LEO
Safety Confirmation

Heavy Metals & Phthalates

Compliance Control

LEO PAPER GROUP

Contents

LEO
Safety Confirmation

Printed: January, 2012
Subject to Change

LEO
Safety Confirmation

Disclaimer

Leo Paper communicates to our stakeholders our modifications to procedures to comply with the legal requirements and international standards for children's products. The information contained in this booklet is obtained from sources believed to be accurate to the best knowledge of Leo Paper. It is distributed without warranty, representation, inducement or license of any kind and Leo Paper does not assume any legal responsibility for use or reliance upon same.

Introduction

LEO
Safety Confirmation

Product safety is an industry priority and is at the top of the Leo Paper agenda. We are committed to producing products that not only fulfill our legal requirements but also meet international standards.

Increased customer concern regarding children's products prompted government legislation of new rules reflecting today's standards. Leo Paper produces products that meet international safety standards by using materials that are proven to meet the prescribed levels of heavy elements, such as lead and phthalate. The raw materials used in our production, including paper, inks, varnishes, glues, foils, and laminates, fully comply with heavy metals and phthalates requirements.

"Package," by definition of the Toxics in Packaging Clearinghouse (TPCH), refers to a container providing a means of marketing, protection or handling of a product and shall include a unit package, an intermediate package and a shipping container. "Package component" is defined as any individual assembled part of a package such as, but not limited to, any interior or exterior blocking, bracing, cushioning, weatherproofing, exterior strapping, coatings, closures, inks and labels.

TPCH states that packaging comprises about one-third of the waste stream in the USA. The heavy metals present in packaging materials enter the solid waste stream, landfills and incinerators and pose a wide range of hazards to the environment, and ultimately, to the public health and safety. Hence, the USA and the European Community have enacted legislation to limit the amount of heavy metals present in packaging.

Heavy Metals Requirements for Packaging Materials

LEO
Safety Confirmation

A. USA

1. Toxics in Packaging Clearinghouse (TPCH)

The Toxics in Packaging Clearinghouse (TPCH) was formed in 1992 to promote the Model Toxics in Packaging Legislation.

This model legislation was originally drafted by CONEG (Coalition of Northeastern Governors) in 1989 to reduce the amount of four heavy metals, namely Lead, Mercury, Cadmium, and Hexavalent Chromium, in packaging and packaging components sold or distributed throughout the United States. The legislation has been successfully adopted by nineteen states.

The legislation prohibits

1) Packaging materials to which any Lead, Mercury, Cadmium, and Hexavalent Chromium have been intentionally introduced.
2) The sum of the total of the incidental presence of Lead, Mercury, Cadmium, and Hexavalent Chromium be over 100 parts per million for any packaging material.

2. Coalition of Northeastern Governors (CONEG)

The Coalition of Northeastern Governors was created in 1976 to encourage intergovernmental cooperation in the Northeast on shared issues relating to the economic, environmental and social well-being of the Northeast states. CONEG drafted the Model Toxics in Packaging Legislation in 1989 to phase out the use and presence of the four heavy metals on packaging materials among the Northeastern states.

The legislation requires

1) The sum total of incidental presence of Lead, Mercury, Cadmium, and Hexavalent Chromium to be under 100 parts per million for packaging materials such as cartons, labels, tape, wrapping papers, strapping, glue, inks and coatings.
2) It became a nationally and internationally recognized standard.

Heavy Metals Requirements for Packaging Materials

LEO
Safety Confirmation

B. European Community

1. Directive 94/62/EC on Packaging and Packaging Waste

The European Community (EC) introduced measures on packaging and packaging waste management with the intent of reducing their environmental impact in the early 1980s. The purpose of the Directive 94/62/EC on packaging and packaging waste is to harmonize national measures. It contains provisions on the prevention of packaging waste, on the re-use of packaging and on the recovery and recycling of packaging waste.

One of the basic requirements is
The total concentration levels of Lead, Mercury, Cadmium and Hexavalent Chromium present in packaging or packaging components shall not exceed 100 parts per million by weight.

