



Jim Doyle, Governor
Mary P. Burke, Secretary

March 23, 2006

ELECTROLUX HOME PRODUCTS
ENGINEERING
AARON ARVIA
101 MASTERS BLVD.
ANDERSON SC 29625

Re: Description: WATER TREATMENT DEVICE-ACTIVATED CARBON
Manufacturer: ELECTROLUX HOME PRODUCTS
Product Name: PURE SOURCE MB WATER FILTER
Model Number(s): MBFC-2003 USING THE MB-100 CARTRIDGE
Product File No: 20050805

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 March 2011.

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

- This device 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.
- Do not use this device with water that is microbiologically unsafe, or of unknown quality, without adequate point-of-entry (i.e. whole house) disinfection before this device.
- This device is not intended for the treatment of water that has an obvious or intentional contamination source (e.g. a well known to be microbiologically unsafe, raw sewage), nor is this device intended to convert wastewater to drinking water.
- This device will only reduce the concentration of volatile organic chemicals at water outlets that are served by the device. There are dermal (skin) absorption and inhalation exposure risks associated with volatile organic chemicals. Therefore, using a point-of-use device such as this 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.

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

The presence of cysts/ooocysts 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/ooocysts, 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.

- 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 5 of this letter.

**HEALTH EFFECTING ORGANIC CONTAMINANT REDUCTION CAPABILITIES
 PRODUCT FILE NUMBER 20050805
 TABLE 1 OF 4**

Flow Rate: 1.9 liters per minute (lpm) [0.5 gallon per minute (gpm)]
Capacity: 946 liters (l) [250 gallons (gals.)]

| Tested Contaminant | Influent Challenge (µg/l) ¹ |
|---------------------------------|--|
| Alachlor | 40 ± 10% |
| Atrazine | 9 ± 10% |
| Benzene | 15 ± 10% |
| 2,4-D | 210 ± 10% |
| o-Dichlorobenzene | 1,800 ± 10% |
| p-Dichlorobenzene | 225 ± 10% |
| Endrin | 6 ± 10% |
| Ethylbenzene | 2,100 ± 10% |
| Lindane | 2 ± 10% |
| Methyl <i>tert</i> -butyl ether | 15 ± 20% |
| Monochlorobenzene | 2,000 ± 10% |
| Styrene | 2,000 ± 10% |
| Tetrachloroethylene | 15 ± 10% |
| Toxaphene | 15 ± 10% |
| Trihalomethanes (as chloroform) | 450 ± 20% |

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 Alachlor reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 2 µg/l. To qualify for Atrazine reduction, the device must reduced the influent challenge concentrations such that all effluent concentrations are ≤ 3 µg/l. To qualify fore benzene reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 5 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 o-Dichlorobenzene reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 600 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 Endrin reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are 2 µg/l. To qualify for Ethylbenzene reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 700 µg/l.

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To qualify for Lindane reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are $\leq 0.2 \mu\text{g/l}$. To qualify for Methyl-*tert*-butyl ether reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are $\leq 5.0 \mu\text{g/l}$. To qualify for Monochlorobenzene reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are $\leq 100 \mu\text{g/l}$. To qualify for Styrene reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are $\leq 100 \mu\text{g/l}$. To qualify for tetrachloroethylene reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are $\leq 5 \mu\text{g/l}$. To qualify for Toxaphene reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are $\leq 3 \mu\text{g/l}$. To qualify for Trihalomethane reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are $\leq 80 \mu\text{g/l}$.

1 = micrograms per liter ($\mu\text{g/l}$) are equivalent to parts per billion (ppb)
 \pm = plus or minus

\leq = less than or equal to

**HEALTH EFFECTING INORGANIC CONTAMINANT REDUCTION CAPABILITIES
 PRODUCT FILE NUMBER 20050805
 TABLE 2 OF 4**

Flow Rate: 1.9 liters per minute (lpm) [0.5 gallon per minute (gpm)]

Capacity: 946 liters (l) [250 gallons (gals.)]. For asbestos, 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 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 | $0.15 \pm 10\%$ |
| Mercury (Hg^{+2}) | $0.006 \pm 10\%$ |

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 $\geq 99\%$. To qualify for lead reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are $\leq 0.010 \text{ mg/l}$. To qualify for mercury reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are $\leq 0.002 \text{ mg/l}$.

1 = milligrams per liter (mg/l) are equivalent to parts per million (ppm)
 * = unless otherwise indicated
 \pm = plus or minus
 μm = micrometers

2 = metals are tested at pH 6.5 and pH 8.5
 \leq = less than or equal to
 F/l = fibers per liter
 > = greater than

**HEALTH EFFECTING BIOLOGICAL CONTAMINANT REDUCTION CAPABILITIES
 PRODUCT FILE NUMBER 20050805
 TABLE 3 OF 4**

Flow Rate: 1.9 liters per minute (lpm) [0.5 gallon per minute (gpm)]

Capacity: not to exceed 946 l (250 gal.) but 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 | Avg. Influent Challenge |
|---|-----------------------------|
| Bacteria (Escherichia coli, ATCC 11229) | 10^7 Cfu/100ml |
| Cysts/Oocysts ¹ | $\geq 5.0 \times 10^4$ #/ml |
| Virus (MS-2 Coliphage, ATCC 15597-B1) | 10^5 Pfu/ml |

Other Conditions: the cyst/oocyst 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

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reduction, the device must reduce the influent challenge concentrations by $\geq 99.95\%$ (3.5-log reduction) at each sample point.

The bacteria and virus reduction performance capabilities displayed for Table 3 of 4 were verified by testing conducted in accordance with "Microbiological Interception Protocol for the Validation of KX Industries Carbon Treatment Technology-State of California, Department of Health Services." The bacteria and virus reduction performance testing was conducted by BioVir Laboratories, Inc. 685 Stone Rd., Unit 6, Benicia CA 94510, 1-800-442-7342. To qualify for bacteria reduction, under the BioVir protocol, the device must reduce the influent challenge concentrations by $\geq 99.9999\%$ (6-log reduction) at each sample point. To qualify for virus reduction, under the BioVir protocol, the device must reduce the influent challenge concentrations by $\geq 99.99\%$ (4-log reduction).

1 = the specific organisms covered under this testing protocol include cryptosporidium parvum, entamoeba histolytica, giardia lamblia and toxoplasma gondii

\geq = greater than or equal to

Pfu/ml = plaque forming units per milliliter

#/ml = particles per milliliter

Cfu/100 ml = colony forming units per 100 milliliter

**AESTHETIC CONTAMINANT REDUCTION CAPABILITIES
 PRODUCT FILE NUMBER 20050805
 TABLE 4 OF 4**

Flow Rate: 1.9 liters per minute (lpm) [0.5 gallon per minute (gpm)]
Capacity: 946 liters (l) [250 gallons (gals.)]. 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 \pm 10% |
| Particulates (0.5 to < 1.0 μ m) | 1.0 x 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 $\geq 50\%$; 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 $\geq 85\%$.

1 = milligrams per liter (mg/l) are equivalent to parts per million (ppm)

* = unless otherwise specified

< = less than

μ m = micrometers

#/ml = particles per milliliter

\geq = greater than or equal to

\pm = plus or minus

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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 which may result from its use.

Sincerely,

Glen W. Schlueter
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Safety and Buildings Division
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