

VERIFICATION STATEMENT

GLOBE Performance Solutions

Verifies the performance of

Soil Sement[®]

Developed by Midwest Industrial Supply Inc.
Canton, OH, USA

In accordance with

ISO 14034:2016

**Environmental Management —
Environmental Technology Verification (ETV)**



John D. Wiebe, PhD
Executive Chairman
GLOBE Performance Solutions

August 15, 2018
Vancouver, BC, Canada



Verification Body
GLOBE Performance Solutions
404 – 999 Canada Place | Vancouver, B.C | Canada |V6C 3E2

Performance claims

Midwest Industrial Supply Inc.'s Soil-Sement[®], when applied in accordance with the manufacturer's instructions, will:

1. on unpaved roadways in California's San Joaquin Valley,
 - a. achieve at least 95% suppressant efficiency on fugitive dust (PM₁₀) for three months after application and at least 80% after 11 months, and
 - b. increase the R-value in the range of 30-40% when measured by ASTM Test Protocols D1883 and D2844, and calculated in accordance with the AASHTO Guide for Design of Pavement Structures, 1986; and
2. in acute toxicity tests, yield LC₅₀'s for rainbow trout (96-hr) and *Daphnia magna* (48-hr) of at least 7,000 ppm and 21,000 ppm, respectively.

Technology Application

Soil-Sement[®] is used in widely varying climatic conditions and soil types and in diverse industries, from landfills to mining, wineries to steel mills, development/construction sites to power plants, and intermodal facilities to military installations.

... to a mining haul road ...



... and to a landfill at a steel mill.



Soil-Sement[®] applied to a construction site ...



Performance conditions

The claim is considered valid when **Soil-Sement[®]** is applied in accordance with the manufacturer's instructions, to soils of the type found in the San Joaquin valley and on roads with traffic density in the order of 100 vehicles per day.

Technology Description

Midwest Industrial Supply Inc.'s **Soil-Sement[®]** is a polymer emulsion that is specially-formulated as a non-toxic erosion and dust control agent for unpaved roadways and/or shoulders and other municipal/industrial exposed-earth sites. It requires no US EPA reporting since the formulation contains no heavy metals, pesticides/herbicides or other toxic compounds. The design concept also allows changing the application method, intensity or frequency to meet regulatory requirements while remaining within the customer's budget.

Verification

This verification was first completed in March, 1999 and has been considered valid for subsequent renewal periods every three (3) years thereafter. The verification of the performance claim was carried out by ESG International, of Guelph, Ontario (Canada) using data from testing performed by: Desert Research Institute - suppressant efficiency; Western Technologies Inc. - R-value; and B.A.R. Environmental Inc. - toxicity.

The evaluation was conducted in accordance with the Canadian ETV Program's General Verification Protocol (May 1998) and the Canadian ETV Program's *Air Emission Control Technology Verification Protocol*. This ETV renewal is considered to meet the equivalency of an ETV verification completed using the International Standard *ISO 14034:2016 Environmental Management – Environmental Technology Verification (ETV)*.

What is ISO 14034:2016 Environmental Management – Environmental technology verification (ETV)?

ISO 14034:2016 specifies principles, procedures and requirements for environmental technology verification (ETV), and was developed and published by the *International Organization for Standardization (ISO)*. The objective of ETV is to provide credible, reliable and independent verification of the performance of environmental technologies. An environmental technology is a technology that either results in an environmental added value or measures parameters that indicate an environmental impact. Such technologies have an increasingly important role in addressing environmental challenges and achieving sustainable development.

For more information on Soil Sement® please contact:

Midwest Industrial Supply Inc.
1101-3rd St. S.E.
Canton, Ohio
44707 USA
Tel: 330-456-3121 x126
E-mail: Cheryl.Detloff@midwestind.com
www.midwestind.com

For more information on ISO 14034:2016 / ETV please contact:

GLOBE Performance Solutions
World Trade Centre
404 – 999 Canada Place
Vancouver, BC
V6C 3E2 Canada
Tel: 604-695-5018 / Toll Free: 1-855-695-5018
etv@globeperformance.com

Limitation of verification

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