



Jim Doyle, Governor
Mary P. Burke, Secretary

August 30, 2006

KINETICO INCORPORATED
SHARI GENSKE
10845 KINSMAN RD.
PO BOX 193
NEWBURY OH 44065

Re: Description: WATER TREATMENT DEVICE-REVERSE OSMOSIS
Manufacturer: KINETICO INCORPORATED
Product Name: REVERSE OSMOSIS DRINKING WATER SYSTEM
Model Number(s): K2
Product File No: 20060368

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 August 2011.

This approval supersedes the approval issued on July 23, 2001 under product file number 20010191.

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.
- The system shall be provided with an in-line total dissolved solids (TDS) monitor, or other acceptable means, to warn the user when the system is not performing its functions. Acceptable alternatives to an in-line TDS monitor include:
 1. terminating the discharge of treated water;
 2. sounding an alarm which is connected to acceptable power source;
 3. flashing a light connected to an acceptable power source;
 4. providing the user with an obvious, readily interpretable, indication of the system's ability to perform (e.g. decreasing the flow rate of treated water by 50% or more for systems making mechanical filtration claims;

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5. providing a sampling service by the manufacturer, either directly or through an authorized dealer, a minimum of once every six months;
6. providing a sampling kit for analysis of TDS or other appropriate contaminants; or
7. providing a TDS monitor to measure the product water quality.

Whichever means of performance verification is selected, it shall be clearly described in the owner's manual for this device, and approved for use along with the device.

- 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.

- In addition to the product water quality monitor specified elsewhere in this letter, this device shall be provided with one of the following means to warn the user when the system is not performing its function:
 1. a nitrate/nitrite monitor on the product water stream; or
 2. a sampling and analysis kit for nitrate/nitrite with explicit instructions of recommended frequency of analysis.

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.

**HEALTH EFFECTING INORGANIC CONTAMINANT REDUCTION CAPABILITIES
 PRODUCT FILE NUMBER 20060368
 TABLE 1 OF 3**

Flow Rate: 49.2 liters per day (lpd) [13.0 gallon per day (gpd)]

Tested Contaminant	Influent Challenge (mg/l) ¹
Arsenic (As ⁺⁵)	0.30 ± 10%
Barium (Ba ⁺²) ²	10.0 ± 10%
Cadmium (Cd ⁺²) ²	0.03 ± 10%
Hexavalent Chromium (Cr ⁺⁶) ²	0.3 ± 10%
Trivalent Chromium (Cr ⁺³) ²	0.3 ± 10%
Copper (Cu ⁺²) ²	3.0 ± 10%
Fluoride (F ⁻¹)	8.0 ± 10%
Lead (Pb ⁺²) ²	0.15 ± 10%
Nitrate (NO ₃ ⁻)	27.0 ± 10%
Nitrite (NO ₂ ⁻)	3.0 ± 10%
Radium 226/228 (Barium surrogate) ³	25 pCi/L
Selenium (Se ⁺⁴ and Se ⁺⁶) ²	0.10 ± 10%

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Other Conditions: the contaminant reduction performance capabilities displayed for Table 1 of 3 were verified by testing conducted in accordance with NSF *International* Standard 58. To qualify for Arsenic reduction, the device must reduce the influent challenge concentrations so that all effluent concentrations are ≤ 0.025 mg/l. To qualify for Barium reduction, the device must reduce the influent challenge concentrations so that all effluent concentrations are ≤ 2.0 mg/l. To qualify for Cadmium reduction, the device must reduce the influent challenge concentrations so that all effluent concentrations are ≤ 0.005 mg/l. To qualify for Chromium (hexavalent and/or trivalent) reduction, the device must reduce the influent challenge concentrations so that all effluent concentrations are ≤ 0.1 mg/l. To qualify for Copper reduction, the device must reduce the influent challenge concentrations so that all effluent concentrations are ≤ 1.3 mg/l. To qualify for Fluoride reduction, the device must reduce the influent challenge concentrations so that all effluent concentrations are ≤ 1.5 mg/l. To qualify for Lead reduction, the device must reduce the influent challenge concentrations so that all effluent concentrations are ≤ 0.010 mg/l. To qualify for Nitrate reduction, the device must reduce the influent challenge concentrations so that all effluent concentrations are ≤ 10.0 mg/l (as N). To qualify for Nitrite reduction, the device must reduce the influent challenge water concentrations so that all effluent concentrations are ≤ 1.0 mg/l (as N). To qualify for Radium reduction, the device must reduce the influent Barium challenge concentrations so that all effluent concentrations are ≤ 2.0 mg/l. To qualify for Selenium reduction, the device must reduce the influent challenge concentrations so that all effluent concentrations are ≤ 0.05 mg/l. In the context of NSF Standard 58, the term "all", as used above, means that the device reduces the level of the contaminant from the influent challenge level so that the arithmetic mean of all product water samples and 90% of the individual product water samples are less than or equal to the maximum product water concentrations indicated.

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

2 = metals are tested at pH 6.5 and pH 8.5

3 = barium is used as a surrogate based on its relationship with radium on the periodic table and the difficulty in using radium for routine testing.

* = unless otherwise specified

\pm = plus or minus

pCi/L = picocuries per liter

\leq = less than or equal to

HEALTH EFFECTING BIOLOGICAL CONTAMINANT REDUCTION CAPABILITIES
PRODUCT FILE NUMBER 20060368
TABLE 2 OF 3

Flow Rate: 49.2 liters per day (lpd) [13.0 gallon per day (gpd)]

Capacity: 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 (#/ml)
Cysts/Oocysts ¹	5.0×10^4

Other Conditions: the contaminant reduction performance capabilities displayed for Table 2 of 3 were verified by testing conducted in accordance with NSF *International* Standard 58. 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

#/ml = particles per milliliter

\geq = greater than or equal to

**AESTHETIC CONTAMINANT REDUCTION CAPABILITIES
PRODUCT FILE NUMBER 20060368
TABLE 3 OF 3**

Flow Rate: 49.2 liters per day (lpd) [13.0 gallon per day (gpd)]
Capacity (post filter): 1,893 liters (l) [500 gallons (gals.)]

Tested Contaminant	Influent Challenge (mg/l)*, 1
Chlorine (free)	2.0 ± 10%

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

* = unless otherwise specified

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

± = plus or minus

#/ml = particles per milliliter

≥ = greater than or equal to

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
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Safety and Buildings Division
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