SAFETY AND BUILDINGS DIVISION
Plumbing Product Review
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Wisconsin
Department of Commerce

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July 29, 2004

CUNO/WATER FACTORY
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WHIRLPOOL CORPORATION
THOMAS GUTMAN
PO BOX 765
MERIDEN CT 06450

Re: Description: WATER TREATMENT DEVICE-ACTIVATED CARBON
Manufacturer: WHIRLPOOL CORPORATION
Product Name: WHIRLPOOL GOLD ULTRAEASE IN-LINE REFRIGERATOR FILTRATION SYSTEM
Model Number(s): WHCF-IMPLUS USING THE WHCF-R-PLUS CARTRIDGE
Product File No: 20040335

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 July 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 this approved device is 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.

Based on testing data submitted to and reviewed by the department, this approval recognizes that this plumbing product will reduce the concentration of contaminants as specified on pages 1 through 4 of this letter.

AESTHETIC CONTAMINANT REDUCTION CAPABILITIES
PRODUCT FILE NUMBER 20040335
TABLE 1 OF 4

Flow Rate: 1.9 liters per minute (lpm) [0.5 gallon per minute (gpm)]
Capacity: 909 liters (l) [240 gallons (gals.)] for free chlorine reduction. For particulate reduction the capacity is dependent on the type and quantity of particulate matter present in the untreated water; the need for maintenance may be indicated be a significant decrease in flow rate.

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 4 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%; meeting the free chlorine reduction requirements also qualifies the device for the reduction of aesthetic, organic, taste and odor reduction (e.g. geosmin, methylisoborneol); this does not include hydrogen sulfide. 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)
≥ = greater than or equal to
± = plus or minus
#/ml = particles per milliliter
< = less than
μm = micrometers
***** = unless otherwise specified

HEALTH EFFECTING INORGANIC CONTAMINANT REDUCTION CAPABILITIES
PRODUCT FILE NUMBER 20040335
TABLE 2 OF 4

Flow Rate: 1.9 liters per minute (lpm) [0.5 gallon per minute (gpm)]
Capacity: 909 liters (l) [240 gallons (gals.)] for lead and mercury reduction. For asbestos reduction, the capacity is dependent on the type and quantity of particulate matter present in the untreated water; the need for maintenance may be indicated be a significant decrease in flow rate.

Tested Contaminant	Influent Challenge Concentration (mg/l*)[1]
Asbestos fibers (> 10 μm in length)	1.0×10^7 to 1.0×10^8 F/l
Lead (Pb^{+2}) [2]	0.15 ± 10%
Mercury (Hg^{+2}) [2]	0.006 ± 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 asbestos reduction, the device must reduce the influent challenge concentrations by ≥ 99%. To qualify for lead reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 0.010 mg/l. To qualify for mercury reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 0.002 mg/l.

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

HEALTH EFFECTING ORGANIC CONTAMINANT REDUCTION CAPABILITIES
PRODUCT FILE NUMBER 20040335
TABLE 3 OF 4

Flow Rate: 1.9 liters per minute (lpm) [0.5 gallon per minute (gpm)]
Capacity: 909 liters (l) [240 gallons (gals.)]

Tested Contaminant	Influent Challenge (μg/l)[1]
Atrazine	9.0 ± 10%
Benzene	15.0 ± 10%
2,4-D	210 ± 10%
p-Dichlorobenzene	225 ± 10%
Toxaphene	15.0 ± 10%

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 atrazine reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 3.0 μg/l. To qualify for benzene reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 5.0 μg/l. To qualify for 2,4-D reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 70 μg/l. To qualify for p-dichlorobenzene reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 75 μg/l. To qualify for toxaphene reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 3.0 μg/l.

1 = micrograms per liter (μg/l) are equivalent to parts per billion (ppb) **±** = plus or minus
≤ = less than or equal to

HEALTH EFFECTING BIOLOGICAL CONTAMINANT REDUCTION CAPABILITIES
PRODUCT FILE NUMBER 20040335
TABLE 4 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 4 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
≥ = greater than or equal to
#/ml = particles per milliliter

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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GWS:gws