Introduction

The Center for Toxicology and Environmental Health, L.L.C. (CTEH®) was retained by Knauf Plasterboard Tianjin (KPT) to conduct an independent, third-party indoor air quality investigation of residential units thought to contain drywall manufactured in China.

Methods

Laboratory Methods

Collection Methods

- Aldehydes (NIOSH Method 2020)
  - SKC pumps and Sorbent tubes used to collect 24-hour samples.
- Volatile organic chemicals (USEPA Method TO-15 for VOCs)
- SUMMA canister 24-hour samples
- Sulfur-containing chemicals (ASTM Method D5504)
- Tedlar bag grab-samples

Results

Methyl Mercaptan

Subject Home Maximum Reading: 10 ppbv

- Found in 2/12 Subject homes at levels similar to Control homes and outdoor air
- Used as a food flavoring (WHO Food Additive Series:44, 2000)
- Found in human breath. 360 ppbv (Suarez et al., 2000)
- Found in seawater and saltwater marshes (WHO, 2000)
- Found in environmental air at levels up to 4 ppbv (WHO, 2000)
- Lowest Observable Adverse Effect Level (LOAEL) in animals of 2,000 ppbv (WHO, 1998)
- EPA provisional RfC of 1 ppbv based on animal LOAEL, 2008
- Maximum level in homes is 200 times lower than LOAEL in animals
- American Conference of Governmental Industrial Hygienists average workplace air level limit is 300 ppbv (TLV)

- Levels in homes are not a public health concern

Sulfur Dioxide

Subject Home Maximum Reading: 4 ppbv

- Found in 2/12 Subject homes
- Found in 2/12 Outdoor air samples
- Found in seawater and saltwater marshes (WHO, 2000)
- National Ambient Air Quality Standard (NAAQS): 30 ppbv (annual average) (USEPA, 2016)
- Maximum level in homes is well below NAAQS
- Levels do not present a public health concern

Conclusion

Levels of detected sulfur compounds, carbon disulfide, carbonyl sulfide, sulfur dioxide, methyl mercaptan, hydrogen sulfide, and TCS were all below levels associated with health effects.

No evidence of a public health concern.