

Common Dangerous Chemical Substances 常用危險化學物質

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Dangerous Substances

- ◆ A substance is determined to be dangerous if it contains ingredients that may be harmful to human health and have toxic effects to environment.

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Definitions

- ◆ **Substances**
 - means chemical elements and their compounds as they occur in the natural state or as produced by industry.
- ◆ **Preparations**
 - means mixtures or solutions composed of two or more substances.

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Definitions

- ◆ **Articles**
 - means an object which during production is given a special shape, surface or design which determines its function to a greater degree than does its chemical composition

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Sources of Dangerous Substances

- ◆ Toys
- ◆ Cosmetics
- ◆ Textiles
- ◆ Furniture
- ◆ Industrial chemical and metals
- ◆ Pesticides

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Nintendo Recalls Label Pins Due to Risk of Lead Exposure

WASHINGTON, D.C. – The U.S. Consumer Product Safety Commission is cooperating with the manufacturer, Nintendo, to voluntarily recall of the following consumer product: Consumers should stop using recalled product immediately unless otherwise noted.

Name of Product: Character-themed label pins

Date: About 7/2009

Distributor: Nintendo of America Inc., of Rosemead, N.H.

Importer: Fun Source Inc., of Middlesex, N.J.

Hazard: The metal label pin contains high levels of lead. Lead is toxic if ingested by young children and can cause adverse health and developmental effects.

Description: The recalled label pins have irregular designs of 12 popular game characters. The label pins are in two lengths: 1.12 inches in length. The characters include Yoshi, Kirby, Yoshi, Mario, Mario Kart, Shrek, Shrek's Peas, Shrek's Shovel.

Seller: Nintendo stores in California, Washington and New York. An Internet site titled "Nintendo 2009" was created on 12/19/08. The recalled label pins were also distributed to employees at Nintendo and game stores nationwide from April 2008 through

March 2009.

Manufacturer: Fun, China

Remedy: Consumers should immediately stop using the label pins and contact Nintendo to receive a replacement label pin. Consumers should also return the label pins to the retailer where they were purchased. For more information, visit the Consumer Product Safety Commission's website at www.recalls.nintendo.com.

Original Product: See photo. <http://www.recalls.nintendo.com>



Source: <http://www.cpsc.gov/cpscpub/prereel/prhtml/09/09257.html>

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EU Alert System Results in Recall of Cosmetics Items

Updated Jun 11, 2007

The Rapid Alert System for Non-Food Products (RAPEX) has drawn attention to three cosmetic products that contained potentially harmful ingredients. These products were pulled from the European market after the discovery of the banned substances.

The products include Black Onyx Glow and L'arache nail polishes, and Anticedin hair lotion. The nail varnishes were from the Netherlands and the United Kingdom, respectively, and were found to contain the chemical dibutyl phthalate which can result in reproductive organ problems in both male and female fetuses. The hair lotion from Bulgaria contains lead acetate.

RAPEX is the European Union's system for dangerous consumer products and is a result of the REACH laws in the EU.

Written by the CareFair.com Editorial Team.

Source: http://www.carefair.com/html/Recall_of_Cosmetics_Items_2348.html

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The Rapid Alert System for Non-Food Products (RAPEX)

- ◆ These products pose chemical risk because it contains dibutyl phthalate.
- ◆ The use of this chemical in cosmetics is prohibited by the Cosmetics Directive.
- ◆ Dibutyl phthalate may cause harm to an unborn child and possibly poses a risk of impaired fertility.
- ◆ Phthalates have a negative effect on the development of male/female reproductive organs.
- ◆ Especially children are vulnerable as their body is developing and can be negatively affected by these toxic substances.

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The Rapid Alert System for Non-Food Products (RAPEX)

- This product contains lead acetate up to 0.6 % (written on the list of ingredients) which is prohibited by the Cosmetics Directive 76/768/EEC
- Lead and lead compounds may be absorbed through the skin on prolonged exposure
- The symptoms of lead poisoning described for ingestion exposure may occur.
- Contact over short periods may cause local irritation, redness and pain.

