

January 21, 2022

Anthony Graham, Approvals Manager
Hydro-Action Mfg. LLC
PO Box 640
Plymouth, IN 46563

RE: Product Registration Renewal #4 – Notice of Proprietary Treatment Product Listing

Description: Sewage Treatment System, Extended Aeration Activated Sludge
Manufacturer: AK/HA Manufacturing, d/b/a Hydro-Action Industries, LLC.
Product Name: Hydro-Action® (with and without disinfection)
Model Numbers: AP-500, AP-600, AP-750, AP-1000, and AP-1500 Model Series;
(Design Flow 500 to 1500 GPD per unit)
Product Listing: Category A (residential sewage)

Dear Mr. Graham:

Thank you for your application for product renewal dated November 18, 2021, for the Hydro-Action Model Series.

In accordance with Minn. R. Ch. 7080 through 7083, the MPCA has reviewed AK/HA Manufacturing's submitted materials requesting registration for Category A (residential) treatment product listing of the Hydro-Action Model Series in this application. Based on the submitted documentation, the MPCA finds that the Hydro-Action is eligible to be registered per Minn. R. Ch. 7083.4030 as meeting the following treatment levels:

- **Treatment Level B** (cBOD5 of 25 mg/L, TSS of 30 mg/L, and fecal coliform of 10,000 colonies per 100 ml) with disinfection
- **Treatment Level B2** (cBOD5 of 25 mg/L and TSS of 30 mg/L) without disinfection
- **Treatment Level C** (cBOD5 of 125 mg/L, TSS of 60 mg/L and Oil & Grease of 25 mg/L) without disinfection

The Hydro-Action is registered with a design rated capacity of 500, 600, 750, 1000 and 1500 gallons per day per unit, as shown in Table 1 and Table 2.

Subject to this determination, the Hydro-Action Model Series, including the AP-500, AP-600, AP-750, AP-1000 and AP-1500, will be placed on the List of Registered Subsurface Sewage Treatment System (SSTS) Products. The product information listed in this Notice of Proprietary Product Listing will be maintained on the MPCA website and may not be altered or misrepresented by the manufacturer or any other person without permission by the MPCA.

Table 1. Hydro-Action Model Series AP-500, AP-600, AP-750, AP-1000 and AP-1500 with Salcor Ultraviolet (UV) Disinfection

Product Name Model	Treatment Process	Design Flow (gpd)	BOD₅ Removed (lbs/day)	Highest Treatment Level	Important Product Use Information
Hydro-Action with one (1) Salcor 3G Disinfection Unit AP-500	Extended Aeration	500	1.25	B	<ul style="list-style-type: none"> ● Notice of Product Listing <ul style="list-style-type: none"> ○ MPCA Letter ○ Conditions of Registration ○ Expiration Date ● Hydro-Action Manuals <ul style="list-style-type: none"> ○ Submitted Drawings ○ Known Limitations ○ Installation ○ Operation & Maintenance ○ Owners Information ○ Regulators Checklist ○ Service Contract ● Management Plan ● Operating Permit Template
Hydro-Action with two (2) Salcor 3G Disinfection Units AP-600	Extended Aeration	600	1.50	B	
Hydro-Action with two (2) Salcor 3G Disinfection Units AP-750	Extended Aeration	750	1.88	B	
Hydro-Action with two (2) Salcor 3G Disinfection Units AP-1000	Extended Aeration	1000	2.50	B	
Hydro-Action with three (3) Salcor 3G Disinfection Units AP-1500	Extended Aeration	1500	3.75	B	

Table 2. Hydro-Action Model Series AP-500, AP-600, AP-750, AP-1000 and AP-1500

Product Name Model	Treatment Process	Design Flow (gpd)	BOD₅ Removed (lbs/day)	Highest Treatment Level	Important Product Use Information
Hydro-Action AP-500	Extended Aeration	500	1.25	B2	<ul style="list-style-type: none"> • Notice of Product Listing <ul style="list-style-type: none"> ○ MPCA Letter ○ Conditions of Registration ○ Expiration Date • Hydro-Action Manuals <ul style="list-style-type: none"> ○ Submitted Drawings ○ Known Limitations ○ Installation ○ Operation & Maintenance ○ Owners Information ○ Regulators Checklist ○ Service Contract • Management Plan • Operating Permit Template
Hydro-Action AP-600	Extended Aeration	600	1.50	B2	
Hydro-Action AP-750	Extended Aeration	750	1.88	B2	
Hydro-Action AP-1000	Extended Aeration	1000	2.50	B2	
Hydro-Action AP-1500	Extended Aeration	1500	3.75	B2	

The registration of the treatment products in Minnesota is contingent upon compliance with the following conditions:

1. Products must be used in compliance with MPCA rules and the plans and design specifications provided. Any deviation from the plans and specifications shall not be permitted unless authorized by National Sanitation Foundation (NSF) and, in writing, by the MPCA for registered use.
2. The manufacturer shall have readily accessible information, specific to a product's registered use in Minnesota, for designers, installers, service providers, regulators, and interested parties for the following items: a) product manual, b) design instructions, c) installation instructions, d) operation and maintenance requirements, e) homeowner instructions, and f) list of manufacturer-certified service providers, if any, as required by Minn. R. Ch. 7083.4040 (H).
3. The design flows for the registered Hydro-Action treatment systems are as follows:
 - 500 gallons per day for AP-500
 - 600 gallons per day for AP-600
 - 750 gallons per day for AP-750
 - 1000 gallons per day for AP-1000
 - 1500 gallons per day for AP-1500

