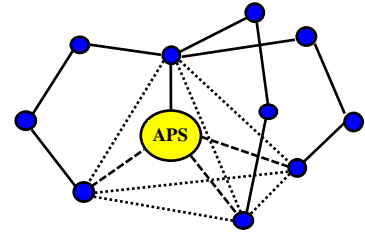


# Applied Polymer Systems, Inc.



## Safety Data Sheet

### 1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

**Product Name:** APS 703d #3 Flocc Log<sup>®</sup>  
**Supplied:** Applied Polymer Systems, Inc.  
 519 Industrial Drive  
 Woodstock, GA 30189  
 Tel. 678-494-5998  
 Fax. 678-494-5298  
[www.siltstop.com](http://www.siltstop.com)

### 2. HAZARD IDENTIFICATION

Placement of these materials on wet walking surface will create extreme slipping hazard.

### 3. COMPOSITION/INFORMAION ON INGREDIENTS

**Identification of the preparation:** Anionic water-soluble Co-polymer gel

### 4. FIRST AID MEASURES

**Inhalation:** None  
**Skin contact:** Contact with wet skin could cause dryness and chapping. Wash with water and soap. Use of gloves recommended.  
**Eye contact:** Rinse thoroughly with plenty of water, also under the eyelids, seek medical attention in case of persistent irritation.  
**Ingestion:** Consult a physician

### 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media:** Water, water spray, foam, carbon dioxide, dry powder.  
**Special fire-fighting precautions:** Flocc Logs that become wet render surfaces extremely slippery.  
**Protective equipment for firefighters:** No special equipment required.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** No special precautions required.  
**Methods for cleaning up:** Dry wipe as well as possible. Keep in suitable and closed containers for disposal. After cleaning, flush away traces with water.

### 7. HANDLING AND STORAGE

**Handling:** Avoid contact with skin and eyes. Wash hands after handling.  
**Storage:** Keep in a cool, dry place.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

Engineering controls: Use dry handling areas only.

**Personal protection equipment**

Respiratory Protection: None  
 Hand protection: Dry cloth, leather or rubber gloves.  
 Eye Protection: Safety glasses with side shields. Do not wear contact lenses.  
 Skin protection: No special protective clothing required.  
 Hygiene measures: Wash hands before breaks and at end of work day.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Form: Granular semi-solid gel  
 Color: Blue  
 Odor: None  
 pH: 7.73  
 Melting point: N/A  
 Flash point: N/A  
 Vapor density: N/A

**10. STABILITY AND REACTIVITY**

Stability: Product is stable, no hazardous polymerization will occur.  
 Materials to avoid: Oxidizing agents may cause exothermic reactions.  
 Hazardous decomposition products: Thermal decomposition may produce nitrogen oxides (NOx), carbon oxides.

**11. TOXICOLOGICAL INFORMATION****Acute toxicity (EPA-821-R-02-012)**

LC 50 (Survival) / *Ceriodaphnia dubia* / 48h / 673 ppm  
 NOAEC (Survival) / *Ceriodaphnia dubia* / 48h / 420 ppm  
 LC 50 / *Oncorhynchus mykiss* / 96h / 2928 ppm

**12. ECOLOGICAL INFORMATION****Chronic toxicity (EPA-821-R-02-013)**

IC 25 (Survival) / <i>P. promelas</i> / 7 day / 77.8 ppm	IC 25 (Survival) / <i>C. dubia</i> / 7 day / 78.7 ppm
NOEC (Survival) / <i>P. promelas</i> / 7 day / 52.5 ppm	NOEC (Survival) / <i>C. dubia</i> / 7 day / 52.7 ppm
IC 25 (Growth) / <i>P. promelas</i> / 7 day / 50.1 ppm	IC 25 (Reproduction) / <i>C. dubia</i> / 7 day / 66.8 ppm
NOEC (Growth) / <i>P. promelas</i> / 7 day / 52.5 ppm	NOEC (Reproduction) / <i>C. dubia</i> / 7 day / 52.5 ppm

Bioaccumulation: The product is not expected to bioaccumulate.  
 Persistence / degradability: Not readily biodegradable: (~85% after 180 days ).

**13. DISPOSAL CONSIDERATIONS**

Waste from residues/unused products.  
 Any disposal practice must be in compliance with local, state and federal laws and regulations (contact local or state environmental agency for specific rules).

**14. TRANSPORT INFORMATION**

Not regulated by DOT, RCRA status-Not a hazardous waste

**15. REGULATORY INFORMATION**

TSCA Chemical Substances Inventory: All components of this product are either listed on the inventory or are exempt from listing.

SARA Section 311 / 312 Hazard Class: Not concerned  
RCRA Status: Not RCRA hazardous

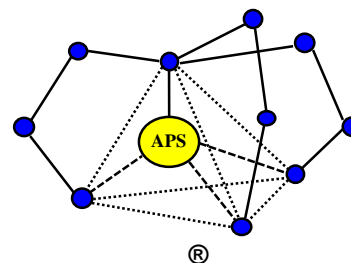
**16. OTHER INFORMATION**

NFPA and HMIS ratings:

NFPA	Health:	1	Flammability:	0	Reactivity:	0
HMIS	Health	1	Flammability	0	Reactivity	0

**DATE EDITED: Nov 4<sup>th</sup> 2015**

# Applied Polymer Systems, Inc.



## Safety Data Sheet

### 1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

Product Name: APS 712 Silt Stop

Supplied: Applied Polymer Systems Inc.  
Woodstock, GA 30189  
Tel. 678-494-5998  
Fax. 678-494-5298  
[www.siltstop.com](http://www.siltstop.com)

### 2. HAZARD IDENTIFICATION

Aqueous solutions and powders that become wet render surfaces extremely slippery.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Identification of the preparation: Anionic water-soluble co-polymer blend

### 4. FIRST AID MEASURES

Inhalation: Move to fresh air. Wear dust mask while handling.

Skin contact: Contact with wet skin could cause chapping and dryness. Wash with water and soap. In case of persistent skin irritation, consult a physician.

Eye contact: Rinse thoroughly with plenty of water, also under the eyelids, seek medical attention in case of persistent irritation.

