

DURASOIL® SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION

PRODUCT NAME	DURASOIL® Ultra-Pure Synthetic Dust Control Fluid
RELATED PATENTS	U.S. Patent No. 8,968,592 & 9,068,106 & 9,434,881 Additional patents may be pending in the U.S. and elsewhere
CHEMICAL FAMILY	Non-Petroleum Synthetic Alkane Fluid
COMMON NAMES	Dust Binder, Dust Control Agent, Dust Control Material, Dust Inhibitor, Dust Palliative, Dust Retardant, Dust Stabilizer and Dust Suppressant
MANUFACTURER	Soilworks®, LLC – Soil Stabilization & Dust Control 11520 E Germann Rd Chandler, Arizona 85286 USA (800) 545-5420 USA +1 (480) 545-5454 International info@soilworks.com www.soilworks.com
EMERGENCY PHONE NUMBERS	(800) 545-5420 USA +1 (480) 545-5454 International
U.S. DATA UNIVERSAL NUMBERING SYSTEM (DUNS NUMBER)	Soilworks, LLC 131946159
U.S. DEPARTMENT OF DEFENSE COMMERCIAL AND GOVERNMENT ENTITY CODE (CAGE CODE)	Soilworks, LLC 3FTH5
U.S. DEPARTMENT OF DEFENSE NATIONAL STOCK NUMBERS (NSN)	275-gallon (1,041 Liter) Intermediate Bulk Container (IBC) Tote 6850-01542-5354 55-gallon (208 Liter) Drum 6850-01-542-3715
U.S. GENERAL SERVICES ADMINISTRATION (GSA) CONTRACT	Soilworks, LLC GS-07F-5364P October 31, 2018

SYNONYMS/OTHER MEANS OF IDENTIFICATION

Durasoil is a 100% non-petroleum, genuine synthetic fluid based dust binder, dust control agent, dust control fluid, dust control liquid, dust control material, dust control product, dust inhibitor, dust palliative, dust retardant, dust stabilizer and dust suppressant.

INTENDED USES

For industrial use only. Major industries include construction, mining, military, municipal, oil & gas, energy & renewable energy and transportation.

Abate dust, air quality control, control dust, controlling dust, desertification prevention, dust abatement, dust control, dust control agent, dust control material, dust control product, dust elimination, dust inhibitor, dust mitigation, dust palliative, dust pollution control, dust pollution prevention, dust prevention, dust reduction, dust retardant, dust stabilization, dust stabilizer, dust suppressant, dust suppression, eliminate dust, fines preservation, fugitive dust control, inhibit dust, mitigate dust, pm10 control, pm2.5 control, prevent dust, reduce dust, retard dust, soil additive, soil amendment, stabilize dust, stop dust, suppress dust, wind erosion control.

SECTION 2 – HAZARDS IDENTIFICATION

This material is NOT considered hazardous according to OSHA criteria.

Emergency Overview

Appearance:	Bright clear (colorless) viscous liquid (fluid).
Odor:	None. Odorless.
Health Hazards:	Harmful: may cause lung damage if swallowed and enters airways.
Safety Hazards:	Nonflammable, but will burn on prolonged exposure to flame or high temperature.
Environmental Hazards:	NOT classified as dangerous for the environment.

HEALTH HAZARDS

INHALATION	Under normal conditions of use, this material is NOT expected to be a primary route of exposure
SKIN CONTACT	Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as acne/folliculitis
EYE CONTACT	May cause slight irritation to eyes
INGESTION	Harmful: may cause lung damage if swallowed and enters airways

SIGNS AND SYMPTOMS

If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. The onset of respiratory symptoms may be delayed for several hours after exposure. Ingestion may result in nausea, vomiting and/or diarrhea.

U.S. HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS) RATING

Health	0	No significant risk to health
Flammability	1	Nonflammable, but will burn on prolonged exposure to flame or high temperature.
Physical Hazard	0	Stable, non-reactive and non-explosive
Personal Protection	-	No special hazard under normal use

SECTION 3 – COMPOSITION/ INFORMATION ON INGREDIENTS

#	COMPONENT	%	CASRN
1.	A complex mixture of synthetic linear, branched and cyclic alkanes	Trade secret	Non-Hazardous
2.	Proprietary	Trade secret	Non-Hazardous

BYPRODUCT / RECYCLED CONTENT

None

SECTION 4 – FIRST-AID MEASURES

EYE CONTACT

If irritation or redness develops from exposure, flush eyes with clean water. If irritation persists, seek medical attention.

