



Douglas A. Ducey
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY



Misael Cabrera
Director

Notice of Proprietary Treatment Product Listing Pursuant to Arizona Administrative Code R18-9-A309(E) ADEQ File No. 20160161 LTF No. 64334

1. Proprietary Treatment Product Name, Model, and Description

Product Name:	Sludgehammer
Models:	S-46
Description:	The Sludgehammer is an aerobic bacterial generator that uses a packet of bacillus species bacteria found in the soil and leaf litter of forests throughout Arizona and the rest of the United States to aid in the treatment of wastewater. The bacteria are placed in a micro-fine bubble diffuser to rapidly metabolize all carbon based material in a wastewater treatment tank. The SludgeHammer process is recognized and approved by the International Organization of Plumbing and Mechanical Officials (IAPMO) as an Aerobic Bacterial Generator under their Standard IGC 180-2013.

2. Manufacturer Information

Name:	SludgeHammer Group Ltd.
Address:	336 S. Division Road
City/State/Zip:	Petoskey, Michigan 49770
Phone:	231-348-5866
Website:	www.sludgehammer.net

Main Office

1110 W. Washington Street • Phoenix, AZ 85007
(602) 771-2300

Southern Regional Office

400 W. Congress Street • Suite 433 • Tucson, AZ 85701
(520) 628-6733

www.azdeq.gov

printed on recycled paper

3. Recognized Treatment Performance

a. B1 Performance (AAC R-18-9-E315(B)(1))

Parameter	Averaging Time	Maximum Value for Parameter & Averaging Time
5-Day Biochemical Oxygen Demand (BOD ₅), mg/l	30-day arithmetic mean	30
Total Suspended Solids (TSS), mg/l	30-day arithmetic mean	30
Total nitrogen (as nitrogen), mg/l	five-month arithmetic mean	53*
Total coliform, colony forming units/100ml	95th percentile	300,000*

* Default value due to the lack of submitting sufficient 3rd party test data per R18-9-E315(B).

b. B2 Performance (AAC R-18-9-E315(B)(2))

Parameter	Averaging Time	Maximum Value for Parameter & Averaging Time
5-Day Biochemical Oxygen Demand (BOD ₅), mg/l	30-day arithmetic mean	60
Total Suspended Solids (TSS), mg/l	30-day arithmetic mean	60
Total nitrogen (as nitrogen), mg/l	five-month arithmetic mean	53*
Total coliform, colony forming units/100ml	95th percentile	1,000,000*

* Default value due to the lack of submitting sufficient 3rd party test data per R18-9-E315(B).

4. Product Applicability and Limitations for Use for a Recognized General Permit Technology

Applicability: This listing is for the treatment technology specified in A.A.C. R18-9-E315 and for residential wastewater sources. See **5. Alternative Criteria and Exceptions for Use Under the Recognized General Permit Technology** for non-residential wastewater sources.

Limitations:

- A. This listing is only for technology approved in accordance with A.A.C. R18-9-E315 and does not include any other technology/product including disinfection devices.
- B. The product is subject to R18-9-A312(B)(4)(e) unless waived under Exceptions.
- C. The treatment system shall conform to the following:

Manufacturer's Model Name	Maximum Number of Bedrooms	Maximum Treatment System Design Flow (gallons per day) (see NOTE C.1)	Treatment Tank Size (gallons)	Treatment Performance	
				Two Chamber Treatment Tank (New or Existing)	One Chamber Treatment Tank (Existing Only)
S-46	1	300	1,000	B1	B2
S-46	2	300	1,000	B1	B2
S-46	3	450	1,000 or 1250	B1	B2
S-46	4	600	1,250	B1	B2

- D. The product is subject to A.A.C. R18-9-A312(F)(2) through (4) except for the exceptions noted in **Alternative Criteria and Exceptions for Use Under the Recognized General Permit Technology**.
- E. This listing EXCLUDES appurtenances which are considered to be "other manufactured materials and components" such as an alarm, control panel, control, switch, timer, wiring, other electrical devices, and installation components; which are subject to both the manufacturer specifications and any more restrictive requirement in 18 A.A.C. 9, Article 3.