Ingestion: Consult a physician

### 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water, water spray, foam, carbon dioxide, dry powder.

Special fire-fighting precautions: Aqueous solutions or powders that become wet render surfaces extremely slippery.

Protective equipment for firefighters: No special equipment required.

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions: No special precautions required.

Methods for cleaning up: Do Not flush with water. Clean up promptly by sweeping or vacuum. Keep in suitable and closed containers for disposal. After cleaning, flush away traces with water.

### 7. HANDLING AND STORAGE

Handling: Avoid contact with skin and eyes. Avoid dust formation. Do not breath dust. Use dust mask during handling. Wash hands after handling.

Storage: Keep in a cool, dry place.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Engineering controls:** Use local exhaust if dusting occurs. Natural ventilation is adequate in absence of dust.

**Personal protection equipment**

**Respiratory Protection:** Dust safety masks are recommended where dusting may occur.  
**Hand protection:** Dry cloth, leather or rubber gloves.  
**Eye Protection:** Safety glasses with side shields or face masks. Do not wear contact lenses.  
**Skin protection:** No special protective clothing required.  
**Hygiene measures:** Wash hands before breaks and at end of work day.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Form:** Granular solid  
**Color:** White / Brown  
**Odor:** None  
**pH:** 7.02  
**Melting point:** N/A  
**Flash point:** N/A  
**Vapor density:** N/A

**10. STABILITY AND REACTIVITY**

**Stability:** Product is stable, no hazardous polymerization will occur.  
**Materials to avoid:** Oxidizing agents may cause exothermic reactions.  
**Hazardous decomposition products:** Thermal decomposition may produce nitrogen oxides (NOx), carbon oxides.

**11. TOXICOLOGICAL /**

**Oral:** LD 50 / *Rattus norvegicus* / oral / > 5000 mg / kg  
**Inhalation:** The product is not expected to be toxic by inhalation. Use dust mask while handling.  
**Bioaccumulation:** The product is not expected to bioaccumulate.  
**Persistence / degradability:** Not readily biodegradable: ( ~40% after 28 days )

**Acute toxicity**

LC 50 / *Ceriodaphnia dubia* / 48h / 1,617 ppm  
 LC 50 / *Pimephales promelas* / 48 h / >6,720 ppm  
 LC 50 / *Pimephales promelas* / 96 h / >6,720 ppm

**12. ECOLOGICAL INFORMATION****Chronic toxicity**

IC 25 (Survival) / *Ceriodaphnia dubia* / 7day / 122.5 ppm  
 NOEC (Survival) / *Ceriodaphnia dubia* / 7day / 52.5 ppm  
 IC 25 (Reproduction) / *Ceriodaphnia dubia* / 7day / 59.3 ppm  
 NOEC (Reproduction) / *Ceriodaphnia dubia* / 7day / 52.5 ppm

**13. DISPOSAL CONSIDERATIONS**

Waste from residues/unused products.  
 Any disposal practice must be in compliance with local, state and federal laws and regulations (contact local or state environmental agency for specific rules).

**14. TRANSPORT AND REGULATORY INFORMATION**

Not regulated by DOT, RCRA status-Not a hazardous waste

**15. TRANSPORT AND REGULATORY INFORMATION**

**TSCA Chemical Substances Inventory:** All components of this product are either listed on the inventory or are exempt from listing.  
**SARA Section 311 / 312 Hazard Class:** Not concerned  
**RCRA Status:** Not RCRA hazardous

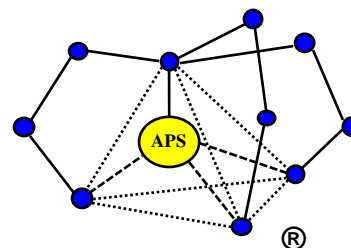
**16. OTHER INFORMATION**

**NFPA and HMIS ratings:**

<b>NFPA</b>	<b>Health:</b>	<b>1</b>	<b>Flammability:</b>	<b>1</b>	<b>Reactivity:</b>	<b>0</b>
<b>HMIS</b>	<b>Health</b>	<b>1</b>	<b>Flammability</b>	<b>1</b>	<b>Reactivity</b>	<b>0</b>

**DATE EDITED: Jan 11<sup>th</sup> 2016**

# Applied Polymer Systems, Inc.



## Safety Data Sheet

### 1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

Product Name: APS 706b Flocc Log<sup>®</sup>  
 Supplied: 519 Industrial Drive  
 Woodstock, GA 30189  
 Tel. 678-494-5998  
 Fax. 678-494-5298  
[www.siltstop.com](http://www.siltstop.com)

### 2. HAZARD IDENTIFICATION

Identification of the preparation: Anionic water-soluble Co-polymer gel mix

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Placement of these materials on wet walking surface will create extreme slipping hazard.

### 4. FIRST AID MEASURES

Inhalation: None  
 Skin contact: Contact with wet skin can cause dryness and chapping. Wash with water and soap.  
 Eye contact: Rinse thoroughly with plenty of water, also under the eyelids, seek medical attention in case of persistent irritation.  
 Ingestion: Consult a physician

### 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water, water spray, foam, carbon dioxide, dry powder.  
 Special fire-fighting precautions: Flocc Logs that become wet render surfaces extremely slippery.  
 Protective equipment for firefighters: No special equipment required.

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions: No special precautions required.  
 Methods for cleaning up: Dry wipe as well as possible. Keep in suitable and closed containers for disposal.  
After cleaning, flush away traces with water.

### 7. HANDLING AND STORAGE

Handling: Avoid contact with skin and eyes. Wash hands after handling.  
 Storage: Keep in a cool, dry place.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

Engineering controls: Use dry handling areas only.

Personal protection equipment

Respiratory Protection: None  
 Hand protection: Dry cloth, leather or rubber gloves.  
 Eye Protection: Safety glasses with side shields. Do not wear contact lenses.  
 Skin protection: No special protective clothing required.  
 Hygiene measures: Wash hands before breaks and at end of work day.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Form: Granular semi-solid gel  
 Color: Blue  
 Odor: None  
 pH: 7.66  
 Melting point: N/A  
 Flash point: N/A  
 Vapor density: N/A

**10. STABILITY AND REACTIVITY**

Stability: Product is stable, no hazardous polymerization will occur.  
 Materials to avoid: Oxidizing agents may cause exothermic reactions.  
 Hazardous decomposition products: Thermal decomposition may produce nitrogen oxides (NOx), carbon oxides.

