



# POWDERED SOILTAC®

## Material Safety Data Sheet (MSDS)

Version: 1.13 (US)

Date of last alteration: 05/22/2007

### 1 - PRODUCT AND COMPANY IDENTIFICATION

#### 1.1 IDENTIFICATION OF THE SUBSTANCE OR PREPARATION:

Commercial product name:	Powdered Soiltac® (Soiltac® is a registered trademark of Soilworks®, LLC.)
Use of substance / preparation:	Industrial. Soil stabilization, soil solidification, fugitive dust control, dust suppression, dust abatement, tackifier, dust abatement, PM <sub>10</sub> and PM <sub>2.5</sub> air quality control and erosion control. All other areas of application to be agreed with the Application Engineering/ Technical Marketing Department of the manufacturer.
Synonyms:	Soil stabilizer, soil stabilization agent, soil stabilization material, soil stabilization product, soil stabilization polymer, soil stabilization copolymer, soil solidifier, soil amendment, soil additive, soil crusting agent, dust control agent, dust control material, dust control product, dust control polymer, dust control copolymer, dust suppressant, dust inhibitor, dust palliative, dust retardant
Online Information:	<a href="http://www.PowderedSoiltac.com">www.PowderedSoiltac.com</a>

#### 1.2 COMPANY/UNDERTAKING IDENTIFICATION:

Manufacturer:	Soilworks®, LLC – Soil Stabilization & Dust Control 2450 South Gilbert Road, Suite 210 Chandler, Arizona 85286-1595 USA <a href="http://www.soilworks.com">www.soilworks.com</a>
Telephone Numbers:	(800) 545-5420 (Soilworks®, USA) (480) 545-5454 (Soilworks®, International)
Transportation Emergency:	(800) 424-9300 (Chemtrec, USA) (703) 527-3887 (Chemtrec, International) (613) 996-6666 (Canutec, Canada)

### 2 – COMPOSITION / INFORMATION ON INGREDIENTS

#### 2.1 CHEMICAL CHARACTERIZATION (PREPARATION):

Chemical characteristics	Copolymer of vinyl acetate, ethylene and vinyl ester with mineral fillers and protective colloid.
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#### 2.2 INFORMATION ON INGREDIENTS:

This material does not contain any hazardous substances at or above OSHA and WHMIS reportable levels. Substances listed in the Subsections "HAPS" and "California Proposition 65 Carcinogens / Reproductive Toxins" that are not listed in Section 2 are only present at quantities below 0.1% for California Proposition 65 listed toxins or below 1% for non-carcinogenic HAPS or they are inextricably bound in the product.

### 3 - HAZARDS IDENTIFICATION

#### 3.1 HAZARDS CLASSIFICATIONS

HMIS® rating (product as packaged)			
Health:	1	Fire:	1
Reactivity:	0	PPE:	E

Note: Respiratory protection is only recommended in the event that ventilation or engineering controls are unable to maintain exposures below recommended levels; or in the event of a spill or other emergency response situation. Hazardous Materials Identification System and HMIS are registered trademarks of the National Paint and Coatings Association. (HMIS codes are based on contact with the product as packaged and any hydrolysis by-products, if present.)

Canadian WHMIS Classification:	None.
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#### 3.2 EMERGENCY OVERVIEW AND POTENTIAL HAZARDS

This material is not hazardous under OSHA criteria.

This material is not hazardous under WHMIS criteria.

Physical Hazards:	Nuisance dust.
<b>Acute health effects</b>	
Route of entry or possible contact	Eyes, skin, inhalation (in case of dust formation)
Eye contact:	No known eye hazards.
Skin contact:	May cause slight skin irritation.
Inhalation:	No acute toxic respiratory tract effects are expected.
Ingestion	Ingestion is not expected in industrial use.
Additional information:	None.

#### 3.3 FURTHER INFORMATION:

Chronic health effects:	No known or expected chronic health effects. A long term exposure exceeding TLV can lead to damaging effect as a result of mechanical overloading of the respiratory tract.
Medical conditions which may be aggravated by exposure:	None known.



