

# NSF International

RECOGNIZES

SUPERGROUT PRODUCTS LLC

ALPENA, MI

AS COMPLYING WITH NSF/ANSI 60 AND ALL APPLICABLE REQUIREMENTS.  
PRODUCTS APPEARING IN THE NSF OFFICIAL LISTING ARE  
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A handwritten signature in black ink, appearing to read "David Purkiss".

David Purkiss, General Manager  
Water Distribution Systems

June 5, 2009  
Certificate#: C0031963 - 01

## Test Report

This report documents the testing of the referenced product to the requirements of NSF/ANSI Standard 60 (Drinking Water Treatment Chemicals - Health Effects). This standard establishes minimum requirements for chemicals, the chemical contaminants, and impurities that are added to drinking water from drinking water treatment chemicals. Contaminants produced as by-products through reaction of the treatment chemical with a constituent of the drinking water are not covered by this Standard. Reference the "About the Standard" section at the end of this report for additional information about NSF/ANSI Standard 60 and the products covered under this Standard.

**Sample Description:** GEO SupergROUT  
**TradeDesignation:** GEO SupergROUT  
**Test Type:** QQ - Qualification Testing  
**Result:** Pass

Thank you for having your product tested by NSF.

This report details the results of testing performed on your product. Please do not hesitate to contact Lena Hope at 734-913-5731 if you have any questions about your product test results.

**Authorized by:**

  
Clifton Mclellan - Director, Toxicology Services

**Date:** 29-MAY-2009

**About the Standard:**

NSF/ANSI Standard 60: Drinking Water Treatment Chemicals - Health Effects

NSF/ANSI 60 establishes minimum health effects requirements for the chemicals, the chemical contaminants, and the impurities that are directly added to drinking water from drinking water treatment chemicals. It does not establish performance or taste and odor requirements. The standard contains requirements for chemicals that are directly added to water and are intended to be present in the finished water as well as other chemical products that are added to water but are not intended to be present in the finished water. Chemicals covered by this Standard include, but are not limited to, coagulation and flocculation chemicals, softening, precipitation, sequestering, pH adjustment, and corrosion/scale control chemicals, disinfection and oxidation chemicals, miscellaneous treatment chemicals, and miscellaneous water supply chemicals.

The testing performed to this standard is done to estimate the level of contaminants or impurities added to drinking water when the chemical is used at the "Maximum Use Level" under attestation. Prior to testing, information is obtained on the formulation and sources of supply used to manufacture the chemical. This information is then reviewed along with the minimum requirements of the standard to establish the potential contaminants of concern. A representative sample of chemical is obtained for testing. The chemical sample is prepared for analysis through specific methods established in the standard based on the type of chemical and then is analyzed for potential contaminants determined during the formulation review. The laboratory results are normalized to represent potential at-the-tap values and then compared to the "single product allowable concentration" (SPAC) established by the standard. The product is found in compliance with the standard if the normalized value is less than or equal to the allowable concentration.





Sample Id: S-0000644843

Testing Parameter	Units	Sample	Control	Result	Norm. Result	Acceptance Criteria(1)	Evaluation Status
<b>Chemistry Lab ( Cont'd )</b>							
N-Nitrosopiperidine	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Triethylphosphate	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Isophorone	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
2,4-Dimethylphenol	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Naphthalene	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)	10	Pass
Benzothiazole	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
N-Nitrosodi-n-butylamine	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
p-tert-Butylphenol	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Methylnaphthalene, 2-	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
1(3H)-Isobenzofuranone	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Benzyl alcohol, a,a-dimethyl-p-isopropyl-	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
1,1'-(1,3-Phenylene)bis ethanone	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Dimethylphthalate	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
1,1'-(1,4-Phenylene)bis ethanone	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Benzenedimethanol, a,a,a',a'-tetramethyl-1,3-	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Acenaphthylene	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Benzenedimethanol, a,a,a',a'-Tetramethyl-1,4-	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
2,4-Di-tert-butylphenol	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Dimethyl terephthalate	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Acenaphthene	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Ethyl-4-ethoxybenzoate	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
p-tert-Octylphenol	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Diethyl Phthalate	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Fluorene	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Nitrosodiphenylamine (N-)	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Phenanthrene	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Anthracene	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Dibutyl phthalate	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)	70	Pass
Fluoranthene	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Pyrene	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Butyl benzyl phthalate	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Benzo(a)anthracene	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Di(2-ethylhexyl)phthalate	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Di(2-ethylhexyl)adipate	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Chrysene	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Di-n-octylphthalate	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Benzo(b)fluoranthene	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Benzo(k)fluoranthene	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		