SKIN CONTACT

No treatment necessary under normal conditions of use. Remove contaminated clothing. Wash affected area with mild soap and water. If irritation or redness develops and persists, seek medical attention.

INHALATION

No treatment necessary under normal conditions of use. If breathing difficulties develop move victim away from source of exposure and into fresh air in a position comfortable for breathing. If symptoms persist, seek medical attention.

INGESTION

No treatment necessary under normal conditions of use. If swallowed do not induce vomiting. If symptoms persist, seek medical attention.

SECTION 5 – FIRE-FIGHTING MEASURES

FLAMMABILITY

Nonflammable, but will burn on prolonged exposure to flame or high temperature.

FLASH POINT

420° F (216° C) ASTM D-93 (PMCC)
474° F (246° C) ASTM D-92 (COC)

AUTOIGNITION TEMPERATURE

>605° F (>318° C)

EXTINGUISHING MEDIA

Use foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

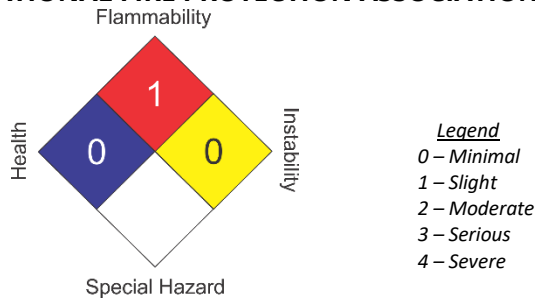
SPECIAL FIRE FIGHTING PROCEDURES & PROTECTIVE EQUIPMENT

Do NOT use water in a jet. Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.

SPECIFIC HAZARDS

Hazardous combustion products may include: a complex mixture of airborne solid and liquid particulates and gasses (smoke). Carbon monoxide. Unidentified compounds.

U.S. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 704 HAZARD CLASS



SECTION 6 – ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet. See Chapter 13 for information on disposal. Observe the relevant local and international regulations.

PROTECTIVE MEASURES

Stop the leak, if possible. Avoid contact with skin and eyes. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches, sewers, rivers or open bodies of water by using sand, earth or other appropriate barriers.

CLEAN-UP METHODS

Avoid accidents, clean up immediately. Slippery when spilled. Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly.

ADDITIONAL ADVICE

Local authorities should be advised if significant spillages cannot be contained.

SECTION 7 - HANDLING AND STORAGE

GENERAL PRECAUTIONS

Use local exhaust ventilation if there is risk of inhalation of vapors, mists or aerosols. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

STORAGE

Keep container tightly closed in a cool, well-ventilated place. Use properly labelled and closeable containers.

HANDLING

Avoid breathing vapors or mist. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. When handling product in drums, safety footwear should be worn and proper handling equipment should be used.

RECOMMENDED MATERIALS

For containers or container linings, use mild steel or high density polyethylene.

ADDITIONAL INFORMATION

Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS

ACGIH (mist) :	TWA (inhalable fraction)	5 mg/m ³
OSHA Z1 (Mist):	PEL	5 mg/m ³
OSHA Z1A (Mist):	TWA	5 mg/m ³

EXPOSURE CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

RESPIRATORY PROTECTION

Respiratory protection is NOT required under normal conditions of use in a well-ventilated workplace. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapors.

HAND PROTECTION

Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed with soap and water and dried thoroughly.

EYE PROTECTION

Eye protection is NOT required under normal conditions of use. If material is handled such that it could be splashed into eyes, wear splash-proof safety goggles or full face shield.

PROTECTIVE CLOTHING

Skin protection is NOT required under normal conditions of use or for single, short duration exposures. For prolonged or repeated exposures, use impervious chemical resistant boots, gloves and/or aprons over parts of the body subject to exposure.