Target organs affected:	No known internal organ effects.
Signs and Symptoms of Exposure:	Refer to Acute Health Effects, listed above.
Carcinogens:	There are <u>no carcinogenic ingredients present at or over 0.1% in this material.</u>
Reproductive toxins	This material <u>does not contain any reproductive toxins at or above OSHA or WHMIS reportable levels.</u> See Section 11 for Toxicological Information, if any.

#### 4 - FIRST-AID MEASURES

##### 4.1 GENERAL INFORMATION:

Get medical attention if irritation occurs or if breathing becomes difficult.

##### 4.2 AFTER INHALATION:

If inhaled, remove to fresh air, keep the victim laying down and restful.

##### 4.3 AFTER CONTACT WITH THE SKIN:

If contact with skin, wash skin with plenty of water or with water and soap.

##### 4.4 AFTER CONTACT WITH THE EYES:

If contact with eyes, immediately hold eyelids apart and flush with plenty of water for at least 15 min.

##### 4.5 AFTER SWALLOWING:

If swallowed, give victim several glasses of water.

##### 4.6 ADVICE FOR THE PHYSICIAN:

Treat symptomatically.

#### 5 – FIRE-FIGHTING MEASURES

##### 5.1 FLAMMABLE PROPERTIES:

Flash point:	Not applicable	
Boiling point / boiling range:	Not applicable	
Lower explosion limit (LEL):	30 g/m <sup>3</sup>	
Ignition temperature:	Approx. 500°C (932°F)	(DIN 51794)

##### 5.2 FIRE AND EXPLOSION HAZARDS:

Dust may form explosive mixture with air. Electrostatic charging is possible.

##### 5.3 RECOMMENDED EXTINGUISHING MEDIA:

Water-spray , water-mist , carbon dioxide , dry chemical or foam-type extinguishing media.

##### 5.4 UNSUITABLE EXTINGUISHING MEDIA:

Sharp water jet

##### 5.5 SPECIAL EXPOSURE HAZARDS ARISING FROM THE SUBSTANCE OR PREPARATION ITSELF, COMBUSTION PRODUCTS, RESULTING GASES:

At low oxygen level: acetic acid.

##### 5.6 FIRE FIGHTING PROCEDURES:

Fire fighters should wear full protective clothing including a self-contained breathing apparatus.

#### 6 - ACCIDENTAL RELEASE MEASURES

##### 6.1 PRECAUTIONS:

Avoid dust formation. Do not breathe dust.

HAZWOPER PPE Level:	D
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##### 6.2 CONTAINMENT:

Cover any spilled material in accordance with regulations to prevent dispersal by wind. Spills of material which could reach surface waters must be reported to the United States Coast Guard National Response Center's toll free phone number (800) 424-8802.

##### 6.3 METHODS FOR CLEANING UP:

Take up mechanically and dispose of according to local/state/federal regulations.

##### 6.4 FURTHER INFORMATION:

Eliminate all sources of ignition. Observe notes under section 7.

#### 7 – HANDLING AND STORAGE

##### 7.1 HANDLING

Precautions for safe handling:	Avoid dust formation. Increased risk of slipping if substance comes into contact with water.
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Precautions against fire and explosion:	Dust may form explosive mixture with air. Avoid formation of dust. Avoid dust deposit, remove dust regularly. Take precautionary measures against electrostatic charging. Keep away from open flames, heat and sparks.
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## 7.2 STORAGE

Conditions for storage rooms and vessels:	Observe precautionary measures against dust explosion.
Advice for storage of incompatible materials:	Not applicable.
Further information for storage:	Not applicable.

## 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

### 8.1 ENGINEERING CONTROLS

Ventilation:	Use with adequate ventilation.
Local exhaust:	Yes (to maintain concentration below TLV).

