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INTERAGENCY AGREEMENT CPSC-I-10-0007
BETWEEN THE
U.S. CONSUMER PRODUCT SAFETY COMMISSION AND
THE U.S. GEOLOGICAL SURVEY
REFERENCE MATERIALS PROGRAM

1. Introduction

The U.S. Consumer Product Safety Commission, hereinafter referred to as CPSC, and the U.S. Geological Survey's Reference Materials Program, hereinafter referred to as USGS-RMP, hereby agree that USGS-RMP shall provide technical services for conducting trace element analysis of gypsum sources and products (i.e., gypsum rock, flue-gas derived [FGD] gypsum, imported and domestic drywall samples) and provide results to CPSC, in accordance with the terms and conditions set forth below. This Interagency Agreement (IAG or Agreement) will form part of CPSC staff's investigation of imported drywall.

2. Authorities

The authorities for USGS-RMP and CPSC to enter into the Agreement are:

- (1) USGS-RMP 43 USC 36c Acceptance of Contributions
- (2) CPSC Authority 15 U.S.C. 2076(g)

3. Title

" Trace Element Analysis of Gypsum"

4. Objective

The purpose of this IAG is to conduct trace element analysis of gypsum sources and products, imported and domestic, to assist in the identification of characteristics that could be used to distinguish between problem and non-problem drywall. There has been increasing attention on not only imported drywall, but also on drywall produced within the United States, for causing metal corrosion of electrical and gas components and fire safety devices and reported health effects by consumers.

CPSC will provide USGS-RMP with drywall samples collected from domestic manufacturers, foreign manufacturers and domestic suppliers. These samples include imported drywall, " regular calcined" wallboard samples from the major U.S. manufacturers, and samples of synthetic gypsum from U.S. manufacturers. CPSC will also provide USGS-RMP with several samples of FGD-gypsum and gypsum rock, collected domestically and internationally. Samples of corroded household components will also be

provided by CPSC so that USGS-RMP will have a broader picture of the corrosion induced by problem drywall.

The USGS-RMP trace element analysis of the CPSC supplied drywall samples should include, but not be limited to, organic compounds, metals, sulfur species, formaldehyde, total carbon, inorganic carbon, water soluble chlorides, pH, loss on ignition, and alkalinity. In addition, microscopic analysis, or an equivalent alternative method, for the determination of presence of fly ash should be performed. USGS-RMP will provide a report of the trace element analysis with data that will assist CPSC staff in discriminating problem from non-problem drywall. This information can also aid in focusing chamber studies and in-home field studies.

5. Background Information

Some imported drywall installed in U.S. homes is reported to be associated with corrosion of central air conditioning components, copper tubing, and exposed copper wiring. There have been reports of premature failures of HVAC evaporator coils, electric appliances, televisions, and electrical switches in homes. A range of health effects have been reported by residents in these homes as well.

CPSC's investigation of drywall is proceeding simultaneously on three distinct tracks: (1) evaluating the relationship between drywall and reported health effects; (2) evaluating the relationship between drywall and effects on electrical, gas distribution, and fire safety components that can result in potential fire and shock hazards; and (3) tracing the origin and distribution of drywall in commerce to identify the scope of potential problems presented by drywall.

To assess impact on health, CPSC is determining whether scientific evidence can be developed linking chemical emissions from the drywall to the reported health complaints. At this time, however, any such relationship or long-term health effects are unknown. We are undertaking a multi-track testing approach to assess the impact on human health. The data collected will form the basis for a health risk assessment.

- *In-home air sampling (field) studies* – Continuous measurements of sulfur, acids, and gases, including the presence of refrigerant byproducts were taken in 51 homes, including 35 homes reported to have problem drywall and 16 control homes. Measurements accounted for environmental conditions (e.g., humidity), as well as time of day.
- *Laboratory elemental characterization studies of domestic and imported drywall* - Characterization of components of drywall and identification of any differences.

- *Laboratory chamber studies of domestic and imported drywall* - Chamber studies to separate and isolate chemical emissions from drywall as opposed to chemicals emitted from other home products (e.g., carpets, cleaners, paint, adhesives, and beauty products).

To assess the possible fire and shock hazards presented by imported drywall, the CPSC technical staff is conducting an engineering test program to determine the qualitative effects of emissions from imported drywall on residential electrical, gas distribution, and fire safety components. The engineering test program consists of two major phases: (1) Examination of various components collected from affected residences (Field Component Analysis) and (2) Qualitative assessment of the reaction of new components to elevated levels of emissions (Accelerated Corrosion Testing).

6. Statement of Work

The following tasks shall be completed by USGS-RMP under this IAG:

Task 1. Methods, Trace Element Analysis, Testing and Evaluation

1. A detailed protocol shall be submitted for the trace element analysis. The protocol shall describe testing procedures, analytical methodologies, statistical analysis, and quality assurance steps used in data collection, evaluation, and report preparation. The protocol shall be submitted to CPSC staff for review and approval prior to the commencement of analysis.
2. The Environmental Protection Agency's Environmental Response Team (ERT) has performed preliminary chemical analysis on six drywall samples for the Centers for Disease Control and Prevention-Agency for Toxic Substances and Disease Registry (ATSDR). ERT analysis of the drywall samples included determinations of the presence/absence of organic compounds, metals, sulfur species and fly ash. The methodologies performed by ERT are indicated in Attachment A, the ERT report to ATSDR.
 - a) Phase I studies: CPSC requests that USGS-RMP perform the same or, at least, an equivalent trace element analysis on the supplied samples. Trace element methodologies and analyses on samples should include Inductively Coupled Plasma Mass Spectroscopy (ICP-MS, for 50 elements), Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES, for 40 elements), total carbon, inorganic carbon, total sulfur, mercury, Instrumental Neutron

Activation Analysis (INAA), and Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS).

