	U S ENVIRONMENTAL PROTECTION AGENCY	EPA Reg Number	Date of Issuance
HIND THE ROTECTION	Office of Pesticide Programs Antimicrobials Division (7510P) 1200 Pennsylvania Avenue NW	86256 1	JUL - 1 2010
	Washington D C 20460	Term of Issuance Time Limited Expires on	
	NOTICE OF PESTICIDE Registration Reregistration	Name of Pestin Smart Sponge	Cide Product 98 Plus
(under FIFRA as	amended)		
4110 I Scotts	N Scottsdale Rd Suite 235 dale AZ 85251		
Note Changes in labe accepted by the Regis above EPA registratio	Hing differing in substance from that accepted in connection with stration Division prior to use of the label in commerce In any con number	this reģištratījon must b rrespondence on this br	e submitted to and s
On the basis of inform Insecticide Fungicide	ation furnished by the registrant the above named pesticide is h and Rodenticide Act	nereby registered/reregis	stered under the Federal
Registration is in no w nealth and the enviror	ay to be construed as an endorsement or recommendation of th iment the Administrator on his motion may at any time suspen-	is product by the Agenc d or cancel the registrat	y In order to protect ion of a pesticide in his Act is not to be
construed as giving th	e registrant a right to exclusive use of the name or to its use if it	has been covered by of	hers
This proc provided that	duct is conditionally registered in accordance w	onth FIFRA sec 3(c)(7)(B)
1 11- 1	following two studios listed below are recoved	by the Agency re	eviewed and found
to be	acceptable in order to fulfill the conditions of t	his Registration	
a Acuto b Acuto	acceptable in order to fulfill the conditions of t e freshwater fish study OPPTS Guideline 850 f e freshwater aquatic invertebrate study OPPTS	1075 (TGAI) Guideline 850 16	010 (TGAI)
a Acuto b Acuto	acceptable in order to fulfill the conditions of t e freshwater fish study OPPTS Guideline 850 : e freshwater aquatic invertebrate study OPPTS	1075 (TGAI) Guideline 850 10	010 (TGAI)
a Acuto a Acuto b Acuto Signature of Appo July Velma Noble	acceptable in order to fulfill the conditions of t e freshwater fish study OPPTS Guideline 850 : e freshwater aquatic invertebrate study OPPTS	Date	010 (TGAI)

Page 2 EPA Reg No 86256 1

ç

2 This data must be conducted in accordance with established protocols and submitted to the Agency for review by July 1 2011

3 Submit and/or cite all data required for registration/reregistration of your product under FIFRA sec 3(c)(5) when the Agency requires all registrants of similar products to submit such data and submit acceptable responses required for re registration of your product under FIFRA section 4

4 If these conditions including the labeling changes which follow are not complied with this Registration will be subject to cancellation in accordance with FIFRA section 6 (e)

5 Your release for shipment of this product constitutes acceptance of these conditions

6 Make the labeling changes listed below before you release the product for shipment

a Revise the EPA Registration Number to read EPA Reg No 86256 1

b Delete the following statement on the front panel See back panel booklet for additional Precautionary Statements This statement does not appear to coincide with any precautionary language

c Add the following sentence as the second statement immediately following the heading Directions for Use Do not use for treatment of potable and/or drinking water

d Revise page two by deleting the reference to the pretreatment of water for membrane systems listed in item #2 of the directions for use It is unclear as to why water which should be clean would be pretreated with this product

e All claims of effectiveness for this product are limited to coliform reduction based on the submitted data Beginning on page three and continuing throughout the label and attachment A revise all references to total coliform bacteria and the effectiveness of this product to indicate coliform reduction reduction of coliform bacteria reducing coliform bacteria reduce coliform bacteria or provides coliform reduction only Delete all references to total coliform bacteria as a total coliform reduction claim implies 100% reduction Such a claim is not supported by the submitted data This revision to a coliform reduction claim will bring this product into agreement with other similar products in the marketplace



OFFICIAL FILE COP

2/29

1

f In order to bring this label into agreement with the human health assessment add the following statement to the Inspection and Maintenance section on page four *Gloves should be worn during all inspection maintenance and replacement activities*

g Delete the following statements from page six which are not accurate Smart Sponge Plus is the first product registered by the EPA for the [treatment/reduction] of total coliform bacteria in stormwater and Under a controlled set of parameters Smart Sponge Plus offers reproducible antimicrobial performance results through engineered field solutions

h Should you wish to retain a reference to the company s website on your label then please be aware that such a reference transforms the website into labeling under the Federal Insecticide Fungicide and Rodenticide Act sec 2 (p) (2) and then the website is subject to review by the Agency If the website content is false or misleading the product would be misbranded and its sale or distribution unlawful to sell or distribute under FIFRA section 12(a)(1)(E) In addition regardless of whether a website is referenced on your product s label claims made on the website may not substantially differ from those claims approved through the registration process Although EPA has not yet determined the extent to which it will routinely review company websites if the Agency finds or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from claims approved through the registration process the website may be referred to the EPA s Office of Enforcement and Compliance Assurance

