Advanced
Construction
Technologies

Alchatek

SAFETY DATA

AP Soil 600

Revision Date: 8-26-25
Version 4

AP Soil 600

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name	AP SOIL 600
Part Number(s)	600R005, 600R050, 600R250

Recommended use of the chemical and restrictions on use

Moisture activated polyurethane soil stabilization resin.

Supplier Details

Name	Alchatek
Address	4508 Bibb Blvd Tucker, GA 30084
Telephone	(404) 618-0438

Emergency Phone Numbers

Call CHEMTREC Day or Night
1-800-424-9300
+1 703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

LABEL ELEMENTS

PICTOGRAMS



SIGNAL WORD: DANGER

EMERGENCY OVERVIEW

APPEARANCE AND ODOR:	black-brown liquid with a slightly musty odor.
REACTIVE:	Product will polymerize when exposed to water.

POTENTIAL HEALTH EFFECTS

EYES:	Causes irritation with symptoms of reddening, tearing, stinging, and swelling. May cause temporary corneal injury. Vapor or aerosol may cause irritation with symptoms of burning and tearing. Product may polymerize in eye.
CHRONIC EYE:	Prolonged vapor contact may cause conjunctivitis
SKIN:	Causes irritation with symptoms of reddening, itching, and swelling. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Contact with skin can cause product to polymerize. Cured material is difficult to remove. Contact with MDI can cause discoloration.
CHRONIC SKIN:	Prolonged contact can cause reddening, swelling, rash, and, in some cases, skin sensitization. Animal tests on MDI indicate skin contact alone may lead to an allergic respiratory reaction.
INGESTION:	May cause irritation; Symptoms may include abdominal pain, nausea, vomiting, and diarrhea. Carcinogenicity: No Carcinogenic substances as defined by IARC, NTP and/or OSHA
INHALATION:	Diisocyanate vapors or mist can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction).
CHRONIC INHALATION:	As a result of previous repeated overexposures or a single large dose, certain individuals may develop sensitization to diisocyanates (asthma or asthma-like symptoms).

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS NO.	% wt/wt

4,4'-Diphenylmethane Diisocyanate (MDI) and Homologues of MDI	101-68-8 9016-87-9	20-60

SECTION 4: FIRST AID MEASURES

EYES:	Immediately flush eyes gently with water for at least 15 minutes, while holding open upper and lower lids. Product reacts with moisture in eye! Immediately seek medical attention.
SKIN:	Remove contaminated clothing. Blot or brush the product away, prior to washing the exposed area with water. The cured product on the skin is rarely a cause of irritation (If it does, seek medical attention). The process of trying to remove the cured product may cause irritation.
INGESTION:	SEEK IMMEDIATE MEDICAL ATTENTION! DELAYED TREATMENT MAY RESULT IN FATALITY. Do Not Induce Vomiting. Rinse mouth out with water. Aspiration of material into the lungs due to vomiting can cause chemical pneumonitis which can be fatal.
INHALATION:	Move to an area free from further exposure. Get medical attention immediately. Administer oxygen or artificial respiration as needed. Asthmatic symptoms may develop and may be immediate or delayed up to several hours. Extreme asthmatic reactions can be life threatening.

SECTION 5: FIRE-FIGHTING MEASURES (ERG CODE 171)

FLASH POINT & METHOD USED:	ASTM D93 284°F (140°C)
EXTINGUISHING MEDIA:	Dry Chemical, CO2, Foam or Water Fog

SPECIAL FIRE FIGHTING PROCEDURES:	Do not scatter material with high pressure water streams. Firefighters should wear NFPA compliant structural firefighting protective equipment, including self-contained breathing apparatus and NFPA compliant helmet, hood, boots and gloves. Avoid contact with product. Decontaminate equipment and protective clothing prior to reuse. During a fire, isocyanate vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Exposure to heated diisocyanate can be extremely dangerous Closed container may forcibly rupture under extreme heat or when contents are contaminated with water (CO2 formed). Use cold-water spray to cool fire-exposed containers to minimize the risk of rupture. Large fires can be extinguished with large volumes of water applied from a safe distance, since reaction between water and hot diisocyanate can be vigorous.
HAZARDOUS DECOMPOSITION PRODUCTS:	Fire or intense heat will decompose the product into CO2, CO, Hydrogen Cyanide, Oxides of Nitrogen, Isocyanates, Isocyanic Acid, and dense black smoke.