NOTES:

C.1 A.A.C. R18-9-A314(4)(a)(i).

5. Alternative Criteria and Exceptions for Use Under the Recognized General Permit Technology

Alternative:	None
Exception:	<ol style="list-style-type: none"> 1. When the wastewater source is from a non-residential source, a Manufacturer’s Design Review Report shall be submitted with the Notice of Intent to Discharge to specify component capacities, control settings, and supplemental installation & operational practices. 2. The 24-hour emergency storage requirement per R18-9-A312(B)(4)(e) may be waived by providing redundant pumps and emergency back-up power. 3. Existing one or two chamber treatment tanks are allowed if a leakage test is conducted in accordance with AAC R18-9-A310(C)(1)(b) and confirms there are no leaks. 4. A new disposal works may not be required if there is an existing disposal works in place.

6. Documents Used as the Basis for this Proprietary Treatment Product Listing Notice

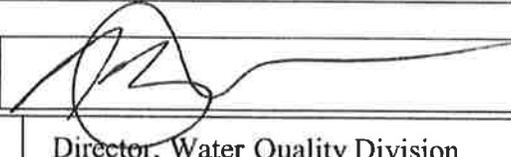
Application for Treatment Product Listing:	Arizona PPL Application, Dated 7/06/16/, 7/25/16 & 8/12/16
Product Information:	Tab #2, Arizona PPL Application.
Product Warranty:	Tab #3, Lifetime Warranty, Arizona PPL Application.
Technical Drawings/Manufacturer’s Specifications for Product	Tab #4, Arizona PPL Application.
Pretreatment Requirements:	Tab #5, Arizona PPL Application.
Engineering Details & IAPMO Certification:	Tab #6, IAPMO Certification – August 2015, Arizona PPL Application.
Installation Instructions:	Tab #7, Arizona PPL Application.
Operations & Maintenance Manual:	Tab #8, Arizona PPL Application.
3 rd Party Test data:	Tab #9, Pre NSF 40 Testing by Nova Tec Consultants dated 12/21/2007 & other test data, Arizona PPL Application
Other Documents:	Response to R18-9-A312(B)(4)(e), dated August 16, 2016.

NOTE 1 – This document is an integral part of this Proprietary Treatment Product Listing Notice and is included in the Arizona Department of Environmental Quality website at:

<http://www.azdeq.gov/environ/water/engineering/product.html>

6. Terms and Conditions for this Proprietary Treatment Product Listing Notice

- A. This Notice of Proprietary Treatment Product Listing shall remain in effect until any of the following occurs:
 - i. Applicable provisions of the Arizona Administrative Code, Title 18, Chapter 9, Article 3 are revised;
 - ii. Documents used for the basis of this listing are altered or modified;
 - iii. Manufacturer claims which are relied upon for this listing are later determined to contain an error or omission;
 - iv. The manufacturer requests termination of this listing;
 - v. A listing error or omission is identified; or
 - vi. The manufacturer and ADEQ mutually agree to reissue this notification to incorporate correction or update for any reason.
- B. This Notice of Proprietary Treatment Product Listing does not apply when the:
 - i. Listed proprietary treatment product is modified or operated in a manner that conflicts with Arizona law or the documents used for the basis of this listing action in Section 6.
 - ii. Listed proprietary treatment products is used in a manner that cannot be achieved the performance in Section 3 above.
- C. This Notice of Proprietary Treatment Product Listing applies solely to the product specified in Section 1 above.
- D. The manufacturer is responsible for notifying the ADEQ of changes to contact information at the following address:
 - Attention: Product Listing Supervisor
 - Engineering Review Desk,
 - 1110 West Washington Street
 - Phoenix, AZ 85007.
- E. The listing by ADEQ of any proprietary product or service is not an endorsement by ADEQ or the State of Arizona. ADEQ does not endorse, represent, guarantee, warranty or defend the use of any product which is authorized for use pursuant to A.A.C. R18-9-A309(E). Product providers are a direct source unrelated to ADEQ or the State of Arizona. Use of any listed product is at the user's risk and the State assumes no liability.

Signature:		Date Signed:	9-12-16
Title:	Director, Water Quality Division		