Heavy Metals & Phthalates Requirements for
Materials Used for Printed Products

LEO
Safety Confirmation

Printed products are comprised of inks, varnishes, laminates, glues, papers and boards, etc. Most countries have independent authorities responsible for the safety of consumer products marketed and distributed in their countries. Products or materials designed or intended, whether or not exclusively, for use in play by children of less than 14 years in EU and 12 years of age and younger in the US, and which are defined as toys, must comply with safety criteria.

One of the safety criteria is to limit heavy metals & phthalates present in children's products, childcare articles, and toys. It is proven that certain heavy metals tend to accumulate in the human body causing significant damages to various organs. In particular, children sometimes ingest metals through chewing toys.

Certain parts of these provisions will not be effective until August 2009 or later. We will require compliance with one or more of these provisions at an earlier date to ensure that products within our supply chain comply with the relevant CPSIA requirement on the applicable effective date.

Heavy Metals & Phthalates Requirements for
Materials Used for Printed Products

LEO
Safety Confirmation

A. USA Standard

The Consumer Product Safety Commission (CPSC) is responsible for protecting the public from unreasonable risks of serious injury or death from consumer products. The Consumer Product Safety Act (CPSA) under CPSC authority defines children's product, childcare article, and toy as the following:

- Children's Product: A consumer product designed or intended primarily for children 12 years of age or younger.
- Childcare Article: A consumer product designed or intended by the manufacturer to facilitate sleep or the feeding of children age 3 and younger or help children with sucking or teething.
- Toy: A consumer product designed and intended for a child 12 years or younger for use by the child when the child plays.
- Toy that "can be placed in the mouth": If any part of the toy can actually be brought to the mouth and kept in the mouth by the child so that the toy can be sucked or chewed. Toy or part must be smaller than 5 cm in one dimension.

1. *CFR Title 16 (CPSC Regulations) Part 1303 Ban of Lead-Containing Paint and Certain Consumer Products Bearing Lead Containing Paint*

   All children's products, childcare articles, and toys made of any type of materials and intended for children 12 years of age and younger, are subject to the CFR Title 16 of US Consumer Product Safety Act Regulation. The purpose of this regulation is to prevent children from being poisoned when they eat paint chips or dust from paint chips containing lead, or lick their fingers after they play with or touch certain products.

   The ban covers
   Paint and similar surface-coating materials for consumer use that contain lead or lead compounds and in which the lead content (calculated as lead metal) is in excess of 0.009 percent

2. *Children's Products Containing Lead, Lead Paint Rule (Sec. 101) of Consumer Product Safety Improvement Act of 2008 (CPSIA)*
   In August 2008, the US Government passed the legislation of CPSIA 2008 to establish new and amended consumer products safety requirements

Heavy Metals & Phthalates Requirements for
Materials Used for Printed Products

LEO
Safety Confirmation

for children. The law requires more responsibility from manufacturers and importers and includes various safeguards to ensure the safety of consumer products from factory floor to the store shelves.

Section 101 restricts lead content in all materials and substrate of children's product to prescribed limits on a rolling schedule. It lowers the total lead content by weight for any accessible part of the product.

- 600 ppm – effective 180 days after enactment of the Act (February 10, 2009)
- 300 ppm – effective 1 year after enactment of the Act (August 14, 2009)
- 100 ppm, if determined technologically feasible by CPSC, – effective 3 years date on August 14, 2011 after enactment of the Act (if determined not feasible, CPSC must establish the lowest limit that is feasible and lower than 300ppm in this same timeframe.)

Section 101 lowers lead in paint and other surface coatings of children's product.

- 90 ppm – current limit (after August 14, 2009)

3. *ASTM F963-11 4.3.5 Paint and Similar Surface-*

Coating Materials

The American Society of Testing Materials (ASTM) is a voluntary organization which develops and sets standards for materials, products, systems, and services. One of the main purposes is to minimize accidents caused by toys during normal intended use, and in reasonable foreseeable abuse of the toys. (After the enactment of this Act on February 10, 2009, the provisions of ASTM International Standard ASTM F963, (except for section 4.2 and Annex 4 or any provision that restates or incorporates an existing mandatory standard or ban promulgated by the Commission or by statute) shall be considered to be the consumer product safety standards issued by the Commission under section 9 of the Consumer Product Safety Act (15 U.S.C. 2058).)