1 Correct the diagram on in attachment A picture 1 to state Chemical and bio treatment (oil & grease *coliform* bacteria *reduction*)

J Revise attachment A section IV **Installation** to include the following revised statements This manual does not claim to cover or implicitly address all safety compliance or regulatory issues related with the manufacturing and/or fabrication of the concrete products or of the internal components used within the Smart Pak[®] Vault *excluding the Smart Sponge[®] Plus* It is the on site user s responsibility to establish the appropriate safety health environmental practices and regulatory requirements to meet federal state and local mandated standards in relation to the concrete products or internal components *that have not been supplied by AbTech* Deviation from regulatory



UN _D STATES ENVIRONMENTAL PROTEC

k Revise the Hydraulic Performance chart on page three by adding the following clarifying information immediately below the chart *The amount of Smart* Sponge Plus needed to treat 1 cubic foot/second (CFS) of contaminated water is approximately 256 cubic feet To treat 5 CFS of contaminated water 1216 cubic feet of Smart Sponge Plus material is needed These quantities assume an average of 4 feet available hydraulic head

7 Upon completion submit a one year Storage Stability and Corrosion Characteristics Study to the Agency for review

A stamped copy of the label is enclosed for your records Submit one (1) copy of your final printed labeling prior to release of this product for shipment If you have any questions concerning this letter please contact Tracy Lantz at (703) 308 6415

Sincerely

Tray Long



Velma Noble Product Manager 31 Regulatory Branch I Antimicrobials Division (7510P)

Enclosure (Stamped Label) 7510P T Lantz 6/29/10 AbTech Reg Notice 86256 1



}

Smart Sponge[®] Plus

[ABN Ultra Urban[®] Filter with Smart Sponge[®] Plus]
 [ABN Smart Pak[®] with Smart Sponge[®] Plus
 [ABN Smart Sponge[®] Plus Popcorn filtration media]
 [ABN Smart Pak[®] Vault with Smart Sponge[®] Plus]

ACCEPTED with COMMENTS in EPA Letter Dated

NUL 1 = 2010

Under the Federal Insecticide Fungi ide and federate de Act as a nerded for the pe tuide registered under EPA Reg No 86256-1

THIS PRODUCT CONTAINS ACTIVE INGREDIENT 3-(trimethoxysilyl) propyldimethyloctadecyl ammonium chloride

45%

OTHER INGREDIENTS TOTAL 95 5% 100 00%

KEEP OUT OF REACH OF CHILDREN

NET WT Various

EPA Reg No 86256-



DIRECTIONS FOR USE

Į

It is a violation of Federal law to use this product in a manner inconsistent with its labeling

For Stormwater, Industrial Wastewater and Municipal Wastewater Treatment Only Smart Sponge[®] Plus is installed as an independent filtration media or incorporated into manufactured products for the following applications

- 1 Underground single pass storm water filtration systems including catch basin inserts filtration beds filtration units cartridges and filtration layers
- 2 Industrial wastewater filtration systems including cartridges vessels for batch or continuous operation and filtration panels for treatment of industrial discharges process water and pretmation of water for membrane systems excluding drinking and potable water

[Note to reviewer Process wastewater defined as water that comes in contact with any raw material, product, by-product, or waste during any production or industrial process (Source businessdirectionary com)]

3 Municipal wastewater filtration systems for treatment of secondary or tertiary municipal sewage treated effluent excluding drinking and potable water SmartSponge Plus must not be used as stand alone treatment of raw sewage

The sizing and installation directions for Smart Sponge[®] Plus products will vary according to specific site characteristics The size and structural integrity of each site the water flow rate and bacterial concentration are all factors to be considered in determining which physical form of the product should be selected The Smart Sponge[®] media is deployed in multiple physical forms i e Popcorn (small clumps of Smart Sponge[®] Plus material similar in shape to popcorn) Smart Paks[®] (brick shaped blocks of Smart Sponge[®] Plus material) or a combination of the two In each case the Smart Sponge[®] media is contained or packaged in netting fabric or screens to avoid any release of loose material

Design engineers will work with each customer to design the proper size and shape of the Smart Sponge[®] Plus system for each installation and field technicians will provide technical assistance during the installation and operation of the Smart Sponge[®] Plus filtration system The basis for the design is described in the table below

ACCEPTED with COMMENTS in EPA Letter Dated

JUL 1 - 2010

Under the Federal Inserticide Fungi de ant Rodentie de Act**as** au. ided fir the pestimide requisered under EPA Reg. No 86256-1 Hydraulic Performance Rating of Smart Sponge[®] Plus Flow rate per square foot of

