

Report For: Shield Manufacturing
425 Fillmore Avenue
Tonawanda, NY
14150
Phone: 716-694-7100 x 311
Fax: 716-694-8652
Email: dberghash@shieldsports.com

Laboratory #: 506314-09
Report Date: February 20, 2009
Received Date: January 30, 2009

Attention: David Berghash

TEST REPORT

**RE: ANALYSIS OF VARIOUS MATERIALS FOR ASTM F963 COMPLIANCE
AND FOR PHTHALATE CONTENT**

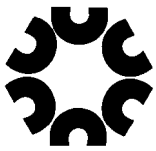
1.0 INTRODUCTION

On January 30, 2009, CMTL received three (3) samples for analysis to determine if the materials are compliant to section 4.3.5 of ASTM F963 using an Inductively Coupled Argon Plasma Spectrometer as per ASTM D1976-07 (Modified); analysis for total Lead Content in compliance with 16 CFR 1303 utilizing an Inductively Coupled Argon Plasma Spectrometer as per ASTM D1976-07 (Modified); and for phthalate presence using a Fourier Transform Infrared Spectrometer (FTIR) as per ASTM E1252-98 (2002).

The submitted samples were identified as follows:

- Sample #1: A012809 – Floor Hockey Puck
- Sample #2: B012809 – Butt End Material
- Sample #3: C012809 – End Cap Hurdle

This report is subject to the following terms and conditions: 1. This report relates only to the specimen provided and there is no representation or warranty that it applies to similar substances or materials or the bulk of which the specimen is a part. 2. The content of this report is for the information of the customer identified above only and it shall not be reprinted, published or disclosed to any other party except in full. Prior written consent from Cambridge Materials Testing Limited is required. 3. The name Cambridge Materials Testing Limited shall not be used in connection with the specimen reported on or any substance or materials similar to that specimen without the prior written consent of Cambridge Materials Testing Limited. 4. Neither Cambridge Materials Testing Limited nor any of its employees shall be responsible or held liable for any claims, loss or damages arising in consequence of reliance on this report or any default, error or omission in its preparation or the tests conducted. 5. Specimens are retained 6 months, test reports and test data are retained 7 years from date of final test report and then disposed of, unless instructed otherwise in writing.



2.0 RESULTS

2.1 Lead Content Analysis (Total)

The submitted samples were individually ashed and then digested in acid. The resulting solution was analyzed for total lead content using an Inductively Coupled Argon Plasma (ICAP) Spectrometer as per ASTM D1976-07 (modified). The resulting data is shown in the following table:

Sample	Total Lead (Pb) (ppm)	Compliant 16 C.F.R. 1303 (600 ppm max.) (Pass / Fail)
Sample #1- A012809 – Floor Hockey Puck	6	Pass
Sample #2: B012809 – Butt End Material	3	Pass
Sample #3: C012809 – End Cap Hurdle	35	Pass

2.2 Lead Content- Migratable Analysis

The submitted samples were individually digested in acid (section 8.3 of ASTM F963-07^{E1}) and then analyzed using an Inductively Coupled Argon Plasma (ICAP) Spectrometer (ASTM D1976-07 (modified)) to determine the presence and relative concentration of soluble migrated Lead. The results are shown in the following table:

Sample	Migratable Lead (Pb) (ppm)	Compliant with ASTM F963-07^{E1} (90 ppm Max.) (Pass / Fail)
Sample #1- A012809 – Floor Hockey Puck	14	Pass
Sample #2: B012809 – Butt End Material	34	Pass
Sample #3: C012809 – End Cap Hurdle	22	Pass



