



EMSL ANALYTICAL, INC.

EMSL Analytical, Inc. is a full service analytical testing laboratory, which has been providing materials, forensic, industrial hygiene, indoor air quality, environmental and chemical analysis services since 1981. Our experienced staff of PhD scientists, technical professionals and our continuously expanding roster of analytical instrumentation are increasingly called upon by clients to solve problems, answer questions, and respond to a wide spectrum of challenges from their customers, partners, and internal operations.

Our project scientists can design and implement a testing program that accomplishes your specific goals. We often function as "virtual resources" to our clients, complementing their own capabilities.

In addition, we have successfully provided failure analysis and comparative product performance evaluations for a wide range of clients. Our technologists work closely with your people to devise efficient and economic test strategies, methods, and matrices.

Contact the Materials Science Division at EMSL Analytical to turn our capabilities into effective solutions for your business.



EMSL ANALYTICAL, INC.
LABORATORY · PRODUCTS · TRAINING

www.emsl.com

info@emsl.com

LOCATIONS



WEST COAST
888.455.3675

EAST COAST
800.220.3675

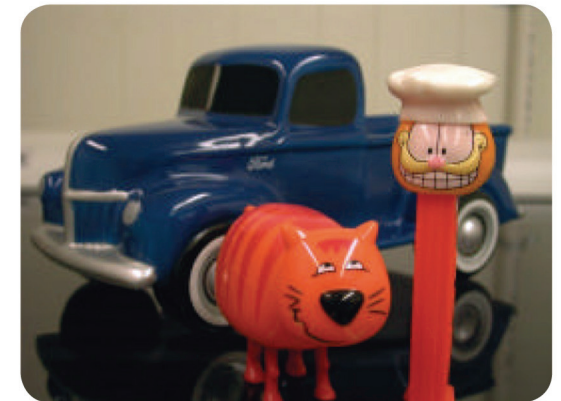
©2010 EMSL Analytical, Inc. All rights reserved



EMSL ANALYTICAL, INC.
LABORATORY · PRODUCTS · TRAINING

Materials Science Division

**Information for Testing of
Children's Toys and
Commercial Products**



*Quality Service Tailored
to Meet Your
Ever-Changing Needs*

800.220.3675
www.emsl.com
info@emsl.com

Common Tests and Parameters:

Materials and Analytes Tested:

Types of Materials Tested:

- ◆ Plastic
- ◆ Metal
- ◆ Paints and Coatings
- ◆ Adhesives
- ◆ Foam and Insulation

Various Testing:

- ◆ Presence of Lead
- ◆ Type of Lead (oxide, sulfate, carbonate, etc.)
- ◆ Chemical hazards (formaldehyde, benzene, etc.)
- ◆ Physical testing (tensile, torsion, flexure)
- ◆ Melting Point
- ◆ Effects of Heat and/or Humidity on products

Specialty Testing:

- ◆ Determine the potential choking hazards of small parts
- ◆ Determine if chemicals can leach from the product through the skin or when in a child's mouth
- ◆ Determine the auto-ignition, flash point and flammability of products (flame propagation)
- ◆ Identification of individual components for comparison to the manufacturers claims
- ◆ Electrical hazard evaluation

Many of the products sold in the USA are manufactured in China, Mexico or India where quality control is not necessarily as stringent as in other countries. The components used in manufacture have been known to contain compounds that are regulated in the United States.

EMSL Analytical, Inc. has experience analyzing samples for Restriction of Hazardous Substances (RoHS) studies. We routinely use our wide range of analytical techniques to identify components and search for potential health hazards such as lead and formaldehyde.

In addition, EMSL Analytical has a capability to test physical properties such as force to failure, flexural and tensile testing. Scratch resistance of coatings and paint thickness can be coupled with coating identification to assess the potential longevity of the product and associated health issues. Measurements of small parts and the force required to separate them are tests that can determine if the toy may be a choking hazard for children.

Testing Capabilities:

- ◆ GPC
- ◆ FTIR
- ◆ TEM
- ◆ SEM/EDX
- ◆ XRF
- ◆ AES
- ◆ HPLC
- ◆ VOC
- ◆ PLM
- ◆ DSC
- ◆ Wet Chemistry
- ◆ Customized procedures
- ◆ Plus much more
- ◆ NMR
- ◆ GC/MS
- ◆ ICP
- ◆ Flame AA
- ◆ GC
- ◆ XRD
- ◆ NIR
- ◆ OM
- ◆ FLM
- ◆ TGA



Don't sell our children short. EMSL Analytical Inc. can test your products in accordance with Underwriters Laboratories methods to determine if a toy meets current safety guidelines.