

TECHNICAL REPORT

Report # 27555

**Thames & Kosmos, LLC
207 High Point Avenue
Portsmouth, RI 02871**

May 5, 2005



Requested by: Ted McGuire
Authorization Received: April 28, 2005
Sample Name: Chem C3000 Chemistry Kit
Model/Style #: None Given
Sample Received: April 28, 2005
Number of Samples: 1
Condition Received: Good
Testing Completed: April 29, 2005

SUMMARY:

RESULTS

Toxicological Risk Assessment:

See page 2 & 3 for detailed findings.

Reviewed by:

Handwritten signature of Albert J. Rapella.

Albert J. Rapella
Supervisor, Technical Services

Handwritten signature of John Luzzi.

John Luzzi
Senior Account Manager

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Revised: May 26, 2005

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See page 2 & 3 for detailed findings.

** Revised to correct errors in report regarding sample type.*

Reviewed by:

John Luzzi
Senior Account Manager

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Intertek Testing Services NA Inc.

70 Diamond Road, Springfield, New Jersey 07081, U.S.A.
Telephone: (973) 924-2500 • Fax: (973) 379-5367 Web: www.intertek.com

Toxicological Risk Assessment

Sample ID: Chem C3000 Chemistry Kit

Background

A single chemistry set contains a variety of common chemical substances ranging from approximately 0.19 grams of magnesium strips to 30 grams of sodium thiosulfate. A list of the individual chemicals and the amount of each in this product was submitted for review. It is assumed that these ingredients contain no contaminants at leveled that would be toxic, corrosive, or irritating to a consumer who may be exposed to them. In addition, under a section identified as "Ein Wort an die Eltern" (a word for adults), appropriate precautionary/warning statements are included to minimize exposures to the chemicals in these products to children and procedures to take if such exposures occur. Thames & Kosmos, LLC requested that this chemistry set be evaluated for potential acute and chronic oral and dermal toxicity, corrosive/irritation potential and sensitization (allergic reactions) potential as defined in the U.S. Federal Hazardous Substances Act Regulations (16 CFR 1500.3(b)(5-9) and 16 CFR 1500.3(c)(1-5).

Exposure Assessment

An exposure assessment scenario for a given chemical of concern to a potential human receptor consists of creating a series of logical pathways and events whereby that chemical could reasonably be expected to come in contact with that receptor. It is assumed that the precautionary/warning statements in the "Ein Wort an die Eltern" section of this product are sufficient to prevent the individual chemicals in this product from being ingested or making direct contact with the eyes. However, under worst case exposure scenarios, small amounts of any of the chemical substances in this product may be assumed to contact the skin and indirectly (via hand-to-mouth or hand-to-eye activities) be ingested or contact the eye as single exposure events.

Toxicity Assessment

Computerized searches of the National Library of Medicine's toxicological databases provided no information to indicate that as much as 100 grams of the chemical listed above would be expected to be toxic via the oral or dermal routes of exposure, be corrosive or irritating to the skin. However, ingestion of or direct eye contact with several (but not all) of the chemicals in this product could cause irritation (which may cause nausea and vomiting for ingested material). In addition, indirect exposures via ingestion (via hand-to-mouth activities) and to the eyes (via hand-to-eye contact) as described above would not be expected to be toxic or corrosive to the eyes or be a sensitizer to the majority of individuals in the general population. Indirect contact with several of the chemicals in this product may be expected to cause some eye irritation.

Toxicological Risk Assessment, Cont'd.

Risk Assessment

The potential risk from a chemical substance to an individual is a function of both the exposure to and toxicity of that particular chemical. When this product is used as intended under the supervision of a responsible adult (circumstances that would result in none of the chemicals in this product being ingested or contacting the eyes), the chemicals in this chemistry set would not be expected to be toxic, corrosive, irritation or a sensitizer as defined in the regulations cited above. However, if several but not all) of the chemicals in this product were to be ingested or contact the eyes (via direct or indirect contact), they would be expected to cause irritation. Such irritation to the gastrointestinal tract could cause nausea and vomiting. In addition, a remote possibility exists that one or more of the chemicals in this product could cause an allergic reaction in those individuals who have become sensitized to those ingredients.

Conclusions

Based on a review of all the available information provided to date, it is the opinion of the reviewer that the chemical in this chemistry set would not be expected to cause any significant adverse health effects in persons who may be exposed to them via the dermal (including the eyes) or oral route when this material is used as intended and under adequate supervision of a responsible adult r be toxic, corrosive, irritating or a sensitizer (as defined in the regulations cited above). However, if several of the chemicals in this product were to be ingested or contact the eyes (not an intended use of this product), they may be expected to cause irritation (and nausea and vomiting in ingested). Most of the chemicals in this product would not be expected to cause an allergic reaction in the vast majority of individuals in the general population. However, a very remote possibility exists that one or more of them could possibly cause an allergic reaction in those few individuals who are sensitized to them. Such an event, while expected to be extremely rare, cannot be absolutely ruled out.

Reviewer: Michael J. Norvell, Ph. D., DABT

