

**TECHNICAL REPORT**

**Report # 23539**

**Thames & Kosmos, LLC  
77 Long Wharf  
Newport, RI 02840**

**November 14, 2003**

**Requested by:** Ted McGuire  
**Authorization Received:** November 4, 2003  
**Sample Name:** Kite Dynamics (Kite Bldg. Experiment Kit)  
**Model/Style #:** 620110  
**Sample Received:** October 27, 2003  
**Number of Samples:** 2  
**Condition Received:** Good  
**Age Label on Product:** 10 +  
**Age Grading to be Applied:** 10 +  
**Testing Completed:** November 11, 2003

**SUMMARY:**

**Mechanical Hazards:**

ASTM F963-96a

**Flammability:**

ASTM F963-96a & 16 CFR 1500.44

**Strings & Lines for Flying Devices:**

ASTM F963-96a

**RESULTS**

DOES NOT COMPLY

DOES NOT COMPLY

DOES COMPLY

**Reviewed by:**



Jeffrey D. Lipko

Technical Director, Hardlines

bf

**Flammability Test: Federal Hazardous Substances Act and ASTM F963-96a**

**Procedure:**

The method of testing was that described in **16 CFR 1500.44** of the *Federal Hazardous Substances Act and ASTM F963-96a* for rigid and pliable solids.

**Requirement:**

A material is considered "flammable" if it ignites and burns with a self-sustained flame at a rate greater than 0.1 inches per second along its major axis.

**NOTE:**

It is our understanding that a sample is considered as having passed the test requirement if it self-extinguishes before burning 6 inches and prior to the lapse of 60 seconds.

**Sample ID:** Kite Dynamics (Kite Bldg. Experiment Kit) # 620110

**Test Results:**

	<b><u>Area of Initial Flame Contact</u></b>	<b><u>Burn Length (inches)</u></b>	<b><u>Time (seconds)</u></b>	<b><u>Burn Rate (inches/second)</u></b>
Burn 1	Kite End	6.0	19	0.31
Burn 2	Kite End	6.0	26	0.23
Burn 3	Kite End	6.0	21	0.28
Burn 4	Kite End	6.0	20	0.30

This sample exhibited Flaming Dripping Residue

\*DNI = Did not Ignite

\*\*IBE = Ignited but Extinguished

**Conclusion:** Based upon the results of the test reported above, the submitted sample **does not comply** with the requirements of the U.S. Federal Hazardous Substances Act, 16 CFR 1500.44 and ASTM F963-96a, Section 4.2.

**Flammability Test: Federal Hazardous Substances Act and ASTM F963-96a**

**Sample ID:** Kite Dynamics (Kite Bldg. Experiment Kit) # 620110 - Retest

**Test Results:**

	<b><u>Area of Initial Flame Contact</u></b>	<b><u>Burn Length (inches)</u></b>	<b><u>Time (seconds)</u></b>	<b><u>Burn Rate (inches/second)</u></b>
Burn 1	Kite End	6.0	17	0.35
Burn 2	Kite End	6.0	16	0.37
Burn 3	Kite End	6.0	23	0.26
Burn 4	Kite End	6.0	18	0.33

This sample exhibited Flaming Dripping Residue

\*DNI = Did not Ignite

\*\*IBE = Ignited but Extinguished

**Conclusion:** Based upon the results of the test reported above, the submitted sample **does not comply** with the requirements of the U.S. Federal Hazardous Substances Act, 16 CFR 1500.44 and ASTM F963-96a, Section 4.2.

**MECHANICAL HAZARDS, ASTM F963-96a**

<b><u>Sample ID:</u></b>	Kite Dynamics (Kite Bldg. Experiment Kit) # 620110	<b><u>Packaging Included:</u></b>	Yes
<b><u>Labeled Age Group:</u></b>	10 +	<b><u>Appropriate Warning Labeling:</u></b>	N/A
<b><u>Age Grading to be Applied:</u></b>	10 +	<b><u>Machine Washable Plush Toy</u></b>	N/A
		<b><u>Number of Samples:</u></b>	2

**Procedure:** The submitted samples were tested to the applicable sections of *ASTM F963-96a* requirements for Mechanical Hazard.