2.0 RESULTS (CONT'D)

2.3 Infrared Analysis for Phthalate Presence

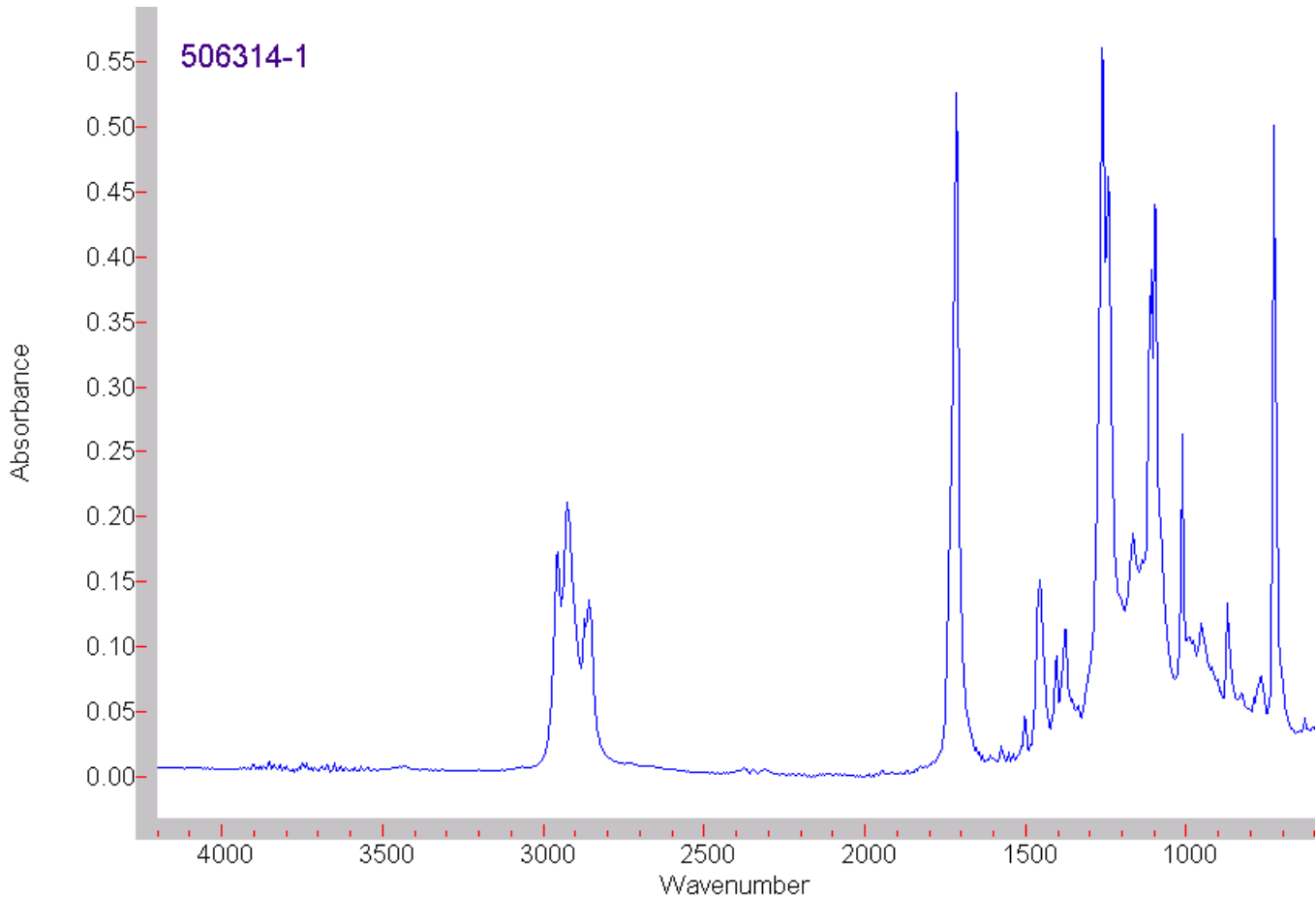
The received samples were separately extracted with Cyclohexane Solvent and later reduced in volume for direct analysis on the FTIR Spectrometer equipped with an Attenuated Reflectance attachment to evaluate the presence of phthalates. The following table shows the results obtained:

<u>SAMPLE</u>	<u>PRESENCE OF PHTHALATES</u>
Sample #1: A012809 – Floor Hockey Puck	NO
Sample #2: B012809 – Butt End Material	NO
Sample #3: C012809 – End Cap Hurdle	YES

(See attached Infragraphs)