The voluntary consumer safety specification prohibits

1) This regulation prohibits the use of paints or similar surface-coating materials that contain lead or lead compounds and in which the lead content (calculated as lead metal [Pb]) is in excess of 0.009 % (90 ppm) of the weight of the total nonvolatile content of the paint or the weight of the dried paint film.
2) In addition, surface-coating materials shall not contain compounds of antimony, arsenic, barium, cadmium, chromium, lead, mercury or selenium, of which the metal content of the soluble material is in excess of the levels by weight of the contained solids (including pigments, film solids, and driers) given in Table 1.

Heavy Metals & Phthalates Requirements for
Materials Used for Printed Products

LEO
Safety Confirmation

Table 1 Maximum Soluble Migrated Element in ppm (mg/kg) Toy Material

Antimony (Sb)	Arsenic (As)	Barium (Ba)	Cadmium (Cd)	Chromium (Cr)	Lead (Pb)	Mercury (Hg)	Selenium (Se)
60	25	1000	75	60	90	60	500

4. *Prohibition on Sale of Certain Products Containing Specified Phthalates (Sec. 108) of Consumer Product Safety Improvement Act of 2008 (CPSIA)*

The prohibition on phthalates applies to all parts of a children's toy or childcare article from February 10, 2009.

- Permanent Ban - toys or childcare articles that contain concentrations not more than 0.1% (1000ppm) of the phthalates DEHP, DBP, or BBP.
- Interim Ban - children's toy that can be placed in mouth or child care article that contains not more than 0.1% (1000 ppm) of DINP, DIDP, or DnOP.

However, the Commission shall determine whether to continue this prohibition or to prohibit additional phthalates or phthalate alternatives in the future.

B. European Standard

1. *EN 71 part 3: 1994 and Amendment A1:2000+ AC:2002 Migration of Certain Elements*

   EN71 part 3 considers the tendency of children to place toy or toy materials in their mouths and so the risk of ingestion of toxic elements exists. Soluble elements such as Antimony, Arsenic, Barium, Cadmium, Chromium, Lead, Mercury and Selenium are extracted from toy materials and from parts of toys, except materials not accessible. The material is placed under conditions which simulate contact with stomach acid for a period of time after swallowing.

Table 2 Maximum Soluble Migrated Element in ppm (mg/kg) Toy Material (except modeling clay and finger paint)

Antimony (Sb)	Arsenic (As)	Barium (Ba)	Cadmium (Cd)	Chromium (Cr)	Lead (Pb)	Mercury (Hg)	Selenium (Se)
60	25	1000	75	60	90	60	500

Each material has to be analyzed separately and individually. Test portions are only permitted to be composed of more than one material or color where physical separation is impossible e.g. dot printing, patterned textiles or mass limitation.

2. *Entries 51 and 52 of regulation (EC) NO 552/2009 amending Annex XVII of REACH regulation (EC) NO 1907/2006 (previously restricted under Directive 2005/84/EC). Restrictions on the manufacture, placing on the market and use of phthalate content of six type substances, mixtures and articles.*

On 22 June 2009, entries 51 and 52 of Commission Regulation (EC) No 552/2009, the legislation process of restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles. Toys and childcare articles which, although not intended for that purpose, can be put in the mouth, may under certain circumstances present a risk to the health of small children if they are made of materials containing certain phthalates.

Childcare article, shall mean any product intended to facilitate sleep, relaxation, hygiene, the feeding of children or sucking on the part of children.

The regulation restricts

1) The phthalates Bis (2-ethylhexyl) phthalate (DEHP) (CAS No 117-81-7), Dibutyl phthalate (DBP) (CAS No 84-74-2), and Benzyl butyl phthalate (BBP) (CAS No 85-68-7) shall not

be used as substances or in mixtures, in concentrations greater than 0.1% by weight of the plasticised material, in toys and childcare articles.

2) The phthalates Di-"isononyl" phthalate (DINP) (CAS No 28553-12-0 and 68515-48-0), Di-"isodecyl" phthalate (DIDP) (CAS No 26761-40-0 and 68515-49-1), and Di-n-octyl phthalate (DNOP) (CAS No 117-84-0) shall not be used as substances or in mixtures, in concentrations greater than 0.1% by weight of the plasticised material, in toys and childcare articles which can be placed in the mouth by children.