MONITORING METHODS

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

ANILINE POINT	235 °F (113 °C)
ASH CONTENT	<0.01% (None detected)
AUTO IGNITION TEMPERATURE	>605° F (>318° C)
BOILING POINT	464 °F (240 °C)
CLOUD POINT	-22 °F (-30 °C)
COLOR	None. Colorless, clear and bright
CONDUCTIVITY	5,886 pS/m
DENSITY	<6.8 lb/gal (816 kg/m ³) @ 59 °F (15 °C)
DIELECTRIC STRENGTH	46 MV/m
FLASH POINT	474 °F (246 °C) (ASTM D92 COC)
FLASH POINT	420 °F (216 °C) (ASTM D93 PMCC)
GROSS CALORIFIC VALUE	>20,200 BTU/lb (>47.0 MJ/kg)
KINEMATIC VISCOSITY	4 cSt @ 212 °F (100 °C)
NET CALORIC VALUE	>18,800 BTU/lb (>43.8 MJ/kg)
ODOR	None, Odorless
OIL SHEEN	None. Oil sheen free
PH	Not applicable. Not an aqueous solution
PHYSICAL FORM	Liquid, Synthetic Fluid
POUR POINT	-40 °F (-40 °C)
SPECIFIC GRAVITY	0.8155 @ 59 °F (15 °C)
VAPOR DENSITY	>1 (Air = 1)
VAPOR PRESSURE	<0.5 Pa @ 68 °F (20 °C)
VISCOSITY INDEX	130 (minimal change with temperature)
WATER CONTENT	<0.01% (None detected)
WATER SOLUBILITY	Insoluble

SECTION 10 - STABILITY AND REACTIVITY**CHEMICAL STABILITY**

Stable

CONDITIONS TO AVOID

Extreme heat

MATERIALS TO AVOID

Strong oxidizing agents

HAZARDOUS DECOMPOSITION

Hazardous decomposition products are NOT expected to form during normal storage

CORROSIVITY

Non-corrosive

AIRCRAFT SURFACE REACTIVITY

Non-injurious to aircraft surfaces (Boeing Specification D6-17487 revision R)

Sandwich Corrosion	Pass / Conforms	No corrosion
Acrylic Cracking	Pass / Conforms	No cracking, cracking or etching
Paint Softening	Pass / Conforms	No hardness change, discoloration or staining
Hydrogen Embrittlement	Pass / Conforms	No failure

SECTION 11 - TOXICOLOGICAL INFORMATION**SKIN IRRITATION**

Expected to be slightly irritating. Prolonged or repeated contact may cause defatting of the skin which can lead to dermatitis.

EYE IRRITATION

Expected to be slightly irritating

RESPIRATORY IRRITATION

Inhalation of vapors or mists may cause irritation

SENSITIZATION

NOT expected to be a skin sensitizer

REPEATED DOSE TOXICITY

NOT expected to be a hazard

CARCINOGENICITY

Components are NOT known to be associated with carcinogenic effects.

OSHA	U.S. Occupational Safety and Health Administration	Not listed as carcinogenic
NTP	U.S. National Toxicology Program	Not listed as carcinogenic
IARC	World Health Organization International Agency for Research on Cancer	Not listed as carcinogenic
Prop 65	California Office of Environmental Health Hazard Assessment Proposition 65	Not listed as carcinogenic

REPRODUCTIVE AND DEVELOPMENTAL TOXICITY

NOT expected to be a hazard.

BENZENE & NAPHTHALENE

None Detected – EPA 5030B & 8260B

DIOXINS & FURANS (PCDDs / PCDFs)

None Detected – QC066-97, GC-MS

HALOGENATED VOLATILE ORGANICS

None Detected – EPA 5030B & 8260B

METALS (TCLP)

None Detected - EPA 6010B & 7470A

METALS

None Detected - EPA 200.7 & 245.1

METALS

None Detected – EPA 6020 & 3050B, ICP

MUTAGENICITY

None Detected – APHA 8030B

PESTICIDES, HERBICIDES AND PCBS

None Detected - EPA 8151A

PESTICIDES, HERBICIDES AND PCBS (TCLP)

None Detected - EPA 8081A & 8151A

PHENOLIC COMPOUNDS

None Detected – QC066-97, GC-MS

POLYCHLORINATED BIPHENYL (PCBs)

None Detected – GC-MS

POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)

None Detected – EPA 3510, QC058-97, GC-MS

SEMI-VOLATILE ORGANIC COMPOUNDS

None Detected – EPA 3510 & 8270, GC-MS

SEMI-VOLATILE ORGANIC COMPOUNDS (SVOC)

None Detected - EPA 8270C

SEMI-VOLATILE ORGANIC COMPOUNDS (TCLP)

None Detected - EPA 8270 & 1311

VOLATILE ORGANIC COMPOUNDS (TCLP)

None Detected - EPA 8260

VOLATILE ORGANIC COMPOUNDS (VOC)

None Detected - EPA 8260B

SECTION 12 - ECOLOGICAL INFORMATION

Based on EPA guidelines, Durasoil is classified as practically non-toxic to all species. When used and applied properly, Durasoil is not known to pose any ecological problems.