### 8.2 ASSOCIATE SUBSTANCES WITH SPECIFIC CONTROL PARAMETERS SUCH AS LIMIT VALUES MAXIMUM AIRBORNE CONCENTRATIONS AT THE WORKPLACE:

CAS No.	Material	Type	mg/m <sup>3</sup>	Dust fract.
	Particulates not otherwise classified	OSHA PEL	15.0	Inhalable dust
	Particulates not otherwise classified	OSHA PEL	5.0	Respirable dust
1332-58-7	Kaolin	OSHA PEL	15.0	Inhalable dust
1332-58-7	Kaolin	OSHA PEL	5.0	Respirable dust
1317-65-3	Calcium carbonate	OSHA PEL	15.0	Inhalable dust
1317-65-3	Calcium carbonate	OSHA PEL	5.0	Respirable dust
	Particulates not otherwise classified	ACGIH TWA	10.0	Inhalable dust
	Particulates not otherwise classified	ACGIH TWA	3.0	Respirable dust
1332-58-7	Kaolin	ACGIH TWA	2.0	Respirable dust
1317-65-3	Calcium carbonate	ACGIH TWA	10.0	

Re Particulates not otherwise classified: The value is for particulate matter containing no asbestos and < 1% crystalline silica (ACGIH).

Re Kaolin: The value is for particulate matter containing no asbestos and < 1% crystalline silica (ACGIH).

Re Calcium carbonate: The value is for particulate matter containing no asbestos and < 1% crystalline silica (ACGIH).

### 8.3 PERSONAL PROTECTION EQUIPMENT (PPE)

Respiratory protection:	A NIOSH approved air purifying respirator equipped with universal multi-contaminant, multi-gas/vapor cartridges and at least P-99 solid/aerosol particulate filters is recommended if overexposure to dusts, mists, or vapors could occur.
Hand protection:	Rubber gloves.
Eye protection:	Safety glasses with side shields or chemical safety goggles.
Other protective clothing or equipment:	Additional protective clothing or equipment is not normally required. Provide eye bath and safety shower.

### 8.4 GENERAL HYGIENE AND PROTECTION MEASURES:

Avoid contact with skin. Avoid breathing dust/vapor/mist/gas/aerosol. Do not eat, drink or smoke when handling. Follow standard industrial hygiene practices when using this material. Wash thoroughly after handling.

## 9 – PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 APPEARANCE

Physical state / form:	Solid Powder
Color:	White (uncured) Transparent to Opaque (cured)
Odor:	Odorless

### 9.2 SAFETY PARAMETERS

Melting point / melting range:	not applicable	
Boiling point / boiling range:	not applicable	
Flash point:	not applicable	
Ignition temperature:	approx. 500°C (932°F)	Method (DIN 51794)
Lower explosion limit (LEL):	30 g/m <sup>3</sup>	
Vapor pressure:	not applicable	
Bulk density:	440-540 kg/m <sup>3</sup>	Method (DIN EN ISO 60)
Water solubility / miscibility:	moderately soluble (uncured) at 20°C (68°F)	
pH-Value:	approx. 7 at 20°C (68°F) (500g/l H <sub>2</sub> O)	
Viscosity (dynamic):	not applicable	

### 9.3 FURTHER INFORMATION



Product forms dispersions with water. The tests on the raised dust were determined in accordance with German VDI 2263, Sheet 1, on the screened product.

Thermal decomposition:	>250°C (>482°F)
Median value:	80 µm (original)
Median value:	42 µm (screened according to German VDI)
<b>Disturbed dust</b>	
Dust explosion class:	1
Kst value:	89 m*bar/sec
Maximum explosion pressure:	7.3 bar
Ignition temperature:	470°C (878°F)
Minimum ignition energy:	100-300 mJ with induction
Minimum ignition energy:	300-1,000 mJ without induction
<b>Deposited dust</b>	
Burning behavior:	5 at 20°C (68°F)
Spontaneous combustion:	235°C (445°F) sample volume: 400 cm³
Glow temperature:	>400°C (>752°F)

## 10 – STABILITY AND REACTIVITY

### 10.0 GENERAL INFORMATION:

If stored and handled in accordance with standard industrial practices no hazardous reactions are known.