- b) Phase II studies are to build on the Phase I studies and are to consist of a more comprehensive analysis of the supplied samples. The Phase II studies are to determine the source of the material (imported versus domestic), to provide unique characteristics which can serve as a fingerprint, an identifier, of problem wallboard material for possible inclusion in gypsum standards and use in field identification tools.

Task 2. USGS-RMP will prepare a detailed report documenting the trace element analysis of samples supplied by CPSC. The report shall:

- 1. Include a detailed description of the protocol used, sampling procedures, findings, and conclusions
- 2. Be formatted in Microsoft Word and, if appropriate, Microsoft Excel (for tables)
- 3. Be provided in electronic and one hard copy
- 4. Include:
 - a. Photos of each sample
 - b. Identification of all of the elements and compounds to be characterized in accordance with the protocol developed in Task 1.1.

Task 3. USGS-RMP will prepare a Phase II studies project proposal for a more comprehensive analysis of samples to determine source material to develop laboratory and field identification of problem drywall material. The proposal shall:

- 1. Include a detailed test plan, sample requirements, and cost estimate to develop a fingerprint/profile of problem drywall identification for possible application to gypsum standards and use in field identification tools
- 2. Be formatted in Microsoft Word and, if appropriate, Microsoft Excel (for tables)
- 3. Be provided in electronic and one hard copy

7. USGS-RMP Furnished Materials and Equipment

USGS-RMP agrees to furnish all necessary personnel, equipment, materials, services, and facilities to complete the tasks listed in the **Statement of Work**.

8. CPSC Furnished Materials and Equipment

CPSC will provide USGS-RMP with drywall samples, gypsum samples (e.g., rock and FGD powder, and construction brick) and corroded household components collected through our field sampling program.

CPSC will begin sending drywall samples on the effective date of this IAG. Additional samples may be provided as soon as they have been collected and processed.

9. Confidentiality Requirements

This work is being funded to support a federal investigation that has potential for litigation. Except as may be required by the Freedom of Information Act or any other provisions of law or order from a court of competent jurisdiction, any information developed from this IAG must be held in the strictest of confidence and may not be shared with outside entities unless permission is granted by CPSC in writing. USGS-RMP shall notify CPSC immediately about any request from an outside party for any information related to this IAG.

Notwithstanding the foregoing, USGS-RMP shall have the right to publish all information developed from this IAG, and to create derivative information there from, without restriction or permission, once CPSC certifies to USGS-RMP that CPSC has completed its investigation, litigation or regulatory action.

10. Period of Performance

The period of performance shall begin on the effective date (March 22, 2010) agreed to by both parties and shall not extend beyond 180 calendar days (September 22, 2010). This agreement may be modified by mutual consent of CPSC and USGS-RMP.

11. Delivery of Performance

All deliverables required under the terms and conditions of this IAG shall be provided to the CPSC. The following items shall be performed or delivered to CPSC in accordance with the schedule below. Any significant findings or any unanticipated problems shall be communicated as soon as they occur.

Delivery Item	Performance
A. Testing Protocol	Within 30 calendar days after IAG effective date (April 22, 2010) as detailed in Task 1 of the Statement of Work
B. BI-weekly status reports on samples analyzed	Within 60 calendar days after IAG effective date (beginning May 21,

2010) and every two weeks thereafter via email or teleconference to project officers

C. Draft Summary Phase I Report

Within 90 calendar days after IAG effective date (June 22, 2010) as detailed in Task 2 of the Statement of Work

D. Final Summary Phase I Report

Within 150 calendar days after IAG effective date (August 23, 2010)

E. Phase II Project Proposal

Within 180 calendar days after IAG effective date (September 22, 2010) as detailed in Task 3 of the Statement of Work

12. Funding and Accounting Data

Estimated funding requirements to complete the tasks and provide deliverables for this IAG shall not exceed \$50,000. CPSC agrees to transfer the funds to USGS-RMP in the form of advanced payment. At least quarterly, the parties will reconcile balances related to revenue and expenses for work performed under this agreement. The transfer shall be from CPSC to USGS-RMP through the On-Line Payment Collection (OPAC) system using the following accounting data:

CPSC Accounting Data:

USGS-RMP Accounting Data:

ALC: 61-00-0001

ALC: 14 08 0001

TIN: 520978750

TIN: 530196958

DUNS: 069287522

DUNS: 927033126

US TREAS CODE: 61100100

US TREAS CODE: 14-00804

0100A10DPS 2010 3371200000 EXFM004400 253A0

13. Disagreements

In the event that the CPSC and USGS have a disagreement arising under this Interagency Agreement, then the parties shall cooperatively seek to resolve the disagreement by themselves. If the

disagreement cannot be resolved between them, then the parties agree to seek the assistance of a third party in resolving the disagreement.

14. Termination and Modification

Either party may terminate this Agreement at any time with 90 days written notification. If CPSC cancels the order, USGS-RMP is authorized to collect costs incurred prior to the cancellation of the order plus any termination costs. This Agreement may be modified through written amendment agreed to by both parties.

15. Liaison Officers

A. USGS-RMP Project Officer

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C. CPSC Project Officers

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Approved and Accepted for
USGS-RMP

BY: James A. Cook

TITLE: Assoc Director
CG&SC

DATE: 3/11/10

Approved and Accepted for
CPSC

BY: Alouin Huetten

TITLE: Contracting Officer

DATE: 3/12/2010