FTIR Infragraph



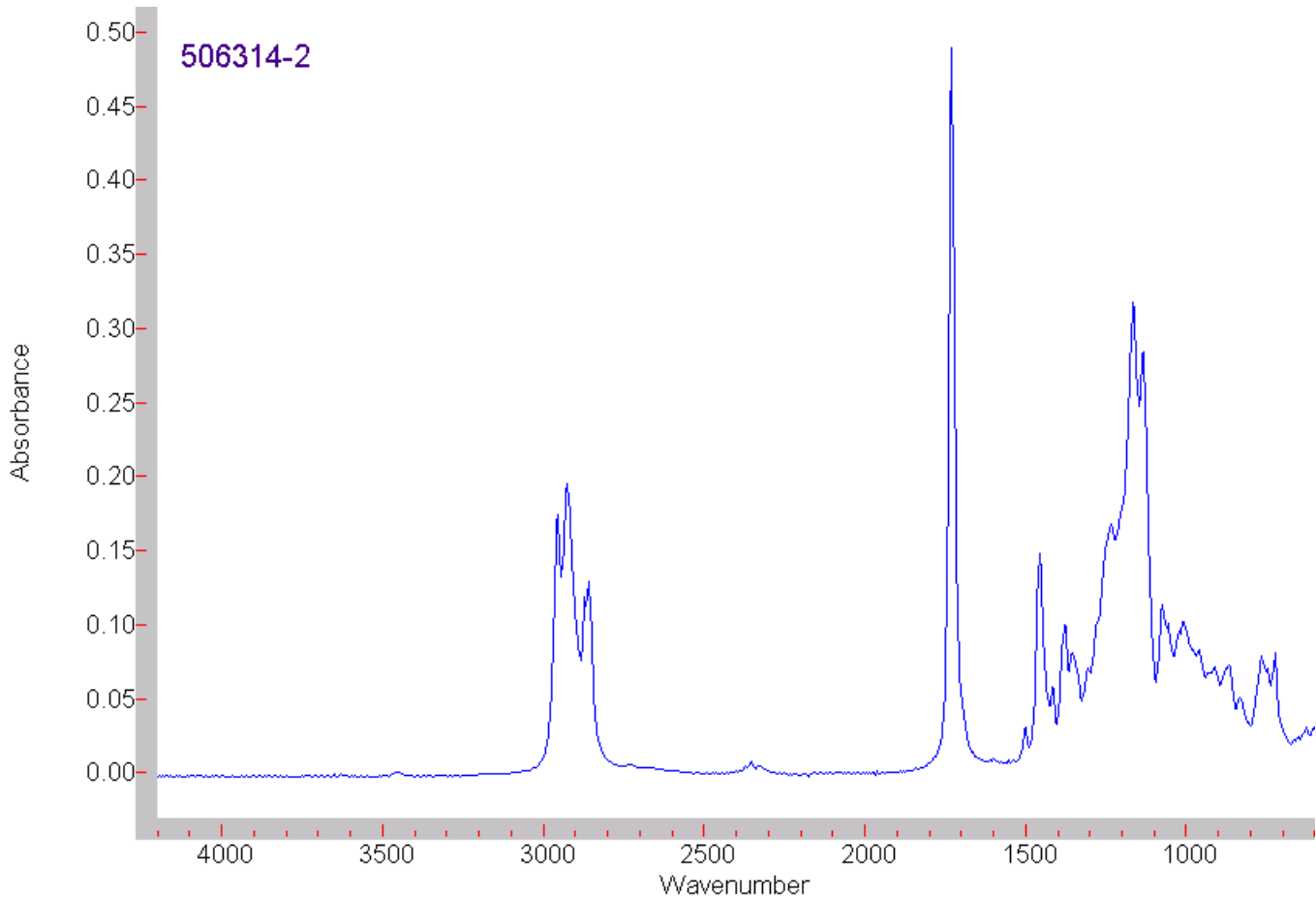
Source: Shield Manufacturing

Sample I.D.: Sample #1: A012809 – Floor Hockey Puck

Remarks: The Infragraphs show that, the submitted sample described above, has **no presence of Phthalates.**



