



**Jim Doyle, Governor**  
**Mary P. Burke, Secretary**

June 5, 2006

RAINSOFT  
AQUION WATER TREATMENT PRODUCTS  
KATHLEEN FRITSCH  
2080 E. LUNT  
ELK GROVE VILLAGE IL 60007

Re: Description: WATER TREATMENT DEVICE-ACTIVATED CARBON  
Manufacturer: RAINSOFT  
Product Name: SILVER SERIES WHOLE HOUSE CARBON FILTERS  
Model Number(s): QRS 844SH AND QRS 1044SH  
Product File No: 20060045

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 February 2009.

This approval supersedes the approval issued on February 18, 2004 under product file number 20020211.

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 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.
- These devices must be installed with in-line flow restrictors that prevent flows that exceed the flow rates specified below:

QRS 844 SH = 6.0 gallons per minute (gpm)

QRS 1044 SH = 8.0 gpm

The flow restrictors shall be installed on the inlet piping to these devices downstream of any pumps or pressure tanks.

- These devices may not be backwashed. Backwashing of these devices will cause premature contaminant breakthrough. Therefore, if the water supply being treated contains significant amounts of particulate matter, then an approved particulate filter shall be installed upstream of these devices.

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 4 of this letter.

**AESTHETIC CONTAMINANT REDUCTION CAPABILITIES  
 PRODUCT FILE NUMBER 20060045  
 TABLE 1 OF 2**

**Flow Rates:** QRS 844 SH = 22.7 liters per minute (lpm) [6.0 gallons per minute (gpm)]  
 QRS 1044 SH = 30.3 lpm (8.0 gpm)

**Capacities:** QRS 844 SH = 340,687 liters (l) [90,000 gallons (gals.)]  
 QRS 1044 SH = 529,958 l (140,000 gals.)

Tested Contaminant	Influent Challenge (mg/l) <sup>1</sup>
Chlorine (free)	2.0 ± 10%

**Other Conditions:** the contaminant reduction performance capabilities displayed for Table 1 of 2 were verified by testing conducted in accordance with NSF *International* Standard 42 by the National Water Quality Association. To qualify for free chlorine reduction the device must reduce the influent challenge concentrations by ≥ 50% at each sample point.

<sup>1</sup> = mg/l are equivalent to parts per million (ppm)  
 \* = unless otherwise specified

≥ = greater than or equal to  
 ± = plus or minus

**HEALTH EFFECTING ORGANIC CONTAMINANT REDUCTION CAPABILITIES  
 PRODUCT FILE NUMBER 20060045  
 TABLE 2 OF 2**

**Flow Rates:** QRS 844 SH = 22.7 liters per minute (lpm) [6.0 gallons per minute (gpm)]  
 QRS 1044 SH = 30.3 lpm (8.0 gpm)

**Capacities:** QRS 844 SH = 75,708 liters (l) [20,000 gallons (gals.)]  
 QRS 1044 SH = 119,241 l (31,500 gals.)

Tested Contaminant	Influent Challenge (µg/l) <sup>1</sup>
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

**HEALTH EFFECTING ORGANIC CONTAMINANT REDUCTION CAPABILITIES  
 PRODUCT FILE NUMBER 20060045  
 TABLE 2 OF 2 (continued)**

Tested Contaminant	Influent Challenge (µg/l) <sup>1</sup>
Ethylbenzene	88
Ethylene dibromide (EDB)	44
<b>Haloacetonitriles (HAN):</b>	-
Bromochloroacetonitrile	22
Dibromoacetonitrile	24
Dichloroacetonitrile	9.6
Trichloroacetonitrile	15
<b>Haloketones (HK):</b>	-
1,1-Dichloro-2-propanone	7.2
1,1,1-Trichloro-2-propanone	8.2
Heptachlor (H-34, HEPTOX)	80
Heptachlor epoxide	10.7
Hexachlorobutadiene	44
Hexachlorocyclopentadiene	60
Lindane	55
Methoxychlor	50
Pentachlorophenol	96
Simazine	120
Styrene	150
1,1,2,2-Tetrachloroethane	81
Tetrachloroethylene	81
Toluene	78
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 ( <b>chloroform surrogate</b> )	300
Xylenes (total)	70

**Other Conditions:** the contaminant reduction performance capabilities displayed for Table 2 of 2 were verified by testing conducted in accordance with NSF *International* Standard 53 by the National Water Quality Association. 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%.

<sup>1</sup> = micrograms per liter (µg/l) are equivalent to parts per billion (ppb)

Aquion Water Treatment Products – Rainsoft  
June 5, 2006  
Page 4 of 4  
Product File No.: 20060045

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  
Engineering Consultant-Plumbing Product Reviewer  
Bureau of Integrated Services  
Safety and Buildings Division  
Department of Commerce  
(608) 267-1401 **Phone**  
(608) 267-9566 **Fax**  
gschlueter@commerce.state.wi.us **Email**  
8:00AM – 4:30PM CDT **Work Hours**

GWS:gws