SAFETY AND BUILDINGS DIVISION
Plumbing Product Review
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Wisconsin
Department of Commerce

Jim Doyle, Governor
Cory L. Nettles, Secretary

October 14, 2004

VORTECH INTERNATIONAL
SJO-2154
THOMAS F. NEAL
1601 NW 97TH AVE
PO BOX 025216
MIAMI FL 33102-5216

ECOQUEST INTERNATIONAL
RICHARD MOYERS
310 T.ELMER COX DR
GREENVILLE TN 37743

Re: Description: WATER TREATMENT DEVICE-ACTIVATED CARBON
Manufacturer: ECOQUEST INTERNATIONAL
Product Name: LIVING WATER II AND LIVING WATER III SERIES
Model Number(s): LWIIs CT AND LWIIs UC BOTH USING THE US 50704 CARTRIDGE, AND, LWIIIs CT AND LWIIIs UC BOTH USING THE US 50704 AND 50705 CARTRIDGES
Product File No: 20040518

The specifications and/or plans for this plumbing product have been reviewed and determined to be in compliance with chapters Comm 82 through 84, Wisconsin Administrative Code, and Chapters 145 and 160, Wisconsin Statutes.

The Department hereby issues an approval based on the Wisconsin Statutes and the Wisconsin Administrative Code. This approval is valid until the end of October 2009.

This approval is contingent upon compliance with the following stipulation(s):

- This product has undergone sufficient testing to document the product's ability to reduce only those contaminants and/or substances as specified in this approval letter when the product is installed and maintained in strict accordance with the manufacturers published instructions.

- For buildings not served by a municipal water supply, Department of Natural Resources (DNR) written approval may be required prior to installation of this product in a water supply system to reduce the concentration of a contaminant that exceeds the primary drinking water standards contained in ch. NR 809, Wis. Admin. Code, the enforcement standards contained in ch. NR 140, Wis. Admin. Code, or for a water supply system that is subject to a written advisory opinion by the DNR. For more information contact the DNR Section of Private Water Systems, P.O. Box 7921, Madison, WI 53707, telephone (608) 266-3415.

- If these approved devices are modified or additional assertions of function or performance are made, then this approval shall be considered null and void, unless the change is submitted to the department for review and the approval is reaffirmed.

- Any promotional materials (written, audio or video presentations) generated for use with these devices, by Vortech International or any of it's authorized distributors, must be submitted for review and approval by this department prior to distribution in Wisconsin.

- This device is not approved for the disinfection of microbiologically unsafe water. This device is approved for the supplemental treatment of treated and disinfected public drinking water or other drinking water that has been tested and deemed acceptable for human consumption by the state or local health agency having jurisdiction. This device is approved for the reduction of naturally occurring nonpathogenic or nuisance microorganisms only.

Based on testing data submitted to and reviewed by the department, this approval recognizes that these plumbing products will reduce the concentration of contaminants as specified on pages 1 through 3 of this letter.

AESTHETIC CONTAMINANT REDUCTION CAPABILITIES
PRODUCT FILE NUMBER 20040518
TABLE 1 OF 4

Flow Rate: 1.9 liters per minute (lpm) [0.5 gallon per minute (gpm)]
Capacity: 3,785 liters (l) [1,000 gallons (gals.)]

Tested Contaminant	Influent Challenge (mg/l)*, [1]
Chlorine (free)	2.0 ± 10%
Particulates (0.5 to < 1.0 μm)	1.0×10^4 #/ml

Other Conditions: the contaminant reduction performance capabilities displayed for Table 1 of 3 were verified by testing conducted in accordance with NSF *International* Standard 42. To qualify for free chlorine reduction, the device must reduce the influent challenge concentrations by ≥ 50%. To qualify for particulate reduction (Class I), the device must reduce the influent challenge concentrations by ≥ 85%.

1 = milligrams per liter (mg/l) are equivalent to parts per million (ppm)
#/ml = particles per milliliter**<** = less than
μm = micrometers
***** = unless otherwise specified
≥ = greater than or equal to
± = plus or minus

HEALTH EFFECTING INORGANIC CONTAMINANT REDUCTION CAPABILITIES
PRODUCT FILE NUMBER 20040518
TABLE 2 OF 4

Flow Rate: 1.9 liters per minute (lpm) [0.5 gallon per minute (gpm)]
Capacity: 3,785 liters (l) [1,000 gallons (gals.)]

Tested Contaminant	Influent Challenge Concentration (mg/l)[1]
Lead (Pb^{+2}) [2]	0.15 ± 10%

Other Conditions: the contaminant reduction performance capabilities displayed for Table 2 of 4 were verified by testing conducted in accordance with NSF *International* Standard 53. To qualify for lead reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 0.010 mg/l.

1 = milligrams per liter (mg/l) are equivalent to parts per million (ppm)
≤ = less than or equal to
2 = metals are tested at pH 6.5 and pH 8.5
± = plus or minus

HEALTH EFFECTING BIOLOGICAL CONTAMINANT REDUCTION CAPABILITIES
PRODUCT FILE NUMBER 20040518
TABLE 3 OF 4

Flow Rate: 1.9 liters per minute (lpm) [0.5 gallon per minute (gpm)]
Capacity: dependent on the type and quantity of particulate matter present in the influent water; the need for maintenance may be indicated by a significant decrease in flow rate.

Tested Contaminant	Influent Challenge (#/ml)
Cysts/Oocysts[1]	≥ 5.0×10^4

Other Conditions: the contaminant reduction performance capabilities displayed for Table 3 of 4 were verified by testing conducted in accordance with NSF *International* Standard 53. To qualify for cyst/oocyst reduction, the device must reduce the influent challenge concentrations by ≥ 99.95% at each sample point.

1 = the specific organisms covered under this testing protocol include cryptosporidium parvum, entamoeba histolytica, giardia lamblia and toxoplasma gondii
#/ml = particles per milliliter
≥ = greater than or equal to

BIOLOGICAL CONTAMINANT REDUCTION CAPABILITIES
PRODUCT FILE NUMBER 20040518
TABLE 4 OF 4

Flow Rate: 1.9 liters per minute (lpm) [0.5 gallon per minute (gpm)]
Lamp maintenance interval: two years, or when the lamp fails to illuminate, whichever occurs first

Tested Contaminant	Influent Challenge (cells/ml)
Saccharomyces cerevisiae	1.0×10^4 to 1.0×10^5

Other Conditions: the contaminant reduction performance capabilities displayed for Table 4 of 4 were verified by testing conducted in accordance with NSF *International* Standard 55. To qualify for Class B microbial reduction performance the device must provide a UV dose equivalent to 16 mJ at 70% of the UV lamps normal output or at the failsafe set point as determined by the inactivation of S. cerevisiae of known UV sensitivity.

These devices are approved for supplemental bactericidal treatment of treated and disinfected public drinking water or other drinking water that has been tested and deemed acceptable for human consumption by the state or local health agency having jurisdiction. Further, these devices are approved for the reduction of naturally occurring nonpathogenic or nuisance organisms only.

These systems are not approved for the disinfection of microbiologically unsafe water.

cells/ml = cells per milliliter
≥ = greater than or equal to
mJ = millijoules
UV = ultra violet

This device was tested under controlled laboratory, or field, conditions. The actual performance of this device for a specific end use installation will vary from the tested conditions based on local factors such as water pressure, water temperature and water chemistry.

The department is in no way endorsing this product or any advertising, and is not responsible for any situation that may result from its use.

Sincerely,

Glen W. Schlueter
Engineering Consultant-Plumbing Product Reviewer
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Safety and Buildings Division
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