4. Pretreatment tank capacity for dwellings shall meet the manufacturer's size requirement consistent with Standard 40 National Sanitation Foundation (NSF) testing of the product and as specified in the Application for Registration. The tank(s) shall be designed to withstand the pressures to which it will be subject to. The tank(s) and all pipe penetrations, risers, and other connections to the tank shall be watertight.
5. Each system must be delivered with an installation manual and owner's manual for the Hydro- Action Model Series (AP-500, AP-600, AP-750, AP-1000 and AP-1500) and for the Salcor 3G UV disinfection unit(s) used in the system. Each component must be installed in accordance with the manufacturer's installation manual.
6. AK/HA Manufacturing, along with the Intermediate Designer/Advanced Designer and Installer, are responsible to ensure that proper flow splitting devices are used in splitting flows to multiple Salcor 3G UV disinfection units. Flow splitting devices must meet the following criteria: a) designed specifically and reliably to split wastewater flows; b) accessible for on-going operation and maintenance; c) monitored to determine flow rates; d) adjustable after construction should settlement occur; and e) have infinite or continuous adjustment features.
7. For the Hydro-Action Model Series (AP-500; AP-600; AP-750; AP-1000; AP-1500), each Hydro- Action unit shall be equipped with a sufficient number of Salcor 3G UV disinfection units to achieve Treatment Level B as follows: 1) AP-500 will require the use of one Salcor 3G UV disinfection unit; 2) AP-600 will require the use of two Salcor 3G UV disinfection units; 3) AP-750 will require the use of two Salcor 3G UV disinfection units; 4) AP-1000 will require the use of two Salcor 3G UV disinfection units; and; 5) AP-1500 will require the use of three Salcor 3G UV disinfection units. Detailed drawings for these configurations, including the use of a flow splitter, were submitted to the MPCA on August 16, 2010. Flow to each Salcor UV disinfection unit shall not exceed the rated capacity of 500 GPD to ensure adequate disinfection prior to soil dispersal.
8. All systems shall be designed and operated with (a) suitable alarm device(s) should either or both the Hydro-Action Model Series (AP-500, AP-600, AP-750, AP-1000 and AP-1500) or the Salcor 3G UV disinfection units malfunction.
9. This treatment product is a Minnesota-registered product for Type IV systems. For Treatment Levels B, B2 and C, effluent loading rates to the soil, method of distribution, and vertical separation requirements shall meet the minimum requirements contained in Minn. R. Ch. 7080.2150 thru 7080.2350. The effluent, following treatment in Hydro-Action treatment systems, is required to be uniformly distributed to the soil for final treatment and dispersal.
10. Systems may only be designated as Type IV systems when designed and installed per the drawings submitted as part of the Application for Product Registration, dated May 6, 2010, and subsequent documents submitted prior to this registration.
11. As a Type IV system, the system must be constructed and operated under the required local permits.

12. The level of maintenance required for the Hydro-Action Model Series and the Salcor 3G UV disinfection components shall be as specified in the products Operation and Maintenance Manual. This includes, but is not limited to: 1) initial maintenance three to six months after system start-up; and 2) inspections and maintenance at six month intervals. The Salcor UV lamp(s) shall be replaced at least once every two (2) years to ensure proper disinfection or more often as needed, to achieve the required fecal coliform bacteria treatment level.
13. For systems registered as meeting the requirements for Treatment Level B, testing for fecal coliform bacteria is required per the local operating permits when reduced vertical soil separation is employed.
14. As specified in the owner's manuals, limitations of the product are identified, including a list of unsuitable wastes that must not be discharged into the system. The manufacturer is responsible to provide a listing of other known limitations, to be made available on the company's website or other means.
15. Training shall be provided to MPCA-licensed Subsurface Sewage Treatment System practitioners before designing, installing, or providing service to Hydro-Action treatment systems (AP-500, AP-600, AP-750, AP-1000 and AP-1500 Model Series) and to the Salcor 3G UV disinfection devices registered for use in Minnesota.
16. During the period of product registration and as part of the renewal process, systems using registered treatment products are subject to an audit by the MPCA.

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Please be advised that this registration expires December 31, 2024. Manufacturers desiring to continue product registration beyond this date must obtain MPCA renewal according to the requirements in Minn. R. Ch. 7083.4040 (E). If the product has changed or is retested according to the protocol required for registration, renewal shall be based on the most recent test results. If the MPCA finds the product has changed in any way that may affect performance, it may not be renewed and must meet the requirements for initial registration.

The MPCA is in no way endorsing these products or any advertising, and is not responsible for any situation, which may result from its use or misuse. The MPCA is not liable for any product failure and these statements are not intended and cannot be relied upon to establish any substantive or procedural rights with the state of Minnesota or the MPCA, either express or implied, that can be enforced in litigation or any administrative proceeding.

If you have any questions, please contact Katie Dowling at 651-757-2301 or by email at katie.dowling@state.mn.us.

Sincerely,

Katie Dowling

This document has been electronically signed.

Katie Dowling
Environmental Specialist
Municipal Division

KD:lm

cc: File