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Testing Parameter	Units	Sample	Control	Result	Norm. Result	Acceptance Criteria(1)	Evaluation Status
<b>Chemistry Lab ( Cont'd )</b>							
Benzo(a)Pyrene (PAH)	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Dibenzo(a,h)anthracene	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Indeno(1,2,3-cd)pyrene	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Benzo(g,h,i)perylene	ug/L	ND(4)	ND(4)	ND(4)	ND(0.7)		
Arsenic	ug/L	ND(5)	ND(5)	ND(5)	ND(0.8)	1	Pass
Barium	ug/L	76	19	57	9.5	200	Pass
Beryllium	ug/L	ND(2)	ND(2)	ND(2)	ND(0.4)	0.4	Pass
Cadmium	ug/L	ND(1)	ND(1)	ND(1)	ND(0.2)	0.5	Pass
Chromium	ug/L	ND(5)	ND(5)	ND(5)	ND(0.8)	10	Pass
Copper	ug/L	ND(5)	ND(5)	ND(5)	ND(0.8)	130	Pass
Mercury	ug/L	ND(1)	ND(1)	ND(1)	ND(0.2)	0.2	Pass
Lead	ug/L	ND(5)	ND(5)	ND(5)	ND(0.8)	1.5	Pass
Antimony	ug/L	ND(2)	ND(2)	ND(2)	ND(0.4)	0.6	Pass
Selenium	ug/L	ND(10)	ND(10)	ND(10)	ND(2)	5	Pass
Thallium	ug/L	ND(1)	ND(1)	ND(1)	ND(0.2)	0.2	Pass
Turbidity (Ref: EPA 180.1)							
Turbidity	NTU	6.0	ND(0.5)	5.9			
Date Analyzed		06-MAY-2009					
Time Analyzed		15:00					
(1) * Gross Alpha/Beta Counts (Ref: EPA 900)- General Engineering							
P1 Gross Alpha	pCi/L	ND(5)	ND(5)	ND(5)	ND(0.8)		
P1 Gross Beta	pCi/L	ND(5)	ND(5)	ND(5)	ND(0.8)		
Date Analyzed		12-MAY-2009					
Dioxin/Furan Scan by Method 1613							
2378-TCDF	pg/L	ND(10)	ND(10)	ND(10)	ND(0.000002;		
TOTAL TCDF	pg/L	ND(10)	ND(10)	ND(10)	ND(0.000002;		
2378-TCDD	pg/L	ND(10)	ND(10)	ND(10)	ND(0.000002;		
TOTAL TCDD	pg/L	ND(10)	ND(10)	ND(10)	ND(0.000002;		
12378-PeCDF	pg/L	ND(50)	ND(50)	ND(50)	ND(0.000008;		
23478-PeCDF	pg/L	ND(50)	ND(50)	ND(50)	ND(0.000008;		
TOTAL PeCDF	pg/L	ND(50)	ND(50)	ND(50)	ND(0.000008;		
12378-PeCDD	pg/L	ND(50)	ND(50)	ND(50)	ND(0.000008;		
TOTALPeCDD	pg/L	ND(50)	ND(50)	ND(50)	ND(0.000008;		
123478-HxCDF	pg/L	ND(50)	ND(50)	ND(50)	ND(0.000008;		
123678-HxCDF	pg/L	ND(50)	ND(50)	ND(50)	ND(0.000008;		
234678-HxCDF	pg/L	ND(50)	ND(50)	ND(50)	ND(0.000008;		

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Testing Parameter	Units	Sample	Control	Result	Norm. Result	Acceptance Criteria(1)	Evaluation Status
<b>Chemistry Lab ( Cont'd )</b>							
123789-HxCDF	pg/L	ND(50)	ND(50)	ND(50)	ND(0.000008;		
TOTAL HxCDF	pg/L	ND(50)	ND(50)	ND(50)	ND(0.000008;		
123478-HxCDD	pg/L	ND(50)	ND(50)	ND(50)	ND(0.000008;		
123678-HxCDD	pg/L	ND(50)	ND(50)	ND(50)	ND(0.000008;		
123789-HxCDD	pg/L	ND(50)	ND(50)	ND(50)	ND(0.000008;		
TOTALHxCDD	pg/L	ND(50)	ND(50)	ND(50)	ND(0.000008;		
1234678-HpCDF	pg/L	ND(50)	ND(50)	ND(50)	ND(0.000008;		
1234789-HpCDF	pg/L	ND(50)	ND(50)	ND(50)	ND(0.000008;		
TOTAL HpCDF	pg/L	ND(50)	ND(50)	ND(50)	ND(0.000008;		
1234678-HpCDD	pg/L	ND(50)	ND(50)	ND(50)	ND(0.000008;		
TOTAL HpCDD	pg/L	ND(50)	ND(50)	ND(50)	ND(0.000008;		
OCDF	pg/L	ND(100)	ND(100)	ND(100)	ND(0.00002)		
OCDD	pg/L	ND(100)	ND(100)	ND(100)	ND(0.00002)		

1 - If the acceptance criteria is blank and the evaluation status is "Fail", then the criteria used will be noted on the letter accompanying these results.