### 10.1 CONDITIONS TO AVOID:

None known.

### 10.2 MATERIALS TO AVOID:

None known.

### 10.3 HAZARDOUS DECOMPOSITION PRODUCTS:

If stored and handled in accordance with standard industrial practices and local regulations where applicable: none known. At increased temperature: acetic acid.

### 10.4 FURTHER INFORMATION:

Hazardous polymerization cannot occur.

## 11 – TOXICOLOGICAL INFORMATION

### 11.1 GENERAL INFORMATION:

Toxicological testing has been conducted with similar product(s).

### 11.2 TOXICOLOGICAL DATA:

Acute toxicity (LD50/LC50-values relevant to classification)			
Exposition	Value/value range	Species	Source
Oral	>2,000 mg/kg	Rat	Test report
Primary irritation			
Exposition	Effect	Species / Test system	Source
To skin	Mildly irritating	Rabbit	Test report
To eyes	Not irritating	Rabbit	Test report
Experience with man			
During manufacture and use:		No information on damage to health.	

## 12 – ECOLOGICAL INFORMATION

### 12.1 INFORMATION ON ELIMINATION (PERSISTENCE AND DEGRADABILITY)

<b>Biodegradation / further information:</b>	Not readily biodegradable.
<b>Further information:</b>	Polymer component: Elimination by adsorption to activated sludge. Easily separable from water by filtration.

### 12.2 BEHAVIOR IN ENVIRONMENTAL COMPARTMENTS

<b>Mobility:</b>	-
<b>Further information:</b>	No adverse effects expected.

### 12.3 ECOTOXICOLOGICAL EFFECTS:

Species	Test method	Exp. Time	Result	Source
Carp (Cyprinus carpio)	Acute	96 h	> 1,000 mg/l (LC50)	Test report
No expected damaging effects to aquatic organisms.				
Effects in sewage treatment plants (bacteria toxicity: respiration-/reproduction inhibition)				
Test system	Exp. Time	Result	Source	
Sludge	0.5 h	>1,000 mg/l (EC10)	Test report	



According to current knowledge adverse effects on water purification plants are not expected.

**12.4 ADDITIONAL INFORMATION**

<b>Other harmful effects:</b>	-
<b>General information:</b>	Studies with similar products have shown that the product <u>does not</u> cause any harm to soils and/or harmful contaminations of subsoil water if it is applied for the purpose of creating a polymer matrix in or on the soil. Only introduce into water purification plants in diluted state. No environmental problems expected if handled and treated in accordance with standard industrial practices and local regulations where applicable. The ecotoxicological results provided were obtained from tests with similar products.

**13 – DISPOSAL CONSIDERATIONS**

**13.1 PRODUCT DISPOSAL**

<b>Recommendation:</b>	Incineration or deposit together with domestic waste is possible. Observe local/state/federal regulations.
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**13.2 PACKAGING DISPOSAL**

<b>Recommendation:</b>	Completely discharge containers (no tear drops, no powder rest, scraped carefully). Containers may be recycled or re-used. Observe local/state/federal regulations.
<b>Recommended cleaning agent:</b>	Water.

**14 – TRANSPORT INFORMATION**

**14.1 US DOT & CANADA TDG SURFACE**

<b>Valuation:</b>	Not regulated for transport
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**14.2 TRANSPORT BY SEA IMDG-CODE**

<b>Valuation:</b>	Not regulated for transport
<b>Marine Pollutant:</b>	No

**14.3 AIR TRANSPORT ICAO-TI/IATA-DGR**

<b>Valuation:</b>	Not regulated for transport
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**15 – REGULATORY INFORMATION**

