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Quote#: NEX010915-01
Testing Results for: Current Composites
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CONFIDENTIAL TESTING REPORT

Current Composites

Prepared by:
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Date: July 9th, 2015

TECHNICAL REPORT

Customer Name: Current Composites
Author: Mei-Li Laracuente
Date: July 9th, 2015

REPORT PREPARED FOR:

Customer Name: Current Composites
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PROJECT NUMBER:

NEX010915-01

SAMPLE DESCRIPTION SUMMARY:

The sample product SR500 was grey liquids with a thick consistency. SR500 was packaged in a grey, opaque bottle with the sample product commercial label. According to the temperature warning devices packaged with the materials, there was no indication that the sample was exposed to low temperatures during shipping.

EXECUTIVE SUMMARY:

The goal of this analysis was to determine volatile organic components (VOCs) of the sample product SR500 by ASTM D3960. Analysis of the sample product SR500 indicated that propylene glycol was the only detectable VOC in the sample product. Table 1 lists the results.

Table 1: Sample Product VOC Test Results

Test	Value
ASTM D3960 for VOCs on SR500	5.753g/L = 0.356% by weight

INTRODUCTION:

The sample product was subjected to the specified tests according to the listed ASTM methods. In particular, the non-volatile components, water content, volatile content, and density of the sample product was determined for SR500 according to ASTM D3960.

TESTING METHODS:

Volatile Organic Compound D3960:
The as received sample product was diluted in tetrahydrofuran (THF) spiked with butylated hydroxytoluene, filtered, and injected onto an Agilent 7890 GC with MS and FID Detectors fitted with a HP-5 column. The VOCs were identified by a mass spectral library and quantified by relative peak area analysis. This ASTM method also required determination of the following sample product parameters: density, solids content, and water content.

Solids Content ASTM D2369:
This method utilized methanol to disperse the sample product. Following drying in the oven at 110^{o}C for 1 hour, the volatile and solids content of the sample were calculated. The samples were measured in triplicate and the average and standard deviation were reported.

Karl Fischer Titration D4017:
The Karl Fischer Titration system utilized in this analysis was a Mettler Toledo V20 Coulometric KF Titration. The titrator precision was confirmed to be operating within specifications using a 1.00% by weight water analytical standard solution. The as received sample product was measured in triplicate and the average and standard deviation were reported.

Density ASTM D1475:
The sample product was placed in a weight-by-gallon cup and weighed on a balance. The value was converted from imperial units of pounds/gallon to the SI units of grams/liter.

TESTING RESULTS & DISCUSSION:

The solids content of the sample product SR500 was determined to be 77.57±0.41% by weight as determined by the ASTM D2369 method for measuring volatile components. The sample product had a density of 13.49 pounds/gallon and contained 22.20±1.10% water according to a series of volumetric Karl Fischer Titrations. GC/MS analysis according to ASTM D3960 indicated that the sample product contained propylene glycol at 0.356% by weight or 5.753 g/L. Propylene glycol was identified by the mass spectral library and quantified by comparison of its peak area with the area of an internal standard. Data is available upon request. Table 2 details the full compositional analysis of the sample product.

Table 2: Sample Product Chemical Components

Chemical Compound	% by Weight
Non-Volatiles	77.57
Water	22.07
Propylene Glycol	0.356

LEGAL DISCLAIMER: