD-58 for how Kordon's AmQuel - the original ammonia remover - works. AmQuel+ is similar in its actions, but with a different formula, and will be described in greater detail when the patents pending are approved.

SPECIFICATIONS

Patents are pending for the formula and it is not available until the patents are approved.

DOSAGE WITH LIQUID AMQUEL+ PRODUCTS

For control of chlorine alone in public water supplies (e.g, tap water) add one teaspoon (5 ml) per 100 gallons of fresh or salt water to remove in excess of what is in public water supplies (public water supplies have less than 3 ppm chlorine).

For all other purposes use measurements in proportion to a "Standard Dose" of AmQuel+, which is one teaspoon (5 ml) per 10 gallons of fresh or salt water, or one liquid ounce (25 ml) per 60 gallons of water, or one cup (8 liquid ounces = 200 ml)) per 480 gallons of water, or one pint (16 liquid ounces = 400 ml) per 960 gallons of water. For other measurements estimate the amounts needed, such as 1/4 teaspoon for 2.5 gallons of water, etc.

To remove chloramines (chlorine and ammonia combined) out of the tap from public water supplies add one Standard Dose (see definition above) to the water to break the bond between the chlorine and ammonia, to remove all the chlorine, and to remove all ammonia that may be in public water supplies. Only one dose is needed for removing all chloramines and their components from public water supplies.

To control the toxic organic nitrogenous compounds of ammonia, nitrite, and nitrate and other toxic organics that build up in aquariums and ponds from the excretion of body wastes by fishes, invertebrates, bacteria and other aquatic organisms start with a Standard Dose (see definition above). This Standard Dose will remove (detoxify) at least 1.2 mg/L (= approx.1,2 ppm) of all ammonia compounds, at least 2.0 mg/L (=2.0 ppm) of nitrites, and at least 13 mg/L (=13 ppm) of nitrates. **We recommend only one standard dose per 24 hour period.** The removal of these compounds will happen within five minutes, or slightly longer for ammonia at a higher pH above 7.5. It is important to understand that the amounts of organic compounds removed may vary with differing water conditions. The amounts indicated above are the minimums that AmQuel will detoxify, and what is removed may be up to several times higher. Use accurate test kits to check how much of each compound is being removed when using multiple doses (see the section in KPD-80 on "Water Quality Test Kits" under "Problems When Using Water Conditioners..."). Be aware that test strips may be insufficient to provide accurate readings; check liquid and powder reagents to be sure that they are not out-of-date.

STABILITY

So far as is known for this new formulation, AmQuel+ is stable indefinitely when stored in a cool, dark area away from heat and direct sunlight. Amquel+ should be kept tightly closed when not in use.

COMPATIBILITIES

AmQuel+ is harmless to plants, fishes, invertebrates, and other aquatic life forms. This product is safe for use in aquariums and ponds and will not interfere with biological filtration or its bacteria. When AmQuel+ detoxifies ammonia, nitrite, nitrate and other organic compounds, it breaks the links of molecules apart. The bacteria do not know the difference and eat the parts, just as they would the whole

original compounds. AmQuel+ may affect the dyes in certain types of cotton fabrics. This happens for the same reason that Ammonia test kits using the Nessler reagents do not work with AmQuel or AmQuel+. These products reduce the coloring agents used in the Nessler reaction test kits, and apparently in a very small selection of cotton based fabrics.

CONTRAINDICATIONS

AmQuel+ should not be added to water containing active, therapeutic dosages of chemical dyes such as methylene blue, acriflavine, malachite green, and potassium permanganate, since AmQuel+ will interfere with their proper performance. Combining Amquel+ with these dyes will not result in toxic chemical by-products. AmQuel+ can be useful in those instances when it is desirable to terminate a treatment with a chemical dye. This is particularly useful with potassium permanganate because Amquel+ (and AmQuel) removes the coloring in the water instantly.

AmQuel+ is compatible to use with all water quality test kits except for the ammonia test kit that uses Nessler reagents that read in shades of amber or yellow, and the oxygen test kit that uses Winkler reagents. Residual AmQuel+ and its reaction products are incompatible with the Nessler-and Winkler type reagents, resulting in false, high ammonia and low oxygen concentration readings. Ammonia test kits using salicylate-type reagents are appropriate for accurate test results. Excellent examples of high quality salicylate test kits with technical grade reagents are Kordon's AquaTru Test Kit #35970 for salt water and #35980 for fresh water. Any oxygen test kit other than those using Winkler's method is compatible with AmQuel+. For further information on the effects on medications and test kits see in KPD-80 "Problems When Using Water Conditioners...".

TOXICITY

Amquel+ is non-toxic when used as directed. Many hundreds of kinds of freshwater and marine fishes, aquatic invertebrates and plants have been exposed to multiple full doses of Amquel during extended test periods and general use with no toxic effects. Amquel+ does not reach toxic levels even in cases of accidental or purposeful overdosing. AmQuel+ is non-toxic to humans and no special precautions are necessary in handling this product.

PURE DRY AMQUEL+

AmQuel+ is available in bulk pure dry form for commercial and professional use. See the section on AquaVet for listings and further information.

DIRECTIONS FOR USE

As a general rule, when using tap water in which chlorine and chloramines are present, but not nitrites, nitrates or other organics -- then it is safe to use the less expensive AmQuel. If there is the possibility of nitrites, nitrates and other organics being involved, then Amquel+ is recommended.

AQUARIUMS AND PONDS

Add AmQuel+ to the water at the recommended dosages as described above. Since AmQuel+ rapidly spreads through the water, no special agitation is needed. As described in KPD-80 under "Which Water Conditioner Should be Used for What..." not all the conditioning needed for water is done by Amquel+ or any one other single water conditioner. When new water is added, usually Amquel+ should be used with Kordon's NovAqua (see KPD-41), as explained in KPD-80 under "Which Water Conditioner Should Be Used for What". It is recommended that both be used to fully condition new water, such as out of the tap from public water suppliers.

FISH AND INVERTEBRATE SHIPPING AND HOLDING AmQuel or AmQuel+ and NovAqua should be added to tap water used for short-term shipping fish and invertebrates. For long-term shipping

of more than one day AmQuel+ should be used with NovAqua, because of the build up of toxic organics from excretion. If the fish are crowded or prone to bump into or abrade each other, PolyAqua (see KPD-32) should be added as well to both the shipping water and the aquarium or holding tank after shipments are received.. NovAqua and AmQuel, when used together, will reduce stress, osmotic and pH shock, probability of infection, and neutralize ammonia, chloramines, chlorine and heavy metals. When Amquel+ is used with NovAqua it increases the protection by neutralizing nitrites, nitrates, and other organics. PolyAqua should be used to handle abrasions, bruises, and frayed fins of fishes.

FISH AND INVERTEBRATE FIELD COLLECTIONS

When using water from natural conditions for field collecting, the use of AmQuel or Amquel+ in holding and shipping water will reduce stress in fishes and invertebrates due to ammonia intoxication. If fish will be held for days in containers, AmQuel+ should be used, because it will remove (detoxify) nitrites and nitrates as well. In addition, PolyAqua should be used in holding and shipping water for optimum protection against abrasions, bruises, and frayed fins in fishes.

Many often asked questions common to all the Kordon Water Conditioners are addressed in the section titled About Water Conditioners, KPD-80

The following is a list of the topics covered:

A Comparison Between AmQuel and AmQuel+
Which Water Conditioner Should be Used for What in Aquarium and Pond Keeping
Which Water Conditioners To Use For New Aquariums and Ponds
Which Water Conditioners To Use For Water Changes
Which Water Conditioners To Use For Eliminating Ammonia, Nitrites, and Nitrates
Which Water Conditioners To Use For Aged Aquariums and Ponds
Which Water Conditioners To Use For New Fish Introductions
Which Water Conditioners To Use For Fish With Frayed Fins and Bruises
What About Rumors That Some Water Conditioners Are Toxic
What About Rumors That Certain Water Conditioners Are Ineffective and Only Mask Test Kit Readings Without Removing What They Are Supposed to Remove
What About Adding Salt To Freshwater Aquariums and Ponds To Prevent Fish Diseases
Problems When Using Water Conditioners
Public (Municipal and Regional) Water Supplies
What is Toxic in Tap Water
What are the Main Problems to Overcome When Using or Adding Tap Water
The Use of Water Quality Tests And Test Kits
Test Strips
Chemical Reagents and Colorimetric Readings
Electronic Meters
Analytical Radiometers
Spectrophotometers
The Effects of Medications on Water Conditioners And Vice Versa
The Proper Way To Use Water Clarifiers