Frontal Area for the stated Bed Depth and Available Hydraulic Head

		1 Foot of Hydraulıc Head	2 Feet of Hydraulıc Head	3 Feet of Hydraulıc Head	4 Feet of Hydraulıc Head
nart	2 Feet	$15 \text{ GPM}^1/\text{SQ} \text{ FT}^2$	33 GPM/SQ FT	50 GPM/SQ FT	67 GPM/SQ FT
t of Sn ® Plus	4 Feet	7 GPM/SQ FT	19 GPM/SQ FT	30 GPM/SQ FT	41 GPM/SQ FT
Deptheonge	6 Feet	2 5 GPM/SQ FT	10 GPM/SQ FT	18 GPM/SQ FT	26 GPM/SQ FT
Bed S	8 Feet	0 GPM/SQ FT	4 GPM/SQ FT	10 GPM/SQ FT	15 GPM/SO FT

Smart Sponge[®] Plus density (19 +/ 2 lbs/cf) Al 4 5% by weight

¹GPM = Gallons per Minute

²Sq Ft = Square Feet of Frontal Surface

Sizing and Installation

JUL 1 – 2010 Under the Federal Insecticide Fungicide and Roderticide Act as amended for th pe icide registered under EPAt eg do

in EPA Letter Daved

The Smart Sponge[®] Plus filtration systems are designed in multiple configurations Products incorporating the Smart Sponge[®] Plus technology do not typically require structural changes to stormwater systems Products such as the Ultra-Urban[®] Filter with the Smart Sponge[®] Plus technology fit into most existing catch basins

The Ultra Urban[®] Filter with Smart Sponge[®] Plus comes in two standard designs 1) a modular unit geared toward curb inlet openings or 2) a single unit designed for typical drop in catch basins

Vault systems using Smart Sponge[®] Plus are installed at the middle or end of a drainage or sewer pipe and are either large cast in place vaults with cages of Smart Sponge[®] Plus material or small compact precast vaults with multiple Smart Pak[®] blocks installed to achieve the desired filtration bed length Cast-in-place underground units are customized for larger flows The various filtration systems are designed to filter the water discharge flow of a two-year 24 hour design storm and reduce

AbTech Industries technicians or trained engineers determine each filtration system s discharge flow from calculations based on the contributing watershed Designers also determine the site test coliform bacterial contamination using historical baseline data obtained from runoff sampling

Smart Sponge[®] Plus filtration systems are appropriately sized based on the water quality treatment flow rate and term coliform bacterial contamination data As most contamination is contained in the initial runoff (first flush) the Smart Sponge[®] Plus

system is not sized to treat peak discharge from the watershed and will incorporate an internal bypass to handle peak discharge

Smart Sponge[®] Plus material is used for industrial wastewater filtration Typical deployments for industrial applications involve filtration cartridges and vessels where the Smart Sponge[®] Plus media is housed in prefabricated housings The design and sizing of these filtration systems is based on the hydraulics and pollutant data for the site as well as operating and/or discharge requirements

Municipal wastewater treatment applications use filtration beds of the Smart Sponge[®] Plus material installed after secondary treatment systems for the abatement of residual tetra coliform bacterial concentration. The filtration systems are designed to handle operating flow rates and reduce total coliform bacterial concentration to allow discharge in compliance with existing regulations

AbTech Industries provides the user with customized installation instructions in order to allow Smart Sponge[®] Plus filtration systems to effectively perform their filtration function. Non compliance with installation instructions will void all product warranties

Inspection and Maintenance

A plan for regularly scheduled inspections must be established for each installation of Smart Sponge[®] Plus systems The maintenance schedule for each installation may vary based on watershed conditions (see Operation and Maintenance Manual Attachment A)

Smart Sponge[®] Plus filtration systems will collect trash debris and sediment over the course of the deployment To maintain the antimicrobial performance each Smart Sponge[®] Plus system must be inspected for hydraulic performance on a regular basis In addition each system must be cleaned at least once per year or more frequently if visual inspection shows visible trash debris or sediment (please refer to **Appendictor** and Maintenance Manual Attachment A) with COMMENTS in EPA Letter Dated

Inspections must occur

- Quarterly during the calendar year
- After major storms

Under the Federal Insecticide Fungicide and Rodeuticide Act as am inded for the pesticide registered under EPA Reg No 86256-1

In vault applications visual inspection must include observation for settled trash and debris on the vault floor standing water and any other abnormalities. In addition the stainless steel structure must be inspected for damage or deterioration. Any debris vegetation or trash must be removed.