Sample Id: S-0000644845  
 Description: GEO Supergrout  
 Sampled Date: 23-Apr-2009  
 Received Date: 27-Apr-2009

**Tox Normalization Information:**

Calculated NF 0.000000594  
 Compound Reference Key: SPAC

**Lab Normalization Information:**

Date exposure completed 04-MAY-2009  
 Final volume of solution 1 L  
 Mass of material used 1683630 mg

**Normalization Calculation:**

$$\text{Normalized Result} = \text{Test Result (ug/L)} * \text{NF} \quad \text{Where NF} = \frac{\text{MUL (mg/L)} * \text{Final Volume Of Solution (L)}}{\text{Mass of Material Used (mg)}}$$

- MUL = Maximum Use Level;
- Mass of Material Used = The mass of sample analyzed in the laboratory;
- Final Volume of Solution = The volume of water used to dilute the sample;
- An additional factor may be used to adjust the analytical result to field use conditions to account for product carryover, flushing, or other assumptions stipulated with the use of the product. If an additional factor is used, it is included in the information above.

Testing Parameter	Units	Sample	Control	Result	Norm. Result	Acceptance Criteria(1)	Evaluation Status
<b>Microbiology Lab</b>							
Microbiological Growth Potential (ASTM G22) NSF Std 60							
Microbiological Growth Potential		NoGrowth					
Sample Description		GEO Supergrout					
Bacterial Growth D1		NoGrowth					
Bacterial Growth D2		NoGrowth					
Bacterial Growth D3		NoGrowth					
Bacterial Growth D4		NoGrowth					

Sample Id: S-0000644845

Testing Parameter	Units	Sample	Control	Result	Norm. Result	Acceptance Criteria(1)	Evaluation Status
<b>Microbiology Lab ( Cont'd )</b>							
Bacterial Growth D5		NoGrowth					
Bacterial Growth D6		NoGrowth					
Bacterial Growth D7		NoGrowth					
Bacterial Growth Results		Pass					Pass
Setup Date/Time	04- MAY- 2009 13:30:0 0						
Analysis Date/Time	11- MAY- 2009 16:00:0 0						

1 - If the acceptance criteria is blank and the evaluation status is "Fail", then the criteria used will be noted on the letter accompanying these results.

**Common Terms and Acronyms Used:**

Sample.....	Test result on the submitted product sample after prepared or exposed in accordance with the standard.
Control.....	Test result on a laboratory blank sample analyzed in parallel with the sample.
Result.....	Sample test result minus the Control test result.
Normalized Result...	Result normalized in accordance with the test standard to reflect potential at-the-tap concentrations
ND().....	Result is below the detection level of the analytical procedure as identified in the parenthesis.
DCC Number.....	NSF document control code of the registered formulation of the product tested
ug/L.....	Microgram per liter = 0.001 milligram per liter (mg/L)
SPAC.....	Acceptance criteria of the standard (Single Product Allowable Concentration)

**References to Testing Procedures:**

NSF Reference	Parameter / Test Description
C2023	Semivolatile Compounds, Base/Neutral/Acid 625 Scan, Data Workup
C2024	Semivolatile Compounds, Base/Neutral/Acid Target 625, Data Workup
C3035	Total Arsenic in Drinking Water by ICPMS (Ref: EPA 200.8)
C3038	Barium in Drinking Water by ICPMS (Ref: EPA 200.8)
C3041	Beryllium in Drinking Water by ICPMS (Ref: EPA 200.8)
C3046	Cadmium in Drinking Water by ICPMS (Ref: EPA 200.8)
C3052	Chromium in Drinking Water by ICPMS (Ref: EPA 200.8)
C3058	Copper in Drinking Water by ICPMS (Ref: EPA 200.8)
C3071	Mercury in Drinking Water by ICPMS (Ref: EPA 200.8)
C3100	Lead in Drinking Water by ICPMS (Ref: EPA 200.8)
C3113	Antimony in Drinking Water by ICPMS (Ref: EPA 200.8)
C3115	Selenium in Drinking Water by ICPMS (Ref: EPA 200.8)
C3127	Thallium in Drinking Water by ICPMS (Ref: EPA 200.8)
C3145	Turbidity (Ref: EPA 180.1)
C3195	* Gross Alpha/Beta Counts (Ref: EPA 900)- General Engineering
C3254	Dioxin/Furan Scan by Method 1613
M0005	Microbiological Growth Potential (ASTM G22) NSF Std 60

Test descriptions preceded by an asterisk "\*" indicate that testing has been performed per NSF International requirements but is not within its scope of accreditation.

**Testing Laboratories:**

	Flag	Id	Address
All work performed at: (Unless otherwise specified)	—————→	NSF_AA	NSF INTERNATIONAL 789 N. DIXBORO ROAD ANN ARBOR MI 48105
	(1)	GENENG	GEL Laboratories LLC 2040 Savage Road Charleston, SC 29407 NELAP PA certificate number 68-000485 Arizona License #AZ0668