C. International Standard

1. *ISO 8124 part 3: 2010 Migration of Certain Elements*

It is international standard (ISO 8124-3) that is in line with European standard (EN 71-3) to restrict heavy metals (Antimony, Arsenic, Barium, Cadmium, Chromium, Lead, Mercury and Selenium) presence in all accessible parts of all toys.

Not covered by ISO 8124-3 are toys and parts of toys which, due to their accessibility, function, mass, size or other characteristics, obviously exclude any hazard due to sucking, licking or swallowing, bearing in mind the normal and foreseeable behavior of children.

Heavy Metals & Phthalates Requirements for Materials Used for Printed Products
LEO Safety Confirmation

Table 3 Maximum Soluble Migrated Element in ppm (mg/kg) Toy Material (except modeling clay and finger paint)

Antimony (Sb)	Arsenic (As)	Barium (Ba)	Cadmium (Cd)	Chromium (Cr)	Lead (Pb)	Mercury (Hg)	Selenium (Se)
60	25	1000	75	60	90	60	500

D. Canadian Standard

1. *Surface coatings of the Canada Consumer Product Safety Act, Toys Regulations SOR/2011-17 Sec. 23 for toxic elements*

In Canada, safety requirements for toys are specified in the Canada Consumer Product Safety Act, Toys Regulations SOR/2011-17 Sec. 23. The surface coating material that is applied to a toy must not contain any of the following substances:

(a) more than 90 mg/kg of total lead;

(b) a compound of antimony, arsenic, cadmium, selenium or barium introduced as such if more than 0.1% of the compound dissolves in 5% hydrochloric acid after being stirred for 10 minutes at 20°C (68°F); or

(c) a compound of mercury introduced as such.

Heavy Metals & Phthalates Requirements for Materials Used for Printed Products

LEO
Safety Confirmation

Table 4 Maximum Element in ppm (mg/kg) Surface Coating Materials

Antimony (Sb)	Arsenic (As)	Barium (Ba)	Cadmium (Cd)	Selenium (Se)	Lead (Pb)	Mercury (Hg)
1000	1000	1000	1000	1000	Total 90	ND

2. New Canadian Phthalates Regulation (SOR/2010- 298)

The objective of the Phthalates Regulations is to restrict the sale, importation and advertising of products in Canada that present a likely or potential risk for children to develop adverse health effects from exposure to phthalates. Canadian requirements for phthalates in soft vinyl children's toys and child care articles are now aligned with those of the United States and the European Union. Canada has adopted a new phthalate regulation which limits phthalate used in vinyl components of childcare articles and toys.

To restrict the concentration of each of DEHP, DBP and BBP to no more than 1000 mg/kg in the vinyl of all children's toys and child care articles.

To restrict the concentration of each of DINP, DIDP and DNOP to no more than 1000 mg/kg in the vinyl of children's toys and child care articles where the vinyl can, in a reasonably foreseeable manner, be placed in the mouth of a child under four years (48 months) of age.

Leo Paper Action

LEO
Safety Confirmation

Leo Paper has constituted a reasonable testing program to ensure our printed products comply with relevant laws and regulations concerning safety standards. The program includes overseeing material purchases (e.g. inks, varnishes, laminates, glues, paper and boards, etc), incoming inspections, materials handling processes, outgoing inspections of finished products, and also staff training.

Five Things to Achieve Printed Product That Are Safe

Topics	Actions
1. Safety Consciousness	• All clerical staff is required to have product safety awareness training when they join the Leo Paper. • We collect the most updated news and requirements of various countries on the allowable level of heavy metals & phthalates in toys. After comparative analysis, we adopt the strictest requirement to comply with. This allows printed products made by the Leo Paper to be easily exported worldwide.

Topics	Actions
2. Material Purchase	• All manufacturers and suppliers who provide packaging materials and printed products materials to LEO are required to guarantee that all their products satisfy our predetermined heavy metal and phthalates requirements by signing a Certificate of Compliance (valid for one year). • Annual review of manufacturers and suppliers Certificates of Compliance is a standard operation procedure to ensure only materials with valid Certificates of Compliance would be used. • We have close communication with manufacturers and suppliers so they have a clear understanding of the most updated standards that must be met. • When the ingredients of a material are changed, all suppliers must inform LEO so we can review the compliance of the material to all safety standards.