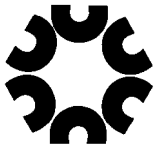
FTIR Infragraph



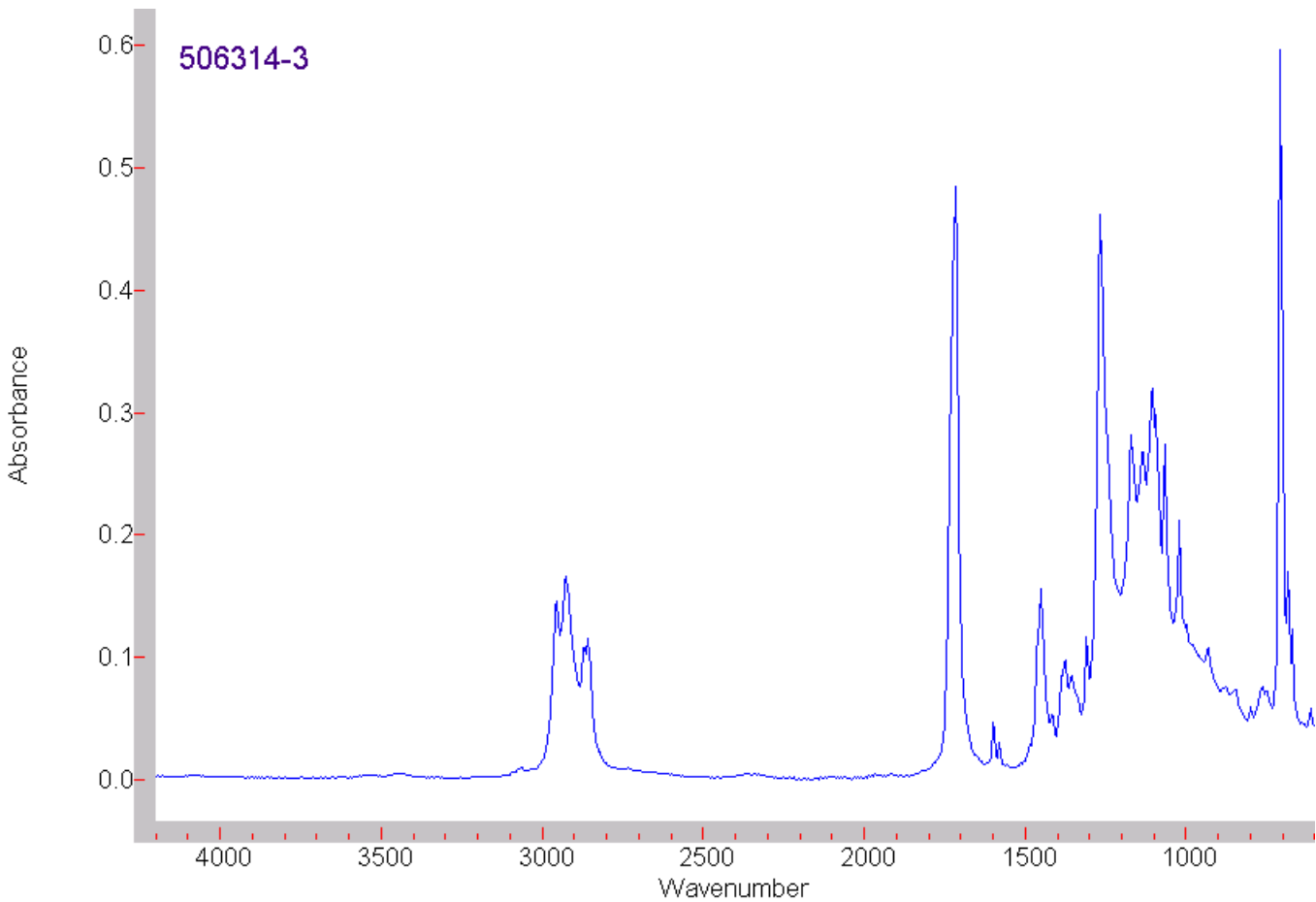
Source: Shield Manufacturing

Sample I.D.: Sample #2: B012809 – Butt End Material

Remarks: The Infragraphs show that, the submitted sample described above, has **no presence of Phthalates.**



FTIR Infragraph



Source: Shield Manufacturing

Sample I.D.: Sample #3: C012809 – End Cap Hurdle

Remarks: The Infragraphs show that, the submitted sample described above, has **presence of Phthalates.**