**11. TOXICOLOGICAL INFORMATION**

Acute toxicity

LC 50 / *Daphnia magna* / 48h / >420mg/L  
 LC 50 / *Oncorhynchus mykiss* / 96h / 637 ppm

**12. ECOLOGICAL INFORMATION**

Chronic toxicity

IC 25 (Survival) / <i>P. promelas</i> / 7 day / >1680 ppm	IC 25 (Survival) / <i>C. dubia</i> / 7 day / 257.3 ppm
NOEC (Survival) / <i>P. promelas</i> / 7 day / 1680 ppm	NOEC (Survival) / <i>C. dubia</i> / 7 day / 210 ppm
IC 25 (Growth) / <i>P. promelas</i> / 7 day / >1680 ppm	IC 25 (Reproduction) / <i>C. dubia</i> / 7 day / 91.6 ppm
NOEC (Survival) / <i>P. promelas</i> / 7 day / 1680 ppm	NOEC (Reproduction) / <i>C. dubia</i> / 7 day / 105 ppm

Bioaccumulation: The product is not expected to bioaccumulate.  
 Persistence / degradability: Not readily biodegradable: ( 85% after 180 days ).

**13. DISPOSAL CONSIDERATIONS**

Waste from residues/unused products.  
 Any disposal practice must be in compliance with local, state and federal laws and regulations (contact local or state environmental agency for specific rules).

**14. TRANSPORT INFORMATION**

Not regulated by DOT, RCRA status-Not a hazardous waste

**15. REGULATORY INFORMATION**



**TSCA Chemical Substances Inventory:** All components of this product are either listed on the inventory or are exempt from listing.

**SARA Section 311 / 312 Hazard Class:** Not concerned  
**RCRA Status:** Not RCRA hazardous

<b>16. OTHER INFORMATION</b>
------------------------------

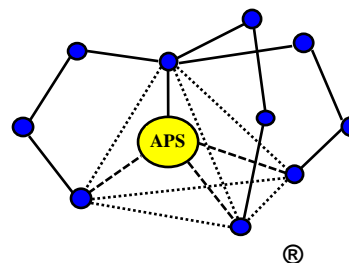
NFPA and HMIS ratings:

NFPA Health: 1                      Flammability: 0                      Reactivity: 0

HMIS Health 1                      Flammability 0                      Reactivity 0

DATE EDITED: Nov 4th 2015

# Applied Polymer Systems, Inc.



## Safety Data Sheet

### 1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

Product Name: APS 705 Silt Stop

Supplied: Applied Polymer Systems, Inc.      Tel. 678-494-5998  
 519 Industrial Drive                              Fax. 678-494-5298  
 Woodstock, GA 30189                            [www.siltstop.com](http://www.siltstop.com)

### 2. HAZARD IDENTIFICATION

Aqueous solutions or powders that become wet render surfaces extremely slippery.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Identification of the preparation: Anionic water-soluble Co-polymer

### 4. FIRST AID MEASURES

Inhalation: Move to fresh air. Use dust mask when handling.

Skin contact: Contact with wet skin could cause chapping and dryness. Wash with water and soap. In case of persistent skin irritation, consult a physician.

Eye contact: Rinse thoroughly with plenty of water, also under the eyelids; seek medical attention in case of persistent irritation.

Ingestion: Consult a physician

### 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water, water spray, foam, carbon dioxide, dry powder.

Special fire-fighting precautions: Aqueous solutions or powders that become wet render surfaces extremely slippery.

Protective equipment for firefighters: No special equipment required.

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions: No special precautions required.

Methods for cleaning up: Do Not flush with water. Clean up promptly by sweeping or vacuum. Keep in suitable and closed containers for disposal. After cleaning, flush away traces with water.

### 7. HANDLING AND STORAGE

Handling: Avoid contact with skin and eyes. Avoid dust formation. Do not breath dust. Use dust mask during handling. Wash hands after handling.

Storage: Keep in a cool, dry place. (0-30° C)

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

Engineering controls: Use local exhaust if dusting occurs. Natural ventilation is adequate in absence of dust.  
**Personal protection equipment**  
 Respiratory Protection: Dust safety masks are recommended where dusting may occur.  
 Hand protection: Dry cloth, leather or rubber gloves.  
 Eye Protection: Safety glasses with side shields or face masks. Do not wear contact lenses.  
 Skin protection: No special protective clothing required.  
 Hygiene measures: Wash hands before breaks and at end of work day.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Form: Granular solid  
 Color: White  
 Odor: None  
 pH: 7-8  
 Melting point: N/A  
 Flash point: N/A  
 Vapor density: N/A

**10. STABILITY AND REACTIVITY**

Stability: Product is stable, no hazardous polymerization will occur.  
 Materials to avoid: Oxidizing agents may cause exothermic reactions.  
 Hazardous decomposition products: Thermal decomposition may produce nitrogen oxides (NO<sub>x</sub>), carbon oxides.

**11. TOXICOLOGICAL INFORMATION**

**Acute toxicity:** (EPA/600/4-90/027F)  
 LD 50 / *Rattus norvegicus* / oral / > 5000 mg/kg  
 LC 50 / *Oncorhynchus mykiss* / 96h / 530 mg/L  
 LC 50 / *Daphnia magna* / 48h / >420mg/L  
 EC 50 / *Selenastrum capricornutum* / 96h / >500mg/L

**12. ECOLOGICAL INFORMATION**

**Chronic Toxicity :** (EPA/600/R-98/182)

IC <sub>25</sub> (Survival) / <i>P. promelas</i> / 7 day / 358 ppm	IC <sub>25</sub> (Survival) / <i>C. dubia</i> / 7 day / 157.5 ppm
NOEC (Survival) / <i>P. promelas</i> / 7 day / 840 ppm	NOEC (Survival) / <i>C. dubia</i> / 7 day / 105 ppm
IC <sub>25</sub> (Growth) / <i>P. promelas</i> / 7 day / 94 ppm	IC <sub>25</sub> (Reproduction) / <i>C. dubia</i> / 7 day / 27.7 ppm
NOEC (Growth) / <i>P. promelas</i> / 7 day / 105 ppm	NOEC (Reproduction) / <i>C. dubia</i> / 7 day / 26.25 ppm

Inhalation: The product is not expected to be toxic by inhalation.  
 Dermal: The results of testing on rabbits showed no toxicity even at high dose levels.  
 Bioaccumulation: The product is not expected to bioaccumulate.  
 Persistence / degradability: Not readily biodegradable: (~40% after 28 days ).  
 Chronic toxicity: A 2 yr feeding study on rats did not reveal adverse health effects.