<b>P = Pass</b>		<b>F = Fail</b>		<b>N/A = Not Applicable</b>		
<b>Clause</b>	<b>Description</b>	<b>P</b>	<b>F</b>	<b>N/A</b>		
4.0	Safety Requirements					
4.1	Material	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
4.2	Flammability	<input checked="" type="checkbox"/> <small>See Comment 1</small>	<input type="checkbox"/>	<input type="checkbox"/>		
4.3	Toxicology	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.3.7	Stuffing Materials	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.4	Electrical/Thermal Energy	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.5	Impulsive Noise	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.6	Small Objects					
4.6.1	Children under 36 months – no small parts allowed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<small>See Comment 1</small>
4.6.1.3	Adult Assembly Warning	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.6.2	Mouth Actuated Toys	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.7	Accessible Edges					
4.7.1	Children under 8 years old – no metal or glass sharp edges	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
4.7.2	Functional sharp edges (48 to 96 months)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Functional sharp edges (0 to 48 months)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.7.3	Metal Toys	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.7.4	Molded Toys (no hazardous edges)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.7.5	Exposed Bolts & Threaded Rods	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.8	Accessible Points					
4.8.1	Children under 8 years old – no sharp points	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
4.8.2	Functional sharp point (48 to 96 months)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Functional sharp point (0 to 48 months)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.8.3	Wood	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.9	Projections	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.10	Nails and Fasteners	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.11	Wires or Rods	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.12	Packaging Film	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.13	Cords and Elastics	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.13.1	Self-retracting pull strings: Cords and Elastics in Toys	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

P = Pass		F = Fail		N/A = Not Applicable		
Clause	Description	P	F	N/A		
4.13.2	Pull toys	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.13.3	Strings and lines for flying devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
4.14	Wheels, tires and axles	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.15	Folding mechanisms and hinges	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.15.1	Folding mechanisms	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.15.2	Hinge-line clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.16	Holes, clearance and accessibility of mechanisms	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.16.1	Clearances for moveable segments	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.16.2	Circular holes in rigid materials	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.16.3	Chains and belts	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.16.3.1	Supporting chains	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.16.3.2	Chains or belts for ride-on toys	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.16.4	Inaccessibility of mechanisms	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.16.5	Winding keys	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.16.6	Coil springs	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.17	Stability and over-load requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.17.1	Stability of ride-on toys and seats	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.17.2	Sideways stability requirement	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.17.2.1	Sideways stability, feet available for stabilization	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.17.2.2	Sideways stability, feet unavailable for stabilization	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.17.3	Fore and aft stability	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.17.4	Stability of stationary floor toys	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.17.5	Overload requirements for ride-on toys and seats	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.18	Confined Spaces	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.18.1	Ventilation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.18.2	Closures	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.18.3	Toys that enclose the head	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.19	Simulated protective devices	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.19.1	Eye protection	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.19.2	Simulated protective devices	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.20	Projectile toys	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.21	Rattles	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.22	Pacifiers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.23	Squeeze Toys	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.24	Teethers and teething toys	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.25	Crib gyms, crib exercisers and similar toys	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.26	Toy chests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.26.1	Lid support	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.26.2	Hinge line clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.26.3	Closures	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.26.4	Ventilation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.27	Battery-Operated Toys	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.27.1	Marking of Battery compartment	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

P = Pass		F = Fail		N/A = Not Applicable		
Clause	Description	P	F	N/A		
4.27.2	Maximum DC potential	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.27.3	Unable to charge non-rechargeable batteries	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.27.4	Accessibility of batteries (under 3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.27.5	Accessibility of batteries - small parts	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.27.6	Isolated circuits	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.27.7	Surface temperature of batteries (less than 71°C)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.27.8	No short circuits	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.27.9	No electrical contact (other than battery)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.27.10	Emitted gases	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.27.11	Instructions	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.28	Flotation toys	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.29	Stroller/carriage toys	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.30	Stuffed/beanbag type toys	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.31	Art material	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.32	Toy guns	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.33	Balloons	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.34	Marbles	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.35	Balls	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.36	Preschool Play Figures	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
4.37	Pom Poms	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
5.0	Labeling (as applicable)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
6.0	Instructional literature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
7.0	Producers markings	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

**Testing Comments:**

1. Flammability evaluation exceeded allowable rate as prescribed by this standard.

**Conclusion:** When tested as specified, the submitted sample **does not comply** with the *ASTM F963-96a* requirements for Mechanical Hazards.