Leo Paper Action
LEO
Safety Confirmation

Topics	Actions
3. Incoming Inspection	• After the recent CPSIA announcement, we conducted comprehensive total lead content testing on our inventories of ink and other surface coatings. The test results showed they were in compliance with the CPSIA requirement. • Our in-house laboratory has been accredited by the China National Accreditation Service for Conformity Assessment (CNAS) since the fourth quarter of 2008. • Our in-house chemistry laboratory is equipped with instruments and technicians to conduct heavy metals testing. • Incoming materials are subject to systematic sampling testing to ensure manufacturers and suppliers provided compliant materials.

Leo Paper Action

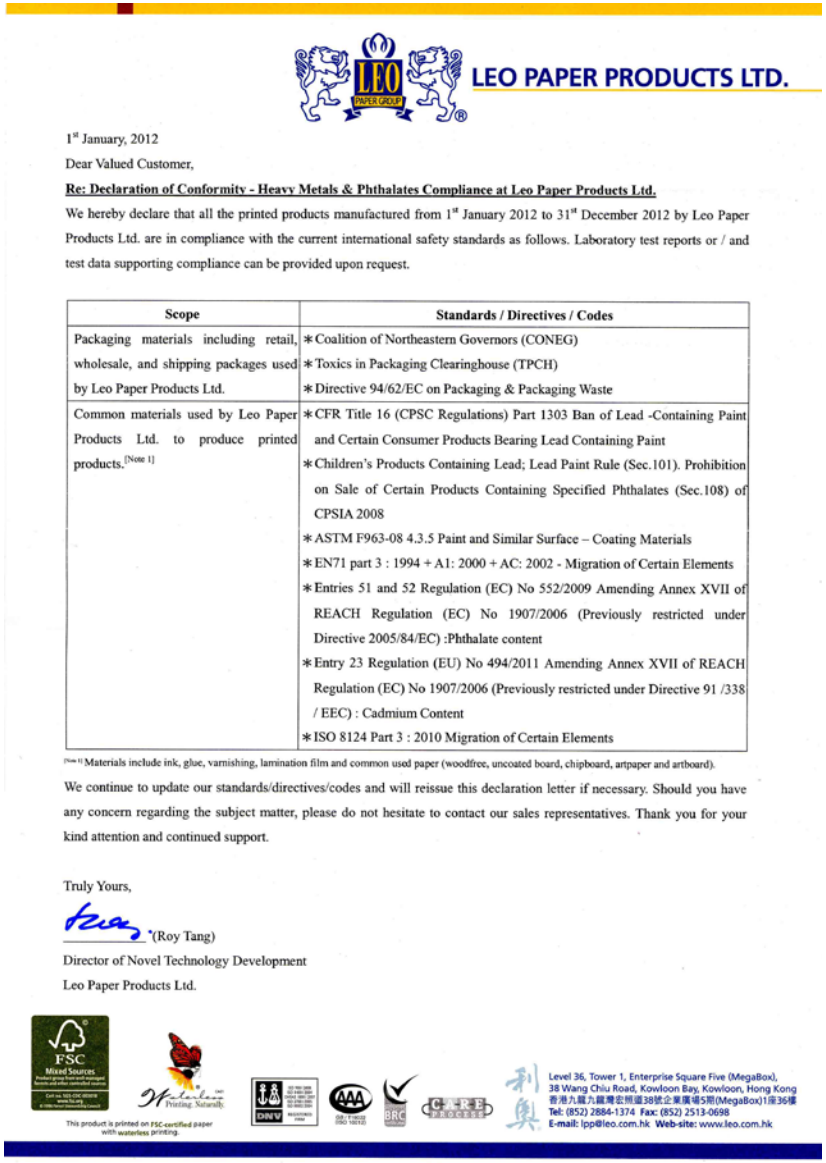
Topics	Actions
4. Materials Handling Process	• The use of Enterprise Resources Plan (ERP) makes identification and traceability from finished products down to the process and raw materials a standard practice. • An Official Work Instruction has been established to standardize steps and requirements of handling packaging materials and printed products materials to reduce the risk of contamination when processing the materials on the workfloor.
5. Finished Goods Inspection	• The finished goods samples are submitted for testing to the State Administration for Entry-Exit Inspection and Quarantine, an authority of the People's Republic of China responsible for quality and technical supervision. Shipments to customers will proceed only if the finished goods pass.