Major maintenance must be completed if determined necessary following inspections of Smart Sponge[®] Plus filtration systems Major maintenance includes such steps as

cleaning (vacuuming trash and debris) hydraulic testing sediment removal and rotation/replacement of the Smart Sponge[®] Plus material

Due to the absence or limited presence of sediment and coarse contaminants in industrial and municipal wastewater treatment applications a visual inspection must be performed every month to verify the structural integrity of the filtration system and its required operational hydraulic performance

A complete description of the inspection and maintenance process is found in the *Smart Pak*[®] *Vault with Smart Sponge*[®] *Plus Operation and Maintenance Manual* accompanying this label [Attachment A] In EPA Letter Dated

Non compliance with proper inspection and maintenance instructions will void Under the Federal Insection

Replacement

VOICEUL 1 - 2010 Under the Federal Insecticide Fungicide and Rodenticide Act as amended for the pe tic de registered under EPA Reg No

86256-1

The Smart Sponge[®] Plus filtration systems maintain their antimicrobial efficacy over the life of the product but efficacy is affected by physical factors such as sediment coating oil absorption trash accumulation and general oxidation

To maintain efficacy the maintenance program must be implemented throughout the life of the Smart Sponge[®] Plus filtration system Required maintenance activities include hydraulic conductivity testing and rotation of the Smart Sponge[®] Plus material within the filtration structure (i e rotate the front layer of Smart Sponge[®] Plus material to the back of the filtration system) every 3 to 6 months Details on hydraulic testing and filtration media rotation are found in the Smart Pak[®] Vault with Smart Sponge[®] Plus Operation and Maintenance Manual accompanying this product [see Operation and Maintenance Manual Attachment A] If the hydraulic conductivity test mentioned above fails the antimicrobial efficacy of the filtration system may be compromised and the Smart Sponge[®] Plus material within the system must be replaced

Compliance with the required maintenance schedule and rotation protocol will allow the Smart Sponge[®] Plus filtration system to be effective up to 3 years depending on site characteristics

PESTICIDE STORAGE AND DISPOSAL

Do not contaminate food or feed by improper storage and disposal

Pesticide Storage Always store pesticides in the original container Store in a dry area with ambient temperature below 95 F (35 C) When in storage avoid extended or frequent exposure to direct natural or artificial light Clean up any spills promptly

Pesticide Disposal Upon removal of the used Smart Sponge[®] Plus system dispose

of the Smart Sponge[®] Plus material at an approved waste disposal facility The following waste disposal and resource recovery industries have accepted spent Smart Sponge[®] products for disposal and/or recycling waste to energy facilities cement kilns and landfills

Container Disposal Non refillable container Do not reuse or refill this container Completely empty container Then offer for recycling if available or dispose of in a sanitary landfill or if allowed by state and local authorities by incineration or burning If burned stay out of smoke

[Note to reviewer Shipping containers include cardboard boxes, plastic drums, fiber drums and palletized product secured with shrink wrapping film]

CLAIMS

[Note to reviewer These claims may be presented on the contrained of the labeling accompanying the product]

Smart Sponge[®] Plus is the first product registered by the EPA femente [iterations and a status of the contract of the pesticide and Rodunticide Act as a granded for the pesticide

Fungicide and Rodenticide Act as amended for the pesticide registered under EPA Reg No 86256-1

ACCEPTED

Smart Sponge[®] Plus reduces total coliform bacteria found in stormwater industrial wastewater and municipal wastewater

Smart Sponge[®] Plus is an antimicrobial product that reduces **term** coliform bacteria found in stormwater industrial wastewater and municipal wastewater

Smart Sponge[®] Plus contains an antimicrobial agent that is effective in reducing **term** coliform bacteria found in stormwater industrial wastewater and municipal wastewater

Smart Sponge[®] Plus has antimicrobial capabilities that make it effective as a filtration media to reduce total colliform bacteria found in stormwater industrial wastewater and municipal wastewater

Smart Sponge[®] Plus offers engineered [field] solutions for reducing teter coliform bacteria in stormwater

Smart Sponge[®] Plus offers engineered field solutions for reducing total coliform bacteria in stormwater industrial wastewater and municipal wastewater

Smart Sponge[®] Plus can be engineered using controlled test parameters (such as modifying flow rates and **taket** coliform bacterial concentration) to meet your performance requirements

Under a controlled set of parameters, Smart Spopge[®] Plus offers reproducible antimicrobial performance results through engineered field solutions

11/24

Smart Sponge[®] Plus is designed to assist water systems to meet Total Maximum Daily Load Limits (TMDL s) for **total** coliform bacteria

When properly installed and maintained Smart Sponge[®] Plus provides a significant reduction in tetral coliform bacteria

Notice To the extent consistent with applicable law buyer assumes all responsibility for safety and use not in accordance with directions OSHA regulations need to be followed in order to prevent work-related injuries

Manufactured By

AbTech Industries Inc 4110 N Scottsdale Road Suite 235 Scottsdale AZ 85251

Made in USA

QuestionsComments or Medical InformationCall 1 800-545-8999www.abtechindustries.comRodolfo BManzonePhDChief TechnologyOfficer

EPA Reg No 86256-

EPA Est No 086256 AZ 001

ACCEPTED with COMMENTS in EPA Letter Dated.