AQUATIC TOXICITY

Bacterium	Allivibrio fischeri	15 minute	IC ₅₀	>500,000 mg/L
Fathead Minnow	Pimephales promelas	7 day	IC ₂₅	>2,000 mg/L
Fathead Minnow	Pimephales promelas	7 day	IC ₅₀	>39,000 mg/L
Fathead Minnow	Pimephales promelas	7 day	LC ₅₀	>28,000 mg/L
Microalga	Pseudokirchneriella subcapitata	96 hour	IC ₅₀	>500,000 mg/L
Mysid Shrimp	Americamysis bahia	7 day	IC ₂₅	>1,000 mg/L
Mysid Shrimp	Americamysis bahia	7 day	LC ₅₀	>2,000 mg/L
Rainbow Trout	Oncorhynchus mykiss	96 hour	LC ₅₀	>2,000 mg/L
Water Flea	Daphnia magna	48 hour	LC ₅₀	18,000 mg/L

TERRESTRIAL TOXICITY

Earthworm	Eisenia andrei	14 day	LC ₅₀	>670,000 mg/L
Lettuce	Root elongation	120 hour	EC ₅₀	>13,000 mg/L
Lettuce	Seed germination	120 hour	LC ₅₀	>680,000 mg/L

DEGRADABILITY

Major constituents are expected to be readily biodegradable

MOBILITY

Liquid under most environmental conditions. Floats on water. If it enters soil, it will adsorb to the soil particles and will NOT be mobile.

OTHER ADVERSE EFFECTS

The synthetic fluid contains non-volatile components, which are NOT expected to be released to air in any significant quantities. Synthetic fluid is NOT expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

SECTION 13 - DISPOSAL CONSIDERATIONS

MATERIAL DISPOSAL

Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do NOT dispose into the environment, in drains or in water courses.

CONTAINER DISPOSAL

Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.

LOCAL LEGISLATION

Dispose in accordance with applicable regional, national and local laws and regulations.

SECTION 14 - TRANSPORT INFORMATION**U.S. DEPARTMENT OF TRANSPORTATION (DOT)**

NOT regulated. This material is NOT subject to DOT regulations under 49 CFR Parts 171-180.

INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG)

NOT regulated. This material is NOT classified as dangerous under IMDG regulations.

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)

NOT regulated. This material is either NOT classified as dangerous under IATA regulations or needs to follow country specific requirements.

SECTION 15 - REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

U.S. FEDERAL REGULATIONS**EPA COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA)**

This material does NOT contain any chemicals with U.S. EPA CERCLA reportable quantities.

EPA SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA)

This material does NOT contain any chemicals with SARA reportable quantities.

EPA TOXIC SUBSTANCES CONTROL ACT (TSCA)

All components listed.

EPA CERCLA/SARA SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES AND TPQS

This material does NOT contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

EPA CERCLA/SARA SECTION 311/312 (TITLE III HAZARD CATEGORIES)

Acute Health: No
Chronic Health: No
Fire Hazard: No
Pressure Hazard: No
Reactive Hazard: No

EPA CERCLA/SARA SECTION 313 AND 40 CFR 372

This material does NOT contain any chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372.

U.S. STATE REGULATIONS**CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65)**

This material does NOT contain any chemicals known to the State of California to cause cancer, birth defects or reproductive harm.

CANADIAN REGULATIONS

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the regulations.

CANADIAN DOMESTIC SUBSTANCES LIST (DSL)

All components listed.

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHIMIS)

None. This synthetic fluid is NOT a controlled product under the Canadian WHIMIS.

EUROPEAN REGULATIONS**EUROPEAN INVENTORY OF EXISTING COMMERCIAL SUBSTANCES (EINECS)**

All components listed.

SECTION 16 – OTHER INFORMATION**SDS VERSION NUMBER** 1.9**SDS EFFECTIVE DATE** 4/2/2019**SDS REGULATIONS**

The content and format of this SDS is in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SDS DISTRIBUTION

The information in this document should be made available to all who may handle the product.

DISCLAIMER

The information presented in this Safety Data Sheet is based on data believed to be accurate as of the date this Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE MATERIAL, THE SAFETY OF THIS MATERIAL, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the material, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the material for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.