SAFETY AND BUILDINGS DIVISION
Plumbing Product Review
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Wisconsin
Department of Commerce

Jim Doyle, Governor
Mary P. Burke, Secretary

July 25, 2006

CUNO INCORPORATED
JEFFREY J. GLEN
400 RESEARCH PKWY
MERIDEN CT 06450

Re: Description: WATER TREATMENT DEVICE-ACTIVATED CARBON
Manufacturer: CUNO INCORPORATED
Product Name: PENTAPURE
Model Number(s): UKF9001AXX-100 USING THE UKF9001AXX CARTRIDGE
Product File No: 20060177

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 2011.

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.

- Where the Department of Natural Resources (DNR) has jurisdiction, a 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.

- These devices will only reduce the concentration of volatile organic chemicals at water outlets that are served by the devices. There are dermal (skin) absorption and inhalation exposure risks associated with volatile organic chemicals. Therefore, using point-of-use devices such as these will not protect all routes of potential exposure. Potentially hazardous exposures to volatile organic chemicals will remain possible at unprotected outlets, particularly hot water outlets (e.g. bathing, showering, clothes washing or dish washing).

  If, by way of reputable water analyses, a water supply is known to contain unsafe levels of volatile organic chemicals, then all the water entering the residence must be treated at the point-of-entry using an approved water treatment device to address all potential routes of exposure.

- These devices will only reduce the concentration of cysts/oocysts at water outlets that are served by the devices. Therefore, using point-of-use devices such as these will not protect all routes of potential exposure. Potentially hazardous exposures to cysts/oocysts will remain possible at unprotected outlets.

  The presence of cysts/oocysts strongly suggests that other pathogens (e.g. bacteria, virus) may also be present.

  If, by way of reputable water analyses, a water supply is known to contain cysts/oocysts, then all the water entering the residence must be treated at the point-of-entry, using an approved water treatment device, to address all potential routes of exposure thereby providing a biologically safe water supply.

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 5 of this letter.

HEALTH EFFECTING ORGANIC CONTAMINANT REDUCTION CAPABILITIES
PRODUCT FILE NUMBER 20060177
TABLE 1 OF 4

Flow Rate: 3.0 liters per minute (lpm) [0.8 gallon per minute (gpm)]
Capacity: 379 liters (l) [100 gallons (gals.)]

Tested Contaminant	Influent Challenge (μg/l) [1]
Alachlor	50
Atrazine	100
Benzene	81
Carbofuran	190
Carbon tetrachloride	78
Chlorobenzene	77
Chloropicrin	15
2,4-D	110
Dibromochloropropane (DBCP)	52
o-Dichlorobenzene	80
p-Dichlorobenzene	40
1,2-Dichloroethane	88
1,1-Dichloroethylene	83
cis-1,2-Dichloroethylene	170
trans-1,2-Dichloroethylene	86
1,2-Dichloropropane	80
cis-1,3-Dichloropropylene	79
Dinoseb	170
Endrin	53
Ethylbenzene	88
Ethylene dibromide (EDB)	44
Haloacetonitriles (HAN):	-
Bromochloroacetonitrile	22
Dibromoacetonitrile	24
Dichloroacetonitrile	9.6
Trichloroacetonitrile	15
Haloketones (HK):	-
1,1-Dichloro-2-propanone	7.2
1,1,1-Trichloro-2-propanone	8.2
Heptachlor (H-34, HEPTOX)	80
Heptachlor epoxide	10.7

(table 1 of 4, continued from previous page)

HEALTH EFFECTING ORGANIC CONTAMINANT REDUCTION CAPABILITIES
PRODUCT FILE NUMBER 20060177
TABLE 1 OF 4 (continued)

Flow Rate: 3.0 liters per minute (lpm) [0.8 gallon per minute (gpm)]
Capacity: 379 liters (l) [100 gallons (gals.)]

Tested Contaminant	Influent Challenge (μg/l) [1]
Hexachlorobutadiene	44
Hexachlorocyclopentadiene	60
Lindane	55
Methoxychlor	50
Methyl *tert*-butyl ether♦	15 ± 20%
Pentachlorophenol	96
Simazine	120
Styrene	150
1,1,2,2-Tetrachloroethane	81
Tetrachloroethylene	81
Toluene	78
Toxaphene♦	15 ± 10%
2,4,5-TP (silvex)	270
Tribromoacetic acid	42
1,2,4-Trichlorobenzene	160
1,1,1-Trichloroethane	84
1,1,2-Trichloroethane	150
Trichloroethylene	180
Trihalomethanes **(chloroform surrogate)**	300
Xylenes (total)	70

Other Conditions: the contaminant reduction performance capabilities displayed for Table 1 of 4 were verified by testing conducted in accordance with NSF *International* Standard 53. To qualify for the reduction of the organic contaminants listed above, the device must reduce the influent challenge concentration of chloroform at 300 μg/L ± 10% at each sample point by a minimum of 95%. To qualify for MtBE reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 5.0 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
♦ = tested independently of the chloroform surrogate

HEALTH EFFECTING INORGANIC CONTAMINANT REDUCTION CAPABILITIES
PRODUCT FILE NUMBER 20060177
TABLE 2 OF 4

Flow Rate: 3.0 liters per minute (lpm) [0.8 gallon per minute (gpm)]
Capacity: 379 liters (l) [100 gallons (gals.)]

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%

Other Conditions: the contaminant reduction performance capabilities displayed for Table 1 of 3 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.

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

HEALTH EFFECTING BIOLOGICAL CONTAMINANT REDUCTION CAPABILITIES
PRODUCT FILE NUMBER 20060177
TABLE 3 OF 4

Flow Rate: 3.0 liters per minute (lpm) [0.8 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]	$\geq 5.0 \times 10^4$

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
≥ = greater than or equal to
#/ml = particles per milliliter

AESTHETIC CONTAMINANT REDUCTION CAPABILITIES
PRODUCT FILE NUMBER 20060177
TABLE 4 OF 4

Flow Rate: 3.0 liters per minute (lpm) [0.8 gallon per minute (gpm)]
Capacity: 379 liters (l) [100 gallons (gals.)] for free chlorine and reduction. For particulate reduction, the capacity is 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 (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 4 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 1), the device must reduce the influent challenge concentrations by ≥ 85%.

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

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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