



May 1, 2012

3M PURIFICATION INCORPORATED
KAREN CARTER
400 RESEARCH PARKWAY
MERIDEN CT 06450

Re: Description: WATER TREATMENT DEVICE - POU ACTIVATED CARBON
Manufacturer: 3M PURIFICATION INCORPORATED
Product Name: GE SMARTWATER REFRIGERATOR FILTER
Model Number(s): RPWF (DISPOSABLE)
Product File No: 20110347

The specifications and/or plans for this plumbing product have been reviewed and determined to be in compliance with chapters SPS 382 through 384, 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 May 2017.

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 manufacturer's 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) 267-9787.
- 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 4 of this letter.

AESTHETIC CONTAMINANT REDUCTION CAPABILITIES
PRODUCT FILE NUMBER 20110347
TABLE 1 OF 6

Flow Rate: 1.9 liters (l) [0.5 gallon per minute (gpm)]
Capacity: 644 liters (l) (170 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 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 x 10 ⁴ #/ml

Other Conditions: the contaminant reduction performance capabilities displayed for Table 1 of 6 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 20110347
TABLE 2 OF 6

Flow Rate: 1.9 liters (l) [0.5 gallon per minute (gpm)]
Capacity: 644 liters (l) (170 gals.) for free chlorine 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 by a significant decrease in flow rate.

Tested Contaminant	Influent Challenge Concentration (mg/l) ¹
Asbestos fibers (> 10 µm in length)	1.0 x 10 ⁷ to 1.0 x 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 6 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

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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

\pm = plus or minus

2 = metals are tested at pH 6.5 and pH 8.5

\leq = less than or equal to

F/l = fibers per liter

HEALTH EFFECTING ORGANIC CONTAMINANT REDUCTION CAPABILITIES
PRODUCT FILE NUMBER 20110347
TABLE 3 OF 6

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

Capacity: 644 liters (l) (170 gals.)

Tested Contaminant	Influent Challenge ($\mu\text{g/l}$) ¹
Atrazine	9.0 \pm 10%
Benzene	15.0 \pm 10%
Carbofuran	80 \pm 10%
Lindane	2.0 \pm 10%
p-Dichlorobenzene	225 \pm 10%
Toxaphene	15.0 \pm 10%
2,4-D	210 \pm 10%

Other Conditions: the contaminant reduction performance capabilities displayed for Table 3 of 6 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 $\mu\text{g/l}$. To qualify for benzene reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 5.0 $\mu\text{g/l}$. To qualify for carbofuran reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 40 $\mu\text{g/l}$. To qualify for lindane reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 0.2 $\mu\text{g/l}$. To qualify for p-dichlorobenzene reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 75 $\mu\text{g/l}$. To qualify for toxaphene reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 3.0 $\mu\text{g/l}$. To qualify for 2,4-D reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 70 $\mu\text{g/l}$.

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

\leq = less than or equal to

\pm = plus or minus

**HEALTH EFFECTING BIOLOGICAL CONTAMINANT REDUCTION CAPABILITIES
 PRODUCT FILE NUMBER 20110347
 TABLE 4 OF 6**

Flow Rate: 1.9 liters (l) [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	$\geq 5.0 \times 10^4$

Other Conditions: the contaminant reduction performance capabilities displayed for Table 4 of 6 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 $\geq 99.95\%$ at each sample point.

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

**HEALTH EFFECTING ORGANIC CONTAMINANT REDUCTION CAPABILITIES (VIA SURROGATE)
 PRODUCT FILE NUMBER 20110347
 TABLE 5 OF 6**

Flow Rate: 1.9 liters per minute (lpm) [0.5 gallons per minute (gpm)]
Capacity: 644 liters (l) [170 gallons (gals.)]

Tested Contaminant	Influent Challenge ($\mu\text{g/l}$) 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

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Tested Contaminant	Influent Challenge (µg/l) ¹
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 (chloroform surrogate)	300
Xylenes (total)	70

Other Conditions: the contaminant reduction performance capabilities displayed for Table 5 of 6 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%.

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

± = plus or minus

**HEALTH EFFECTING ORGANIC CONTAMINANT REDUCTION CAPABILITIES
 PRODUCT FILE NUMBER 20110347
 TABLE 6 OF 6**

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

Capacity: 644 liters (l) (170 gals.)

Tested Contaminant	Influent Challenge (ng/l) ¹	Average Effluent (ng/l) ¹	% Reduction
Atenolol ²	1,088	5.0	99.5
Fluoxetine ³	845	5.0	99.4
Ibuprofen ⁴	898	9.9	98.9
Progesterone ⁵	945	5.5	99.4
Trimethoprim ⁶	403	2.0	99.5

Other Conditions: the contaminant reduction performance capabilities displayed for Table 6 of 6 were verified by testing conducted in accordance with NSF *International* Standard 53. The contaminants listed in table 6 of 6 are not currently covered under NSF 53; however the testing protocol for organic chemical reduction was used. The testing was performed by NSF International. Presently, there are no Federal or State drinking water regulations pertaining to any of the contaminants displayed in table 6 of 6. To qualify, the device must reduce the influent challenge concentrations by ≥ 95%.

¹ = 1 nanogram per liter (ng/l) is equivalent to 0.001 micrograms per liter (µg/l) and 0.000001 milligrams per liter (mg/l)

² = common brand names Senormin and Tenormin

³ = common brand names Prozac, Rapiflux, Sarafem and Selfemra

⁴ = common brand names Advil, Motrin, Wal-profen (there are many brand names associated with ibuprofen)

⁵ = common brand name Prometrium

⁶ = common brand names Proloprim and Trimpex

≥ = greater than or equal to

± = 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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