**13. DISPOSAL CONSIDERATIONS**

Waste from residues/unused products.  
 Any disposal practice must be in compliance with local, state and federal laws and regulations (contact local or state environmental agency for specific rules).

**14. TRANSPORT INFORMATION**

Not regulated by DOT, RCRA status-Not a hazardous waste

**15. REGULATORY INFORMATION**

**TSCA Chemical Substances Inventory:** All components of this product are either listed on the inventory or are exempt from listing.

**SARA Section 311 / 312 Hazard Class:** Not concerned  
**RCRA Status:** Not RCRA hazardous

**16. TRANSPORT AND REGULATORY INFORMATION**

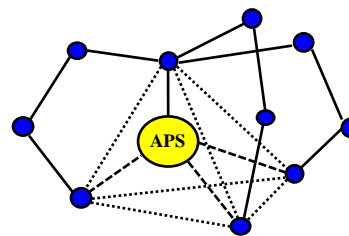
**NFPA and HMIS ratings:**

<b>NFPA</b>	<b>Health:</b>	<b>1</b>	<b>Flammability:</b>	<b>1</b>	<b>Reactivity:</b>	<b>0</b>
<b>HMIS</b>	<b>Health</b>	<b>1</b>	<b>Flammability</b>	<b>1</b>	<b>Reactivity</b>	<b>0</b>

DATE EDITED: Oct. 29<sup>th</sup> 2015

# Applied Polymer Systems, Inc.

## Safety Data Sheet



### 1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

Product Name: APS 703d Flocc Log<sup>®</sup>

Supplied: Applied Polymer Systems, Inc.  
519 Industrial Drive  
Woodstock, GA 30189  
Tel. 678-494-5998  
Fax. 678-494-5298  
[www.siltstop.com](http://www.siltstop.com)

### 2. HAZARD IDENTIFICATION

Placement of these materials on wet walking surface will create extreme slipping hazard.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Identification of the preparation: Anionic water-soluble Co-polymer gel

### 4. FIRST AID MEASURES

Inhalation: None

Skin contact: Contact with wet skin could cause dryness and chapping. Wash with water and soap.

Eye contact: Rinse thoroughly with plenty of water, also under the eyelids, seek medical attention in case of persistent irritation.

Ingestion: Consult a physician

### 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water, water spray, foam, carbon dioxide, dry powder.

Special fire-fighting precautions: Flocc Logs that become wet render surfaces extremely slippery.

Protective equipment for firefighters: No special equipment required.

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions: No special precautions required.

Methods for cleaning up: Dry wipe as well as possible. Keep in suitable and closed containers for disposal.  
After cleaning, flush away traces with water.

### 7. HANDLING AND STORAGE

Handling: Avoid contact with skin and eyes. Wash hands after handling.

Storage: Keep in a cool, dry place.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls: Use dry handling areas only.

#### Personal protection equipment

Respiratory Protection:	None
Hand protection:	Dry cloth, leather or rubber gloves.
Eye Protection:	Safety glasses with side shields. Do not wear contact lenses.
Skin protection:	No special protective clothing required.
Hygiene measures:	Wash hands before breaks and at end of work day.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Granular semi-solid gel
Color:	Blue
Odor:	None
pH:	7.37
Melting point:	N/A
Flash point:	N/A
Vapor density:	N/A

## 10. STABILITY AND REACTIVITY

Stability:	Product is stable, no hazardous polymerization will occur.
Materials to avoid:	Oxidizing agents may cause exothermic reactions.
Hazardous decomposition products:	Thermal decomposition may produce nitrogen oxides (NOx), carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity (EPA/600/4-90/027F)

LD 50 / *Rattus norvegicus* / oral / > 5000 mg/kg  
 LC 50 / *Daphnia magna* / 48h / >383mg/L  
 LC 50 / *Oncorhynchus mykiss* / 96h / 1900 mg/L

### Chronic toxicity (EPA/600/4-91/002)

IC 25 (Survival) / <i>P. promelas</i> / 7 day / 110 ppm	IC 25 (Survival) / <i>C. dubia</i> / 7 day / 99.8 ppm
NOEC (Survival) / <i>P. promelas</i> / 7 day/ 105 ppm	NOEC (Survival) / <i>C. dubia</i> / 7 day/ 52.5 ppm
IC 25 (Growth) / <i>P. promelas</i> / 7 day / 130 ppm	IC 25 (Reproduction) / <i>C. dubia</i> / 7 day / 58.2 ppm
NOEC (Growth) / <i>P. promelas</i> / 7 day / 105 ppm	NOEC (Reproduction) / <i>C. dubia</i> / 7 day / 105 ppm

## 12. ECOLOGICAL INFORMATION

Fish: LC 50 / *Pimephales promelas* / 96h / >1000 mg/l  
 Water Flea: LC 50 / *Daphnia magna* / 48h / 383mg/l  
 Algae: EC 50 / *Selenastrum capricornutum* / 96h / >500mg/l

Bioaccumulation: The product is not expected to bioaccumulate.  
 Persistence / degradability: Not readily biodegradable: (~85% after 180 days).

## 13. DISPOSAL INFORMATION

Waste from residues/unused products.  
 Any disposal practice must be in compliance with local, state and federal laws and regulations (contact local or state environmental agency for specific rules).

## 14. TRANSPORT INFORMATION

Not regulated by DOT, RCRA status-Not a hazardous waste

## 15. REGULATORY INFORMATION

TSCA Chemical Substances Inventory: All components of this product are either listed on the inventory or are exempt from listing.