JUL - 1 2010

Under the Federal Insecticide Fungicide and Rodenticide Act as amanded for the pesticide registered under EPA Reg No

86256-1

Attachment A

Smart Pak[®] Vault with Smart Sponge[®] Plus

Operation and Maintenance Manual

April 28, 2010

- Ī Description
- **Purpose** Π
- III Sizing
- IV Installation

V **Inspection and Maintenance**

(

Inspection

- > Frequency
- \triangleright Items to inspect
- > Inspection Documentation

Maintenance

- ➢ Guidelines
- Type of Maintenance
 - Hydraulic Testing
 - Filtration Media Rotation and replacement •
- > Frequency
- Maintenance Documentation

- Inspection and Maintenance Checklists
 ➢ Smart Pak[®] Vault with Smart Sponge[®] Plus Inspection Data Sheet
 ➢ Smart Pak[®] Vault with Smart Sponge[®] Plus Maintenance Report

Material Disposal VI

ACCEPTED with COMMENTS in EPA Letter Dated.

Under the Federal Insecticide

(

Fungicide and Rodenticide Act as amended to the pesticide regi tered under EPA Reg No

86256-1

Description

I

The Smart Pak[®] Vault with Smart Sponge[®] Plus is a passive flow through stormwater filtration system The system is comprised of an underground concrete vault that houses Smart Sponge[®] filtration media contained within a filtration structure The Smart Sponge[®] media can be deployed in multiple physical forms 1 e Popcorn Smart Pak[®] or a combination of the two The Smart Pak[®] Vault with Smart Sponge[®] Plus works by flowing stormwater through the media section which removes suspended solids including some suspended heavy metals absorbs oil and grease as well most hydrocarbons and reduces the treated stormwater is directed to a collection pipe or discharged into an open channel drainage way

The filtration system for Smart Pak[®] Vault with Smart Sponge[®] Plus is designed in multiple configurations typically direct flow or radial flow The housing of the filtration system utilizes pre-manufactured units to ease the design and installation processes Cast in place underground units are customized for larger flows

 ACCEPTED

 with COMMENTS

in EPA Letter Dated. JUL - 1 2010





II Purpose

The Smart Pak[®] Vault with Smart Sponge[®] Plus is a passive stormwater filtration system designed to improve the quality of stormwater runoff from the urban environment before it enters receiving waterways

The Smart Pak[®] Vault with Smart Sponge[®] Plus has been shown in independent third party studies to be highly effective for treatment of first flush and design storm events while allowing easy bypass of peak flow In general the efficacy is highest when pollutant concentrations are highest. The primary non point source pollutants targeted for removal or reduction by the Smart Pak[®] Vault with Smart Sponge[®] Plus are trash and debris suspended solids (TSS) including insoluble metals and nutrients attached to sediment oil grease and teter colliform bacteria with COMMENTS



Under the Federal Insecticide Fungicide and Rodenticide Act as amended, for the pesticide puesities and Rodenticide Act as

in EPA Letter Dated

The Smart Pak[®] Vault with Smart Sponge[®] Plus filtration bed is typically designed teg No filter the water discharge flow of a two year 24 hour design storm and reduce $\Im (256-1)$ contamination in the runoff The discharge flow is determined from calculations based on the contributing watershed and the site contamination is determined using historical baseline data obtained from runoff sampling As most contamination is contained in the initial runoff (first flush) the Smart Pak[®] Vault with Smart Sponge[®] Plus system is designed to treat first flush but not sized to treat peak discharge from the watershed and will incorporate internal bypass to handle peak discharge

IV Installation

Smart Pak[®] Vault with Smart Sponge[®] Plus filtration bed installation instructions are supplied by AbTech Industries Inc and its authorized distributors for each site and must be carefully followed This manual does not claim to cover or implicitly address all safety compliance or regulatory issues related with the manufacturing and/or fabrication of the concrete products or of the internal components used within the Smart Pak[®] Vault to contract the Smart Sponge[®] Plus It is the on site user s responsibility to establish the appropriate safety health environmental practices and regulatory requirements to meet federal state and local mandated standards in relation to the concrete products or internal components Deviation from regulatory requirements at any level is borne by the on site user and AbTech Industries Inc is not responsible for any failure to comply

Installation instructions contained within this label are intended to guide on site installation personal to comply with federal state and local requirements for the Smart $Pak^{\ensuremath{\mathbb{R}}}$ Vault with the Smart Sponge^{$\ensuremath{\mathbb{R}}$} Plus

Manufacturing of concrete vaults either cast in place or modular precast units must adhere to the specifications set by the American Concrete Institute (ACI) ASTM International American Association of State Highway and Transportation Officials (AASHTO) American Welding Society (AWS) and all state and local requirements Installation and confined space entry within concrete vaults must follow applicable safety regulations set by the Occupational Safety and Health Administration (OSHA)