SECTION 6: ACCIDENTAL RELEASE MEASURES (ERG CODE 171)

ACCIDENTAL RELEASE MEASURES:	Where exposure level is known, wear approved respirator suitable for the level of exposure. If exposure level is unknown, wear approved, positive pressure, self-contained respirator. In addition to the protective clothing in section 8, wear impermeable boots.
CLEAN-UP PROCEDURES:	Remove sources of ignition. Stop and contain / dam the spill. Absorb spill with inert material (vermiculite / diatomaceous earth). Shovel material into appropriate container for disposal.

SECTION 7: HANDLING AND STORAGE

HANDLING:	Do not breathe vapors, mists, or dusts. Use adequate ventilation to keep airborne isocyanate levels below the exposure limits. Wear respiratory protection if material is heated, sprayed, used in a confined space, or if the exposure limit is exceeded. Warning properties (irritation of the eyes, nose and throat or odor) are not adequate to prevent overexposure from inhalation. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed to vapor or spray mist. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash thoroughly after handling. Do not breathe smoke and gases created by overheating or burning this material. Decomposition products can be highly toxic and irritating. Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected.
STORAGE:	Keep in manufacturer's sealed nitrogen packed pail. Maintain storage temperatures between 65˚F to 86˚F (18˚C to 30˚C).

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

4,4'- Diphenylmethane Diisocyanate:

ACGIH PEL-TWA:	0.005 ppm
NIOSH Ceiling:	0.02ppm at 10 minutes
OSHA PEL (vacated)CEILING:	0.02 ppm, 0.2mg/m3
ENGINEERING CONTROLS:	Normal room ventilation is usually adequate under normal use. Local exhaust should be used to maintain levels below the TLV whenever MDI is heated, sprayed, or aerosolized. Standard reference sources regarding industrial ventilation (e.g., ACGIH Industrial Ventilation Manual) should be consulted for guidance about adequate ventilation. To ensure that published exposure limits have not been exceeded, monitoring for airborne diisocyanate should become part of the overall employee exposure characterization program.

INHALATION:	Diisocyanate vapors or mist at concentrations above the TLV or PEL can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a preexisting, nonspecific bronchial hyper reactivity can respond to concentrations below the TLV or PEL with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the TLV or PEL may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms (e.g., fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.
CHRONIC INHALATION:	As a result of previous repeated overexposures or a single large dose, certain individuals may develop sensitization to diisocyanates (asthma or asthma-like symptoms) that may cause them to react to a later exposure to diisocyanates at levels well below the TLV or PEL. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthmatic attack, could be immediate or delayed up to several hours after exposure. Extreme asthmatic reactions can be life threatening. Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Sensitization can be permanent. Chronic overexposure to diisocyanates has also been reported to cause lung damage (including fibrosis, decrease in lung function) that may be permanent.

RESPIRATORY PROTECTION:	Airborne MDI concentrations greater than the ACGIH TLV-TWA (TLV) or OSHA PEL-C (PEL) can occur in inadequately ventilated environments when MDI is sprayed, aerosolized, or heated. In such cases, respiratory protection must be worn. The type of respiratory protection selected must comply with the requirements set forth in OSHA's Respiratory Protection Standard (29 CFR 1910.134). The type of respiratory protection available includes (1) an atmosphere-supplying respirator such as a self-contained breathing apparatus (SCBA) or a supplied air respirator (SAR) in the positive pressure or continuous flow mode, or (2) an air-purifying respirator (APR). If an APR is selected then (a) the cartridge must be equipped with an end-of-service life indicator (ESLI) certified by NIOSH, or(b) a change out schedule, based on objective information or data that will ensure that the cartridges are changed out before the end of their service life, must be developed and implemented. The basis for the change out schedule must be described in the written respirator program. Further, if an APR is selected, the airborne diisocyanate concentration must be no greater than 10 times the TLV or PEL. The recommended APR cartridge is an organic vapor/particulate filter combination cartridge (OV/P100).
EYE PROTECTION:	Safety goggles or face shield.
SKIN PROTECTION:	Use gloves; wear protective clothing to prevent skin contact. In cured form, the product is difficult to remove from skin and hair.
WORK HYGIENIC PRACTICES:	Use good hygiene practices when handling this material including changing and laundering of work clothes after use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Black-brown liquid
ODOR:	Slightly musty odor
ODOR THRESHOLD:	Not available
PHYSICAL STATE:	Liquid
pH:	Neutral
MELTING PT:	<- 4°F (<- 20°C)
FLASH POINT (CC):	284°F (140°C)
EVAPORATION RATE:	Not available
FLAMMABILITY:	Non-flammable