**15.1 U.S. FEDERAL REGULATIONS**

<b>TSCA inventory status and TSCA information:</b>	This material or its components are listed on or are in compliance with the requirements of the TSCA Chemical Substance Inventory.
<b>TSCA 12(b) Export Notification:</b>	This material <u>does not</u> contain any TSCA 12(b) regulated chemicals.
<b>CERCLA Regulated Chemicals:</b>	This material <u>does not</u> contain any CERCLA regulated chemicals.
<b>SARA 302 EHS Chemicals:</b>	This material <u>does not</u> contain any SARA extremely hazardous substances.
<b>SARA 311/312 Hazard Class:</b>	This product <u>does not</u> present any SARA 311/312 hazards.
<b>SARA 313 Chemicals:</b>	This material <u>does not</u> contain any SARA 313 chemicals above de minimus levels.
<b>HAPS (Hazardous Air Pollutants):</b>	108-05-4 Vinyl acetate and 75-07-0 Acetaldehyde

**15.2 U.S. STATE REGULATIONS**

<b>California Proposition 65 Carcinogens:</b>	75-07-0 Acetaldehyde and 14808-60-7 Quartz
<b>California Proposition 65 Reproductive Toxins:</b>	This material <u>does not</u> contain any chemicals known to the state of California to cause reproductive effects.
<b>Massachusetts Substance List:</b>	1332-58-7 Kaolin and 1317-65-3 Calcium carbonate
<b>New Jersey Right-to-Know Hazardous Substance List:</b>	This material contains no listed components.
<b>Pennsylvania Right-to-Know Hazardous Substance List:</b>	1332-58-7 Kaolin and 1317-65-3 Calcium carbonate

**15.3 CANADIAN REGULATIONS**

This product has been classified in accordance with the Hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

<b>WHMIS Hazard Classes:</b>	None.
<b>DSL Status:</b>	This material or its components are listed on the Canadian Domestic Substances List.
<b>Canadian Ingredient Disclosure List:</b>	This material contains no listed components.

**15.4 OTHER INTERNATIONAL REGULATIONS**

EU Risk Phrases:	
<b>R-Phrase</b>	<b>Description</b>
R-	-
EU Safety Phrases:	
<b>S-Phrase</b>	<b>Description</b>
S-	-

Details of international registration status





Listed on or in accordance with the following inventories:

IECSC	China
PICCS	Philippines
ENCS	Japan
ECL	Korea
DSL	Canada
AICS	Australia
TSCA	USA
EINECS	Europe
HSNO	New Zealand

## 16 OTHER INFORMATION

### 16.1 ADDITIONAL INFORMATION:

This Material Safety Data Sheet (MSDS) meets the requirements of the Federal OSHA Hazard Communication Standard (29 CFR 1910.1200). This product has been classified according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR. This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee expressed or implied, is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license under valid patents. This MSDS provides selected regulatory information on this product, including its components. This is not intended to include all regulations. It is the responsibility of the user to know and comply with all applicable rules, regulations and laws relating to the product being used.

### 16.2 GLOSSARY OF TERMS:

ACGIH	American Conference of Governmental Industrial Hygienists
DOT	Department of Transportation
hPa	Hectopascals
mPa*s	Mili Pascal-Seconds
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
Ppm	Parts per Million
SARA	Superfund Amendments and Reauthorization Act
STEL	Short Term Exposure Limits
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
WHMIS	Canadian Workplace Hazardous Materials Identification System

Flash point determination methods	Common name
ASTM D56	Tagliabue (Tag) closed cup
ASTM D92, DIN 51376, ISO 2592	Cleveland open cup
ASTM D93, DIN 51758, ISO 2719	Pensky-Martens closed cup
ASTM D3278, DIN 55680, ISO 3679	Setaflash or Rapid closed cup
DIN 51755	Abel-Pensky closed cup

### 16.3 CONVERSION TABLE:

Pressure	1 hPa * 0.75 mmHg = 1 Torr; 1 bar = 1,000 hPa
Viscosity	1mPa*s = 1 Centipoise (Cp)