Fabrication of non corrosive metal units containing Smart Sponge media 1 e flat bar steel angle steel expanded metal filler material for welds fastening components reinforcing components etc must adhere to the industry practices enforced by ASTM International and AWS This manual does not exclude any materials or techniques that would help achieve the goal of providing structurally sound high quality products that meet industry standards

Prior to fabrication or installation of any vault structures or vault components consult the governing regulatory requirements set at either the federal state or local level

V Inspection and Maintenance^{in EPA Letter Dated}

Inspection

> Frequency

UNL 1 = 2010 Under the Federal Insecticide Fungicide and Rodenticide Act as amended for the pesticide registered under EPA Reg No 86 256-1

ACCEPTED

Inspection scheduling is site specific as it needs to take into account local weather pattern site/watershed profile and contaminants loading Inspections must be conducted at least as often as

- Quarterly during the calendar year
- After major storms

> Items for inspection

The goal of the inspection is to assess the accumulation of any trash debris or particulate matter in the inlet trough and assess the viability of the filtration media to convey water and/or to **remaining terms** coliform bacteria

Always employ proper traffic management and handling procedures for all inspections where vehicles and pedestrians have access

Remove manhole/ ltd(s) and observe from above

- 1 The inlet trough for settled trash and debris on the floor
- 2 The inlet trough for standing water
- 3 The inlet trough for the high water line
- 4 The outlet trough for abnormalities
- 5 Stainless steel (SS) structure for damage or deterioration

NUT 11= 2010

Under the Federal Insecticide Fingicide and Rodenticide Act as



6 Replace manhole/ ltd(s) as appropriate

If unable to observe details of the media or SS structure enter the vault Do not enter the vault during periods of rain or when the system is actively working (releasing of upstream detained stormwater through the unit) Always employ OSHA regulated rules for confined space when working inside the vault

Inspect

- Anything not observable from above (see previous list) 1
- 2 The inlet grid and inlet face of the media for fouled media due to the clogging of pores from trash or other particulate matter (the outside surface of the media may be a brown color or otherwise obviously clogged with particulate matter)
- 3 The inlet face of the media for fouled media due to the absorption of hydrocarbons (the outside surface of the media will be a black color)
- 4 Other devices located within Smart Pak[®] Vault with Smart Sponge[®] Plus as appropriate (e.g. non stormwater bypass lines motor operated valves etc.) See Inspection and Maintenance Procedures for other devices
- 5 Replace manhole/lid(s) as appropriate

> Inspection Documentation

Complete the Smart Pak[®] Vault with Smart Sponge[®] Plus Inspection and Maintenance Report This report will assist in the decision process to initiate appropriate the comment ance activities in EPA Letter Dated.

Maintenance

> Guidelines

amended for the pesticide The primary purpose of the Smart Pak[®] Vault with Smart Sponge^{eggtared under EPA No.} 86256-1 effective filtration system is to filter out and prevent pollutants from entering our waterways Accordingly the pollutants being captured by the Smart Pak[®] Vault with Smart Sponge[®] Plus must be periodically removed The goal of the maintenance activities is not only to repair or extend the functionality of the filtration media but also to prevent malfunctions of the media before they occur As previously noted trash debris and other particulate matter are detrimental to the proper function of the media therefore maintenance activities focus primarily on these types of contaminants

Maintenance requirements and frequency are dependent on the pollutant load characteristics of each site

Maintenance activities are required in the event of a chemical spill or due to excessive sediment loading from site erosion or extreme storms. It is also good practice to inspect the system after severe storm events

> Types of Maintenance

Currently two types of maintenance have been defined

- Ordinary/minor maintenance
- Major maintenance

Ordinary maintenance activities are often combined with inspection since minor maintenance does not require special equipment and typically little or no materials are in need of disposal

Ordinary/minor maintenance involves

- Inspection of the installation itself
- Removal of vegetation trash and debris and sediment

Major maintenance includes

- Sediment removal
- Filtration media (Smart Pak[®] or Popcorn) cleaning/hydraulic testing (once a year)
- Filtration media rotation and/or replacement

Important Applicable safety (OSHA) and disposal regulations must be followed during all maintenance activities

Four scheduled inspections/maintenance activities must take place during the year

First an inspection/minor maintenance activity must be done During the minor maintenance activity (routine inspection debris removal) the need for major maintenance should be determined and if disposal during major maintenance will be required samples of the sediment and media must be obtained

Second 1f required a major maintenance activity (replacement of the filter media and associated sediment removal) must be performed Major maintenance is also required if from visual inspection the integrity of the Smart Pak[®] blocks is damaged

In addition to these two scheduled activities the condition of the Smart Sponge[®] unit must be checked after major storms for damage caused by high flows and for high sediment accumulation that may be caused by localized erosion in the drainage area. The maintenance activity schedule must be adjusted when unusual depending conditions are encountered by the system

Minor maintenance activities will occur late in the rainy season and major maintenance will occur in late summer to early fall when flows into the system are not likely to be present

HYDRAULIC TESTING

02/11/10

ACCEPT with COMMENTS in EPA Letter Dated

Under the Federal Insecticide Fungicide and Rodenticide Act as amended for the pesticide registered under EPA Heg No 86256-1

(

As identified earlier, the objective of the Smart Pak[®] Vault with Smart Sponge[®] Plus is to filter out contaminants from high speed stormwater runoff The primary as well as ongoing effect of the Smart Pak[®] Vault with Smart Sponge[®] Plus bed will be accumulation of sediment in front of the filter bed and on the Smart Pak[®] block s polymer components causing a reduction of the hydraulic conductivity of the Smart Pak[®] At least once a year and preferably during a major maintenance event a hydraulic conductivity test of the Smart Pak[®] must be carried out Due to flow patterns it is expected that the Smart Pak s[®] front layers will be more heavily impacted by sediment accumulation and coating

When inspecting the Smart Pak[®] Vault with Smart Sponge[®] Plus filtration structure the operator must have the following materials on hand and follow the testing procedure described below

List of Materials

- 1 Hydrotest Device (HD) (Appendix C Picture 2)
- Two buckets marked at 5 gallons 2
- Chronometer or watch with second hand
 Disposal container in compliance with local regulations for the expected [2010]
 Fungicide and Rode
- 5 Rubber gloves
- 6 Hand towel
- 7 Duct tape and scissors

with COMMENTS in EPA Letter Dated Fungicide and Rodenticide Act as amended for the pesticide registered under EP4 Reg No 86256-1

Testing procedure

- 1 Remove the outer sediment coating and verify the overall integrity of the Smart Paks®
- 2 Remove a couple of Smart Paks[®] from the first layer
- 3 Position two (2) individual Smart Paks[®] into the Hydrotest Device (HD) paying particular attention to maintain the overall integrity of the Smart Paks[®] (if crumbling discard)
- 4 Verify that the Smart Paks[®] sit properly into the HD and ensure that all sides of the Smart Pak[®] are pressed against the HD walls and do not leave any space for water bypass
- 5 Wet the entire surface of Smart Paks[®] with tap water to ensure uniformity in testing and let it drain for one to two minutes (do not collect for measurement)
- 6 Position the plastic container (with 5 gallons mark) underneath the HD for collecting the test water
- 7 Fill a 5 gallon container with tap water pour it over the Smart Pak[®] bed and measure the time elapsed from the start of the pour through until the 5 gallons have been collected in the plastic container below the filtration bed
- 8 Repeat steps 7 and 8 at least 3 times and calculate the average
- If collecting time is 9
 - (a) below 30 seconds the Smart Pak[®] with Smart Sponge[®] Plus bed from that point on is still operating within its design
 - (b) above 30 seconds the Smart Pak[®] Vault with Smart Sponge[®] Plus layer tested needs to be replaced

10 If the first layer fails and needs to be replaced continue testing and replacing consecutively until a layer with a testing time below 30 seconds is reached

FILTRATION MEDIA ROTATION AND REPLACEMENT

In order to maximize the lifecycle for the Smart Pak[®] Vault with Smart Sponge[®] Plus media rotation must be added to any major maintenance event The antimicrobial performance of the Smart Sponge[®] Plus is tied to the sediment coating and hydrocarbon absorption of the Smart Pak[®]s Therefore the Hydraulic Test is a measure of the residual antimicrobial efficacy If the Hydraulic Conductivity Test mentioned above fails the antimicrobial efficacy of the filtration system may be compromised and the Smart Sponge[®] Plus material within the system must be replaced

After performing the Hydraulic Test and assessing the need for replacement of the front layer of the Smart Pak[®] Vault with Smart Sponge[®] Plus the back one third layer of the Smart Pak[®] Vault with Smart Sponge[®] Plus must be moved to the front the front moved to the middle and the middle to the back

> Frequency

The primary factors for controlling timing of maintenance for the Smart Pak[®] Vault with Smart Sponge[®] Plus are sediment accumulation and media fouling/saturation

A properly functioning system will remove solids from water by trapping particulates in the porous structure of the filter media The flow through the system will naturally decrease as more and more solids are trapped Eventually the flow through the system will be low enough to require replacement of the Smart Pak[®] It may be possible to extend the usable span of the Smart Pak[®] components by removing sediment from upstream trapping devices on an as needed basis in order to prevent material from being re suspended and discharged to the system

Site conditions greatly influence maintenance requirements Smart Pak[®] Vault with Smart Sponge[®] Plus units located in areas with erosion or active construction must be inspected and maintained more often than those in fully stabilized areas

The maintenance frequency may be adjusted as additional monitoring information becomes available during the inspection program Areas that develop known problems should be inspected more frequently than areas that demonstrate no problems particularly after large storms