UPPER FLAMMABILITY LIMITS:	Not Applicable
LOWER FLAMMABILITY LIMITS:	Not applicable
VAPOR PRESSURE:	0.0006 mm Hg @ 40°C
BULK DENSITY:	10 lbs/gal
SOLUBILITY (H2O):	None
PARTITION COEFFICIENT:	Not available
AUTO-IGNITION TEMPERATURE:	Not available
DECOMPOSITION TEMPERATURE:	<212°F(<100°C)

SECTION 10: STABILITY AND REACTIVITY

STABILITY:	Contact with moisture or temperatures above 350° F (177° C) will cause polymerization.
CONDITIONS TO AVOID (STABILITY):	Will polymerize with heat and/or moisture.
INCOMPATIBILITY (MATERIAL TO AVOID):	Amines, Strong Bases, Alcohols, Copper Alloys, Liquid Chlorine. Water-until ready to react.
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:	Fire or intense heat will decompose the product into CO2, CO, Hydrogen Cyanide, Oxides of Nitrogen, Isocyanates, Isocyanic Acid, and dense black smoke.
HAZARDOUS POLYMERIZATION:	During normal polymerization CO2 is produced.

SECTION 11: TOXICOLOGICAL INFORMATION

CARCINOGENICITY:
4,4'-Diphenylmethane Diisocyanate
IARC: Group 3 (not classifiable as to its carcinogenicity in humans)
EPA- CBD
MAK: 4

ACUTE TOXICITY
4,4'-Diphenylmethane Diisocyanate
Oral LD50 (rat) >5800 mg/kg
Inhalation LC50 (rat): 14ppm/4hrs
Dermal LD50 (rabbit): >16 mL/kg

SECTION 12: ECOLOGICAL INFORMATION

Does not Bioaccumulate (All Ingredients)
Biodegrade to 0% in 28 days (4,4'- Diphenylmethane Diisocyanate)
Biodegrade to 70% compressive strength in 80 years (cured foam state)

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method:	Waste disposal should be in accordance with existing federal, state and local environmental control laws. Incineration is the preferred method.
Empty Container Precautions:	Empty containers retain product residue; observe all precautions for product. Do not heat or cut empty container with electric or gas torch because highly toxic vapors and gases are formed. Do not reuse without thorough commercial cleaning and reconditioning. If container is to be disposed, ensure all product residues are removed prior to disposal. Dispose of per local, state and federal guidelines as required by your specific local. This product in its cured foam state is inert and non-toxic.

SECTION 14: TRANSPORT INFORMATION

DOT:	Class - Not regulated
IMDG International Maritime Dangerous Goods Code:	Class - Not regulated
IATA:	Class - Not regulated

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

Ingredient:	4,4'- Diphenylmethane Diisocyanate
TSCA:	Yes
CERCLA RQ:	5000 lbs
SARA 302:	No
SARA 313:	Yes
TSCA:	All ingredients are listed in or exempt from the TSCA Master Inventory File.

WHMIS:
All ingredients are listed on the CEPA Domestic Substances List (DSL)
Ingredient Disclosure List (IDL), the following components are on the list:

4,4'- Diphenylmethane Diisocyanate 101-68-8

California Prop. 65
This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: OTHER INFORMATION

NFPA HAZARD CLASSIFICATION

HEALTH:	2
FLAMMABILITY:	1
REACTIVITY:	1

HMIS

HEALTH:	2
FLAMMABILITY:	1
PHYSICAL HAZARD:	1

Do not use this product unless trained to do so.

Further information/disclaimer
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