Conclusion

At Leo, we continue to pay particular attention to product safety, making every effort to guarantee that our products will be safe from heavy metals for everyone concerned.

Should you have any query regarding the heavy metals compliance in your products, please do not hesitate to contact our sales representatives.

Appendix



LEO PAPER PRODUCTS LTD.

1st January, 2012

Dear Valued Customer,

Re: Declaration of Conformity - Heavy Metals & Phthalates Compliance at Leo Paper Products Ltd.

We hereby declare that all the printed products manufactured from 1st January 2012 to 31st December 2012 by Leo Paper Products Ltd. are in compliance with the current international safety standards as follows. Laboratory test reports or / and test data supporting compliance can be provided upon request.

Scope	Standards / Directives / Codes
Packaging materials including retail, wholesale, and shipping packages used by Leo Paper Products Ltd.	∗Coalition of Northeastern Governors (CONEG) ∗Toxics in Packaging Clearinghouse (TPCH) ∗Directive 94/62/EC on Packaging & Packaging Waste
Common materials used by Leo Paper Products Ltd. to produce printed products.[Note 1]	∗CFR Title 16 (CPSC Regulations) Part 1303 Ban of Lead -Containing Paint and Certain Consumer Products Bearing Lead Containing Paint ∗Children's Products Containing Lead; Lead Paint Rule (Sec.101). Prohibition on Sale of Certain Products Containing Specified Phthalates (Sec.108) of CPSIA 2008 ∗ASTM F963-08 4.3.5 Paint and Similar Surface – Coating Materials ∗EN71 part 3 : 1994 + A1: 2000 + AC: 2002 - Migration of Certain Elements ∗Entries 51 and 52 Regulation (EC) No 552/2009 Amending Annex XVII of REACH Regulation (EC) No 1907/2006 (Previously restricted under Directive 2005/84/EC) :Phthalate content ∗Entry 23 Regulation (EU) No 494/2011 Amending Annex XVII of REACH Regulation (EC) No 1907/2006 (Previously restricted under Directive 91 /338 / EEC) : Cadmium Content ∗ISO 8124 Part 3 : 2010 Migration of Certain Elements

[Note 1] Materials include ink, glue, varnishing, lamination film and common used paper (woodfree, uncoated board, chipboard, artpaper and artboard).

We continue to update our standards/directives/codes and will reissue this declaration letter if necessary. Should you have any concern regarding the subject matter, please do not hesitate to contact our sales representatives. Thank you for your kind attention and continued support.

Truly Yours,

(Roy Tang)

Director of Novel Technology Development

Leo Paper Products Ltd.

This product is printed on FSC-certified paper with waterless printing.

Level 36, Tower 1, Enterprise Square Five (MegaBox), 38 Wang Chiu Road, Kowloon Bay, Kowloon, Hong Kong
香港九龍九龍灣宏照道38號企業廣場5期(MegaBox)1座36樓
Tel: (852) 2884-1374 Fax: (852) 2513-0698
E-mail: lpp@leo.com.hk Web-site: www.leo.com.hk

References

http://www.toxicsinpackaging.org/

http://www.coneg.org/default.htm

http://www.cpsc.gov/about/cpsia/cpsia.html

http://www.cpsc.gov/about/cpsia/legislation.html

http://ec.europa.eu/environment/index_en.htm

http://ec.europa.eu/health/ph_risk/committees/sct/documents/out235_en.pdf

http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2005:344:0040:0043:EN:PDF

http://engineers.ihs.com/document/abstract/STGJCAAAAAAAAAAA

http://laws-lois.justice.gc.ca/eng/regulations/SOR-2011-17/index.html

http://laws-lois.justice.gc.ca/eng/regulations/SOR-2010-298/index.html