Ultimately inspection and maintenance activities must be scheduled based on the historic records and characteristics of an individual Smart Pak[®] Vault with Smart Sponge[®] Plus system The maintenance entity must develop a database to properly manage Smart Sponge[®] installations



UNE 7 2010 Under the Federal Insecticide, Fungicide and Rodenticide Actors amended for the pesticide tegistered under EPA Reg No 86256-1 Prior to the development of the maintenance database the following maintenance frequencies must be followed

- Minor maintenance
 - o One time per year
 - o After major storms
- Major maintenance
 - o One time per year
 - In the event of a chemical spill

ACCEPTED with COMMENTS in EPA Letter Dated

Under the Federal Insecticide Fungicide and Rodentic de Act as amended for the pesticide registered under EPA Reg No 86256-

Maintenance frequencies must be updated as required Sediment removal is required on an annual basis until sufficient information is obtained about a particular system to justify a different replacement schedule

Once an understanding of site characteristics has been established a specific maintenance schedule must be developed

> Maintenance Documentation

Complete the Smart Pak[®] Vault with Smart Sponge[®] Plus Inspection and Maintenance Report This report will assist in the decision process to initiate appropriate maintenance activities

Inspection and Maintenance Checklists

As it is well known in the regulatory environment properly inspecting and maintaining treatment devices may not always be enough The facility owner is required to document the Inspection and Maintenance Process and retain inspection and maintenance records for any treatment device employed for the facility

An important part of the record keeping is the development of an inspection and maintenance database For the ease of review and demonstration a *Maintenance Report* and *Inspection and Data Sheet* (refer to Appendix A and B) that summarize all inspection and maintenance activities should be developed

VI Material Disposal

As local conditions product use and exposure can vary widely the end user must determine the most appropriate disposal method for items removed and collected from the Smart Pak[®] Vault with Smart Sponge[®] Plus unit

Collected sediments and water must be disposed of in accordance with applicable regulations In some cases the appropriate landfill facilities and/or liquid disposal facilities will have to be employed to properly dispose of solid or liquid wastes

Dispose of collected used Smart Sponge filtration media used in standard stormwater

21/24

applications at an approved waste disposal facility The following waste disposal and resource recovery industries have accepted spent Smart Sponge[®] products for disposal and/or recycling waste to energy facilities cement kilns and landfills

ACCEPTED with COMMENTS in EPA Letter Dated

4

Under the Federal Insecticide Fungicide and Rodenticide Act as amended tor the pesticide registered under EPA Reg No

86256-1

(

Appendix A

SMART PAK[®] Vault with Smart Sponge[®] ACCEPTED Inspection Data Sheet

Date	Personnel	Under the Federal Insecticide
Location		Fungicide and Rodenticide Act us amended for the pesticide System Sizered under EPA Reg No
		86256-1

System Type

No	Inspection Item	
1	Is settled trash debris and/or sediment in the inlet trough area?	YES 🗆
		NO 🗆
2	Is water trapped in the inlet trough or is there evidence of the high water mark above the water level difference	YES 🗆
	(WLD) barrier?	NO 🗆
3	Is the outlet trough clean and free of abnormalities?	YES 🗆
		NO 🗆
4	Is the stainless steel structure damaged or deteriorated or is there evidence of leaky joints?	YES 🗆
		NO 🗆
5	Is the inlet grid or the inlet face of the media clogged with trash or other particulate matter?	YES 🗆
Ŭ		NO 🗆
6	Is the inlet face of the media a black color due to hydrocarbon absorption?	YES 🗆
0		NO 🗆
7	Are other devices within the vault functioning properly?	YES 🗆
		NO 🗆
8	Are there any obvious above ground sources of contamination entering the system?	YES 🗆
		NO 🗆

(

Appendix B

SMART PAK[®] Vault with Smart Sponge[®] Plus Maintenance Report

No	Maintenance Activity	Date Done
1	Collect and remove trash debris etc	
2	Remove water as required	
3	Clean up outlet trough and inspect for sources of abnormalities	
4	Repair or replace damaged or deteriorated structural components Reseal joints	
5	Remove obstructions from the inlet grid	
6	Perform hydraulic test using Hydrotest Device	
7	Remove the contaminated media and replace with new media Rotate the media as needed	
8	Conduct O&M procedures as needed for the other devices Repair or replace as needed	
9	Notify Agency or owner representative	
	Δ(TERTER

ACCEPTED with COMMENTS in EPA Letter Dated.

WE 1 E 2010,

Under the Federal Insecticide Fung de and Rodenticide Act as amen ted to the pesticide rears ered under CPA Reg No

86256-1

EPA Reg No 86256 1

ĺ

29/24

Appendix C

Picture 2 Hydrotest Device



ACCEPTED with COMMENTS in EPA Letter Dated

ULL [1, E [2010, Under the Federal Insecticide Fungicide and Rodenticide Act as amend-d fo the pesticide registered under EPA Reg No 96256-1