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From: info@emslanalyticalinc.com
To: davidatoole@bellsouth.net
Subject: Testing for Sulfur Containing Gases in Drywall
Date: Tuesday, January 13, 2009 6:07:14 PM

Identifying Source Odors from Sheetrock with EMSL Analytical

It has been reported that drywall imported between 2004-2006 from certain areas in China, can release sulfur-like odorous components. These compounds can corrode air conditioning coils and other copper-bearing materials, causing them to be replaced repeatedly. It has been determined that the problem is related to presence of iron disulfide (FeS₂ pyrite). Hydrogen sulfide (H₂S), carbonyl sulfide, sulfur dioxide (SO₂), and carbon disulfide (CS₂) are also suspected as culprits. There have been reports that large quantities of drywall produced in China were kept on sea barges for months awaiting permission for importation to the USA. This drywall has a higher than typical density and a higher propensity to off-gas sulfur compounds.

Drywall is usually made of gypsum (hydrated calcium sulfate). Therefore, sulfur is one of the main components present in the sample. All drywall has sulfur in its elemental composition; therefore the odor is not explained by an analysis of the total sulfur content.

The extent of the indoor air quality issues related to this is still unclear. EPA is currently investigating the severity of the problem. However, it is well known that exposure to sulfur compounds can create irritation and breathing disorders.

EMSL's approach for the analysis of drywall samples is diverse. The possible avenues are outlined below:

1. Analysis of the drywall samples for presence of iron and FeS₂ by X-ray Fluorescence by X-ray Fluorescence, X-ray diffraction, or light microscopy.
2. Analysis for presence of Volatile Organic Compounds (VOCs) and H₂S using an environmental chamber.
3. Copper corrosion test can be performed to identify and confirm the presence of substandard drywall (exposure of fresh copper coupons to subsamples of the odorous drywall in presence of humidity).
4. Sulfur odors may also be produced when anaerobic bacteria utilize certain molecules for growth. Therefore, endotoxin analysis for gram negative bacterial contamination and anaerobic plate count may be recommended.

You could choose one test or combinations of these tests, depending on the level of the analysis you would like to achieve.

Price:

Test 1: \$600/sample (10-business day TAT; call for shorter TAT's)

Test 2: \$1200/sample for first sample; \$950/sample for any subsequent sample in the same order (15-business day TAT, no shorter TAT's available)

Test 3: \$1800/sample (20 businesses day TAT, no shorter TAT?s available)

Test 4: \$130/sample (6+ business day TAT)

For further information contact Dr. Eugenia Mirica at 1-800-220-3675 ext. 1247

Yours Truly,

EMSL Analytical, Inc.

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