SARA Section 311 / 312 Hazard Class: Not concerned  
RCRA Status: Not RCRA hazardous

**16. OTHER INFORMATION**

NFPA and HMIS ratings:

NFPA	Health:	1	Flammability:	0	Reactivity:	0
HMIS	Health	1	Flammability	0	Reactivity	0

DATE EDITED: Nov 4<sup>th</sup> 2015

# Technical Guidance for the Use of Polyacrylamides (PAM) and PAM Blends for Soil Erosion Control and Storm Water clarification

(Courtesy of Applied Polymer Systems, Inc.)

## Practice Description

PAM is a water-soluble anionic polyacrylamide product used to minimize soil erosion caused by water and wind to decrease soil sealing by binding soil particles, especially clays, to hold them on site. In addition, these types of materials may also be used as a water treatment additive to remove suspended particles from runoff. When PAM is used on construction sites in the Southeast it is typically applied with temporary seeding and or mulching on areas where the timely establishment of temporary erosion control is so critical that seedings and mulching need additional reinforcement. It may be used alone on sites where no disturbances will occur until site work is continued and channel erosion is not a significant potential problem. Permanent grassing applications can be better established using PAM as a tackifier and soil conditioner.

PAMs are manufactured in various forms to be used on specific soil types, and are generally applied at a rate of up to 25 pounds/acre for dry products and 2 ½ gallons/acre of emulsion-liquid products. Using the wrong form of a PAM on a soil will result in some degree of performance failure, and increase the potential for this material to enter surface waters. PAM used alone may not reduce NTU values resulting in non-compliance water quality discharges or poor soil binding conditions. Site-specific soil-PAM testing must be performed. Exceeding the maximum application rates for this product does not increase the effectiveness of the product.

Block or Log forms of PAM and PAM blends are manufactured for specific use in drainage waterways to remove suspended particulates from runoff.

## General Components of the Practice

*Prior to the start of construction, a qualified professional should design the application of PAM and plans and specifications should be available to field personnel.*

The application should conform to the design and specifications provided in the plans. Typical applications include the following components.

- Site Preparation
- Equipment Preparation
- PAM Application

## Application

### Site Preparation

Prepare site following design and specifications.

### Equipment Preparation

If using a liquid application system, pump a surfactant through the injection system before and after injecting concentrated liquid PAM into sprinkler irrigation systems to help prevent valves and tubing from clogging.

PAM used in hydroseeding applications should be added as the last additive to the mix.

After their use, rinse all PAM mixing and application equipment thoroughly with water to avoid formation of PAM residues. Rinse residue should be applied to soil areas to create binding to the soil structure and increase erosion reduction.



### **PAM Application- Criteria for Land applied PAM Specifications**

PAM shall be mixed and/or applied in accordance with all Occupational Safety and Health Administration (OSHA) Material Safety Data Sheet (MSDS) requirements and the manufacturer's recommendations for the specified use conforming to all federal, state and local laws, rules and regulations.

#### **1.) Toxicity**

All vendors and suppliers of PAM, PAM mix or blends shall present or supply a written toxicity report which verifies that the PAM, PAM mix or blend exhibits acceptable toxicity parameters which meet or exceed the EPA requirements for the state and federal water quality standards. Whole effluent testing does not meet this requirement as primary reactions have occurred and toxic potentials have been reduced. **Cationic forms of PAM, polymers and chitosan are not allowed for use under this guideline due to their high levels of toxicity to aquatic organisms. Emulsions shall never be applied directly to stormwater runoff or riparian waters due to surfactant toxicity.**

#### **2.) Performance**

All vendors and suppliers of PAM, PAM mix or blends shall supply written "site specific" testing results demonstrating that a performance of 95% or greater reduction of NTU or TSS from stormwater discharges.

Emulsion batches shall be mixed following recommendations of a testing laboratory that determines the proper product and rate to meet site requirements. Application method shall insure uniform coverage to the target area. **(Emulsions shall never be applied directly to stormwater runoff or riparian waters)**

Dry form (powder) may be applied by hand spreader or a mechanical spreader. Mixing with dry silica sand will aid in spreading. Pre-mixing of dry form PAM into fertilizer, seed or other soil amendments is allowed when specified in the design plan. Application method shall insure uniform coverage to the target area.

Block or Log forms shall be applied following site testing results to assure proper placement and performance and shall meet or exceed state and federal water quality requirements.

### **Common Problems**

Consult with a registered design professional for assistance if any of the following occur:

- Problems with application equipment clogging.
- PAM alone may not meet testing requirements for NTU reduction and soil stabilization. Site specific "blends" may be needed to meet these requirements.
- Application specifications for PAM cannot be met; alternatives may be required. Unapproved application techniques could lead to failure.
- Visible erosion occurs after application.

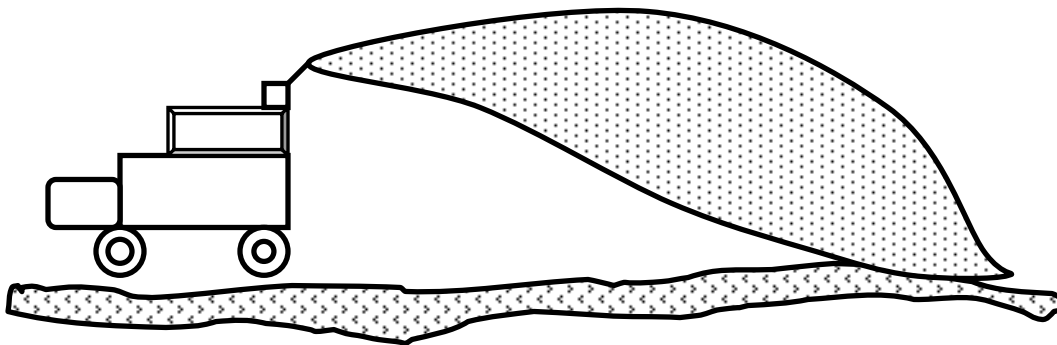
### **Maintenance**

An operation and maintenance plan must be prepared for use by the operator responsible for PAM application. Plan items should include the following items.

- Reapply PAM to disturbed or tilled areas that require continued erosion control.
- Maintain equipment to provide uniform application rates.
- Rinse all PAM mixing and application equipment thoroughly with water to avoid formation of PAM residues and discharge rinse water to soil areas where PAM stabilization may be helpful.
- Downstream deposition from the use of PAM may require periodic sediment removal to maintain normal functions.

**PM-H**

**(Silt Stop Application of Temporary and Permanent Grassing)**



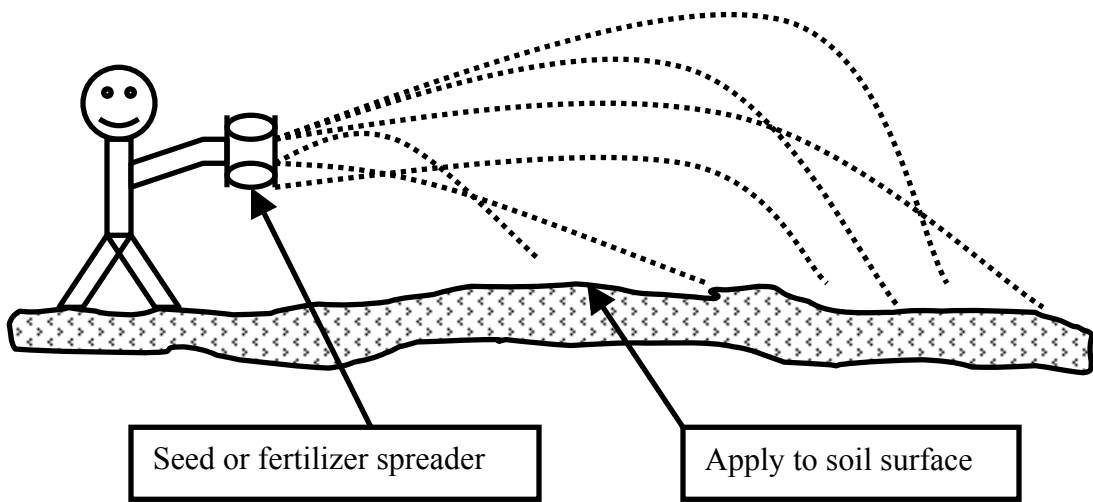
**Notes:**

- 1) For use on all slope conditions which are not matted.
- 2) Application rate shall be 1.5 gallons of Silt Stop emulsion/acre or 10 pounds of Silt Stop powder/acre.
- 3) Silt Stop emulsion or powder shall be added to all hydroseeding mixes at a rate of 3000 gallons of mix/acre.
- 4) Silt Stop shall be the final additive to the hydroseeding mix.
- 5) Straw cover may be applied over the hydroseeded application.

**(All Silt Stop shall be site specific, soil tested achieving 95% NTU reduction or better and must have acute and chronic toxicity testing reports.)**



## PM (Dry Silt Stop Form)



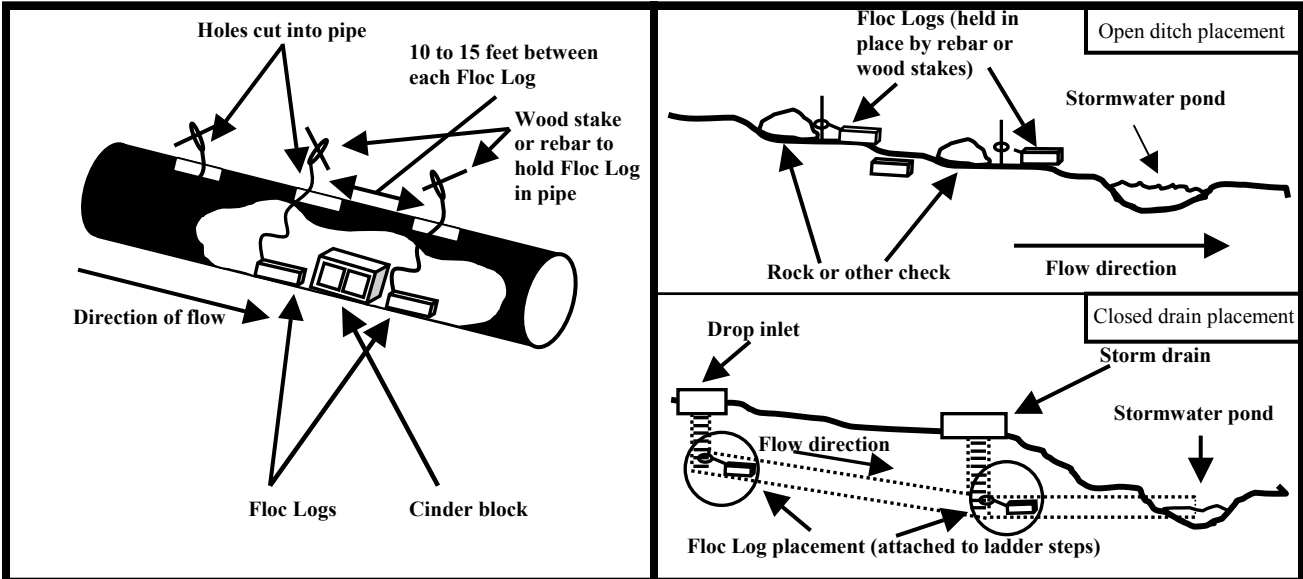
### Notes:

- 1) Dry Silt Stop shall be applied using a seed or fertilizer spreader or may be mixed with other dry spread additives.
- 2) Dry Silt Stop shall be covered with straw, mulch, matting or jute.
- 3) Application rate shall be 10 pounds/acre but not greater than 25 pounds/acre.
- 4) For use on all slope conditions.

(All Silt Stop shall be site specific, soil tested achieving 95% NTU reduction or better and must have acute and chronic toxicity testing reports.)

