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Wisconsin
Department of Commerce

SAFETY AND BUILDINGS DIVISION
Plumbing Product Review
P.O. Box 2658
Madison, Wisconsin 53701-2658

Jim Doyle, Governor
Jack L. Fischer, A.I.A., Secretary

December 7, 2007 **REISSUED 1/31/08**

NICHIDEN COMPANY, LTD.
WATER SYSTEMS DIVISION
RALPH PAGE
379 OYSTER POINT BLVD., STE. 6
SOUTH SAN FRANCISCO CA 94080

BIO-MICROBICS, INC.
ALLISON BLODIG
8450 COLE PKWY.
SHAWNEE KS 66227

Re: Description: SEWAGE TREATMENT APPARATUS (also see SEWAGE TANKS)
Manufacturer: BIO-MICROBICS, INC.
Product Name: MICRO FAST
Model Number(s): 0.5
Product File No: 20070539

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 SEPTEMBER 2010.**

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

- The maximum daily wastewater flow, which may discharge through this product, is 500 gallons per day.
- This product must be sized based on daily wastewater flow (gallons per day). The gallons per day value must be at least 150 gallons per day per bedroom.
- Installation and servicing of this product must be in accordance with the manufacturer's instructions. A copy of the manufacturer's installation and servicing instructions must be given to the owner of the system.
- Based on testing data submitted and reviewed by the department, this approval recognizes that this plumbing product will reduce the concentration of contaminants with an average influent value of Total Kjeldal Nitrogen (TKN) of 37.6 mg/L, Nitrate - Nitritie (NO2 NO3) 0.34 mg/L, and Ammonia (NH4) 29.3 mg/L to produce an effluent with values of Total Kjeldal Nitrogen (TKN) of 4.13 mg/L, Nitrate - Nitritie (NO2 NO3) 6.6 mg/L, and Ammonia (NH4) 2.5 mg/L when this product is maintained in accordance to the manufacturer's maintenance requirements.
- This unit must be installed in a tank or tanks that comply with the following:

  1. This model and size Bio-Microbics treatment unit may be installed in the second compartment of a two-compartment tank, a single compartment tank located downstream of another treatment tank, or a single-compartment tank without any preceding tank.

  2. The inside width of the tank or tank compartment that houses the Bio-Microbics treatment unit must be at least 31 inches.

  3. The inside length of the tank or tank compartment that houses the Bio-Microbics treatment unit must be at least 75-1/4 inches.

  4. The capacity of the tank compartment or tank, that houses the Bio-Microbics treatment unit, that is located downstream of another tank compartment or tank must be at least 450 gallons.

  5. The capacity of the tank compartment or tank that is located upstream of the tank compartment or tank that

houses the Bio-Microbics treatment unit must be at least 350 gallons.

6. The capacity of the tank that does not have another tank located upstream of the tank that houses the Bio-Microbics treatment unit must be at least 800 gallons.

7. The diameter of the outlet pipe from the Bio-Microbics treatment unit is four inches.

8. The dimension of the hole in the tank cover is 25 inches by 54 inches.

When the tank cover suspends the unit, items 9 through 20 must be complied with.

9. The distance from top of tank cover to centerline of pipe outlet for the Bio-Microbics treatment unit must be 15 inches.

10. The distance from top of tank cover to bottom inlet of the Bio-Microbics treatment unit is 47-1/2 inches.

11. The liquid level of the tank or tank compartment that houses the Bio-Microbics treatment unit must be at least 40-1/2 inches.

12. When this unit is installed in a two-compartment tank and the liquid level is less than 44 inches, the volume of the first compartment must be at least 420 gallons.

13. When this unit is installed in a two-compartment tank and the liquid level is less than 44 inches, the volume of the second compartment must be at least 540 gallons.

14. When this unit is installed in a two-compartment tank the bottom of the opening in the dividing wall between compartments must have an open area of at least 28.27 square inches (equivalent to a six-inch diameter hole).

15. When this unit is installed in a two-compartment tank the bottom of the opening in the dividing wall between compartments must be at least 21 inches above the bottom of the tank.

16. When this unit is installed in a two-compartment tank the top of the opening in the dividing wall between compartments must not be greater than 27 inches above the bottom of the tank.

17. When this unit is installed in a two-compartment tank the top of the dividing wall between compartments must be at least three inches above the liquid level.

18. When this unit is installed in a single compartment tank located downstream of another treatment tank, and the liquid level in the tank is less than 44 inches, the volume of the tank must be at least 540 gallons.

19. When this unit is installed in a single compartment tank located downstream of another treatment tank, and the liquid level in the upstream tank is less than 44 inches, the volume of the upstream tank must be at least 420 gallons.

20. When this unit is installed in a single compartment tank that is not located downstream of another treatment tank, and the liquid level in the tank is less than 44 inches, the volume of the tank must be at least 960 gallons.

When this unit is to be located inside of the tank and placed on foot extensions, items 21 through 31 must be complied with.

21. There is no minimum distance from under side of tank cover to top of the Bio-Microbics Treatment unit.

22. The liquid level of the tank or tank compartment that houses the Bio-Microbics treatment unit must be at least 40-1/2 inches.

23. When this unit is installed in a two-compartment tank and the liquid level is less than 44 inches, the volume of the first compartment must be at least 420 gallons.

24. When this unit is installed in a two-compartment tank and the liquid level is less than 44 inches, the volume

of the second compartment must be at least 540 gallons.

25. When this unit is installed in a two-compartment tank the bottom of the opening in the dividing wall between compartments must have an open area of at least 28.27 inches (equivalent to a six-inch diameter hole).

26. When this unit is installed in a two-compartment tank the bottom of the opening in the dividing wall between compartments must be at least 21 inches above the bottom of the tank.

27. When this unit is installed in a two-compartment tank the top of the opening in the dividing wall between compartments must not be greater than 27 inches above the bottom of the tank.

28. When this unit is installed in a two-compartment tank the top of the dividing wall between compartments must be at least three inches above the liquid level.

29. When this unit is installed in a single compartment tank located downstream of another treatment tank, and the liquid level in the tank is less than 44 inches, the volume of the tank must be at least 540 gallons.

30. When this unit is installed in a single compartment tank located downstream of another treatment tank, and the liquid level in the upstream tank is less than 44 inches, the volume of the upstream tank must be at least 420 gallons.

31. When this unit is installed in a single compartment tank that is not located downstream of another treatment tank, and the liquid level in the tank is less than 44 inches, the volume of the tank must be at least 960 gallons.

- When this product receives wastewater from dwellings, it will produce an effluent quality with a maximum monthly average value for BOD5 of less than or equal to 30 mg/L, TSS of less than or equal to 30 mg/L TSS and F.O.G. of less than 30 mg/L and fecal coliform of less than or equal to 10,000 cfu/100ml.

- Approval is issued for this product because the design of the product meets the intent of s. Comm 83.15 (6), Wis. Adm. Code that requires other types of sewage treatment tanks be constructed in accordance with s. Comm 83.20, Wis. Adm. Code. The intent of the code is met since this product provides an acceptable means of treating wastewater when it is installed in a properly designed tank.

- When dosing MicroFast® units, a dosing schedule that delivers a maximum 1/24th (4.167%) of the design flow rate for the unit in any one hour period is suggested. This schedule also applies to any fraction of an hour.

This approval supersedes the approval issued on 9/20/2005 under product file number 20050679.

This approval letter shall be incorporated with your previously approved plans and/or specifications approved under product file number 20050679.

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,

Jean M. MacCubbin, CST
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