# PM-F

## (Floc Log placement for pipes, ditch and storm drains)



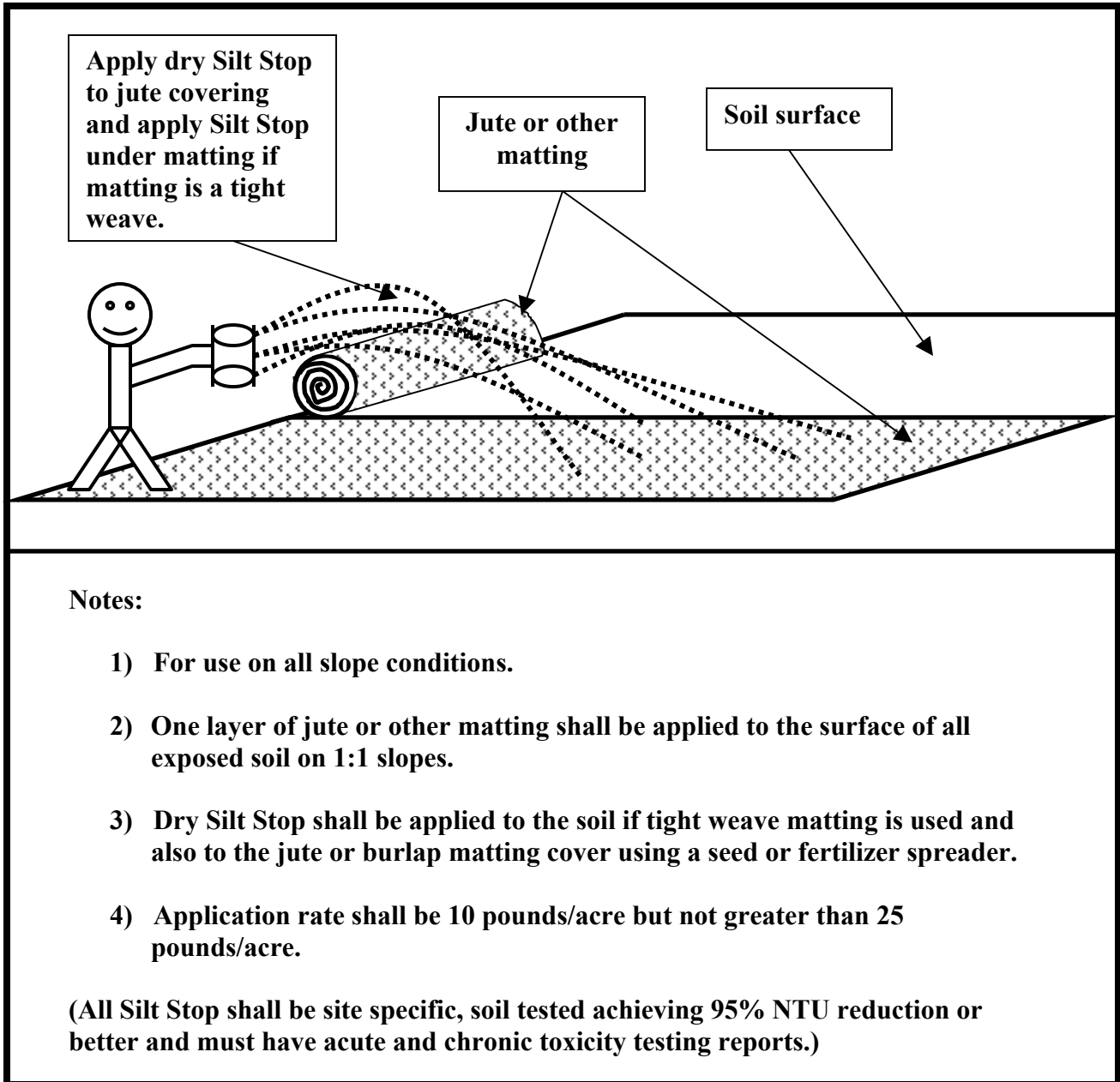
### Notes:

- 1) Place Floc Logs far enough upstream in turbid flows to allow adequate mixing time. (Mixing time and Floc Log type are determined from the sample analysis.)
- 2) Floc Logs should be placed 10 to 15 feet apart in a row or at points of highest water velocity; whichever is most convenient.
- 3) The number of Floc Logs placed on the site is based on results from the sample analysis. Floc Logs shall be placed in all catch basins and after all downsides of rock checks.

(All Floc Logs shall be site specific, soil tested achieving 95% NTU reduction or better and must have acute and chronic toxicity testing reports.)

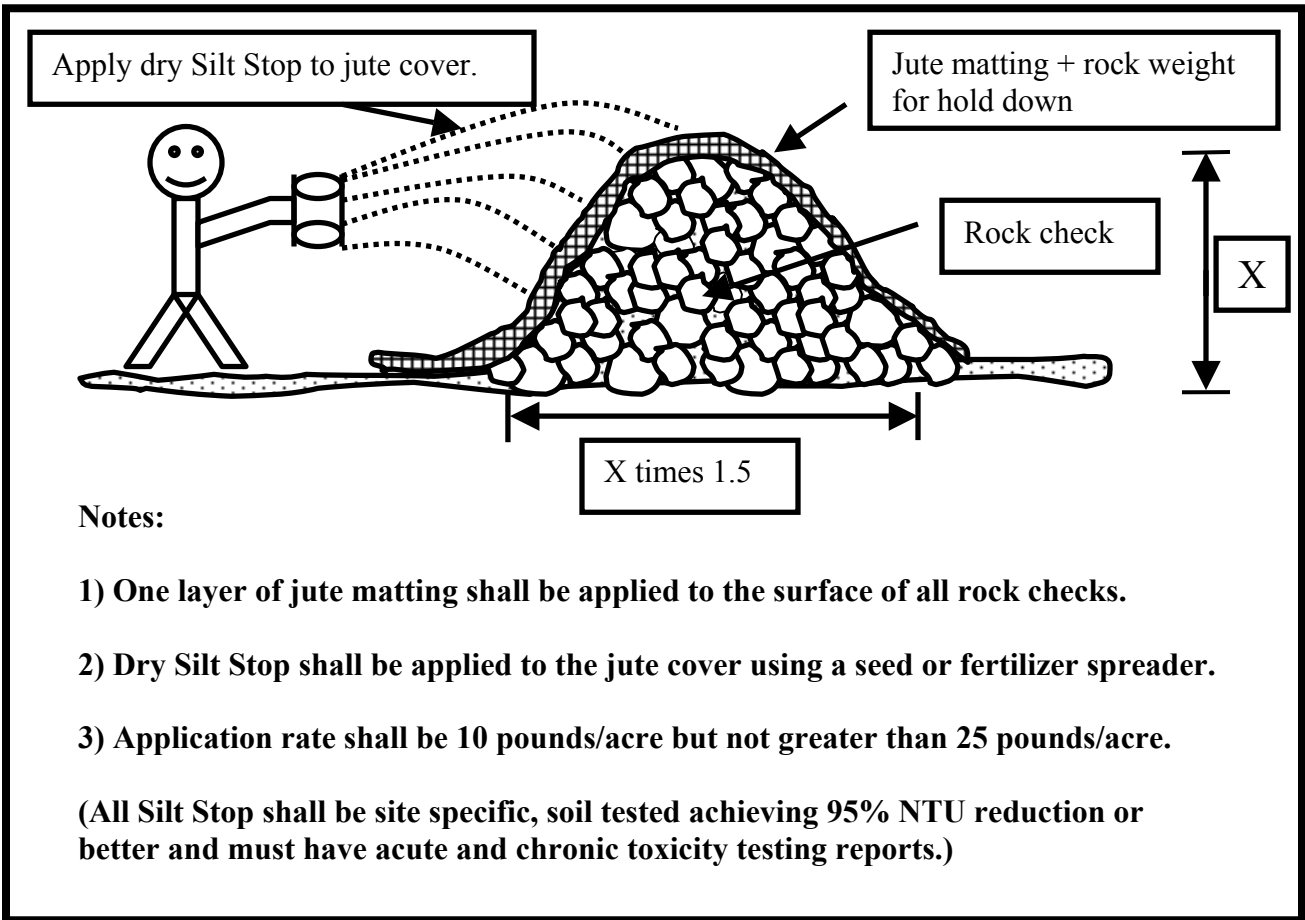


## (Dry Silt Stop Form Soft Armoring Technique for Matting)



**PM-R**

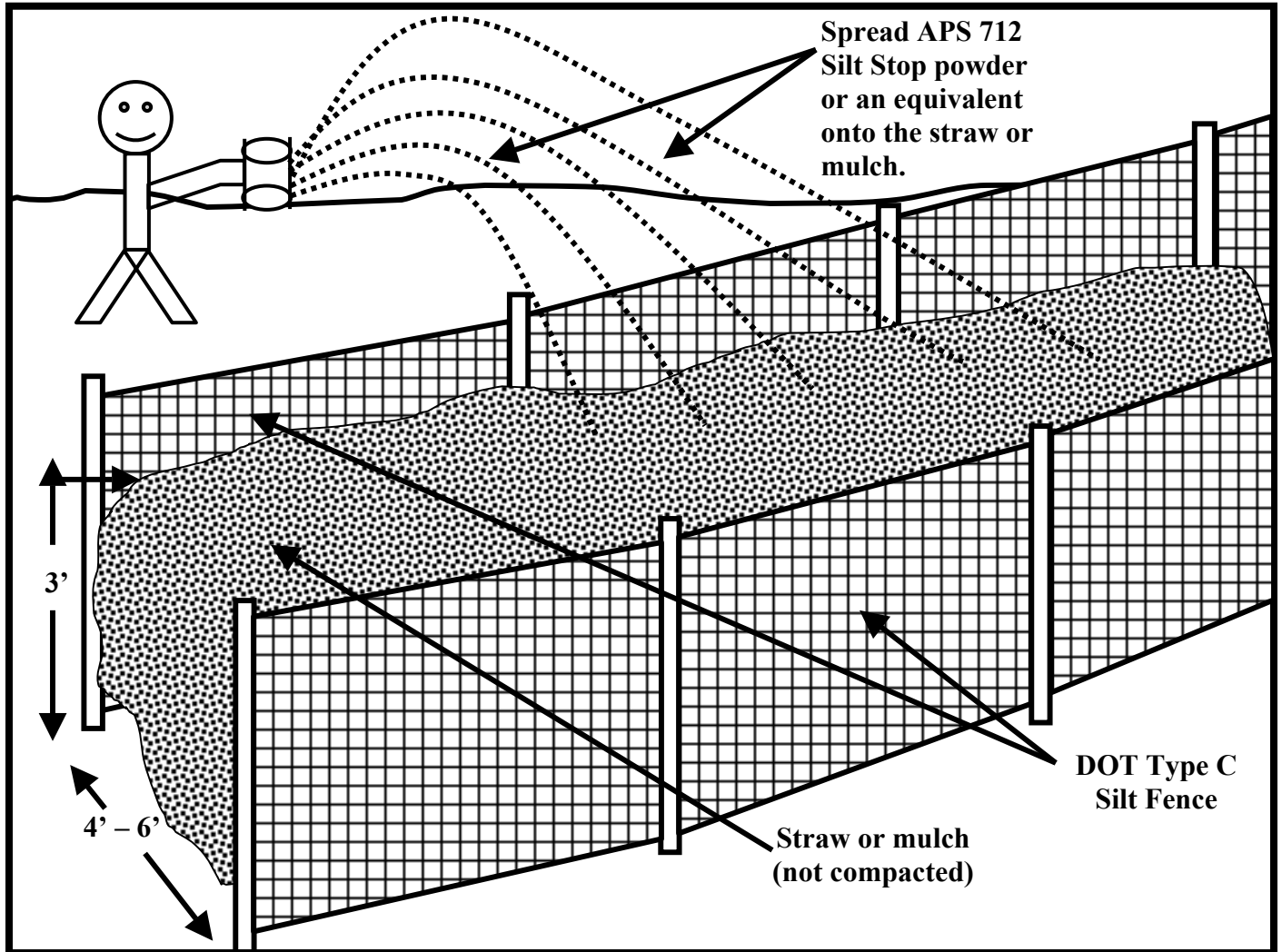
**PM (Dry Silt Stop Form Rock Check Application)**



# SRB

## (SRB) Sediment Retention Barrier

Use for fine sediment retention between silt fences. Install at low areas during grading.



- 1) Use in all low areas during the grading phase.
- 2) Place 2 rows of DOT type C silt fence 4 to 6 feet apart. Place straw or mulch 3 feet deep between the silt fences.
- 3) Dry Silt Stop powder or an equivalent should be spread throughout the straw or mulch using a seed or fertilizer spreader.

(All Silt Stop shall be site specific, soil tested achieving 95% NTU reduction or better and must have acute and chronic toxicity testing reports.)