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The Rapid Alert System for Non-Food Products (RAPEX)



Category: Cosmetics
Product: Nail polish - Salon Formula

Brand: Jordana
Type/number of model: All colours
Country of origin: United States



Category: Cosmetics
Product: Nail Polish

Brand: Glamorous
Type/number of model: No 25, 26, 27, 28
Country of origin: Greece

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The Rapid Alert System for Non-Food Products (RAPEX)



Category: Cosmetics
Product: Hair care lotion

Brand: Anticedin forte; Anticedin
Type/number of model: Bar code: 482000410112 and 4820028080107



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Allergenic Disperse Dyes in Textiles Products

Disperse dyes are commonly used in textile products such as coloring polyester, nylon, coloring cellulose acetate. Some disperse dyes have an allergenic potential to human skin and can be considered as a possible threat to human health.

According to the German Food and Commodities Law, it is prohibited to manufacture or distribute commodities in a way that if used properly or as intended they may constitute a danger to health on account of their chemical composition, particular through toxicological substances or impurities.

In EU countries, they have a similar general safety directive (92/59/EEC) to protect all consumers, although there is no any specific legislation on allergenic disperse dyes.



List of 21 banned allergenic disperse dyes is shown as below:

Disperse Blue 1	Disperse Blue 7	Disperse Blue 26
Disperse Blue 35	Disperse Blue 102	Disperse Blue 106
Disperse Orange 1	Disperse Orange 3	Disperse Orange 11
Disperse Brown 1	Disperse Red 1	Disperse Red 17
Disperse Yellow 3	Disperse Red II	Disperse Yellow 9
Disperse Yellow 49	Disperse Red III	Disperse Yellow 39

Source: <http://www.cmated.com/GetContentFile.aspx?id=73>

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High formaldehyde levels found in some baby furniture

By Ngoc Nguyen - nguyenen@sacbee.com

Published 12:00 am PDT Tuesday, May 6, 2008
Story appeared in MAIN NEWS section, Page A7

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Cribs and changing tables may be exposing babies to unhealthy levels of formaldehyde according to a new environmental report.

In a report published today, Environment California found a half dozen products – out of 21 nursery furnishings it tested – emitted formaldehyde at levels high enough to trigger allergy and asthma attacks in children.

The only standards for formaldehyde exposure come from federal housing regulators who monitor its use in prefabricated homes. No one measures its emissions from children's furnishings, the report said.

Source: <http://www.sacbee.com/101/story/915385.html>

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最新傳媒資料

Please click the following links for the Press Releases:

- ➡ **Media Statement dated Apr 22, 2008**
- Plastic Baby Feeding Bottles Containing BPA
- ➡ **Toys 'R' Us Media Release on Nov 7, 2007**
- UPDATE on Media Statement of RINOSER TOYS dated Nov 5, 07
- ➡ **Media Statement from Manufacturer on Nov 7**
- Rinoser Toy's Recall - ANSWERS TO CONSUMERS
- ➡ **Toys 'R' Us Media Release on Nov 6, 2007**
- Rinoser Product Recall on Nov 6, 2007
- ➡ **Toys 'R' Us Media Release on Sept 5, 2007**
- Mattel Product Recall on Sept 4, 2007
- ➡ **Toys 'R' Us Media Release on Aug 15, 2007**
- Mattel Product Recall August 14, 2007

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獎美收回中國造“迷姦水”玩具

美國和澳大利亞已下令即時回收一種中國生產的玩具“迷姦魔法珠”(Blinkies)，這種在臺灣製造的玩具裝箱含有害兒童接觸成份的化學物。

這是最新一起因中國產品引發的大規模產品回收事件。

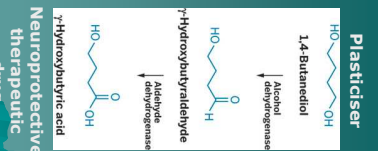
在過去兩周，澳大利亞新南威爾士州當局已接到收到一名兩歲男童和八歲女童因吞下大量小珠後不適送院就醫案，而昆士蘭也有一名19個月大嬰兒吞下小珠後入院。

澳大利亞媒體報導說，其中兩人送院時不省人事，但經治療後已逐漸康復。

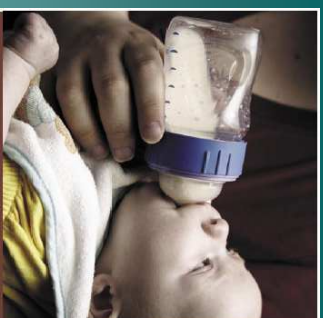
澳大利亞專家表示，「迷姦魔法珠」掛頸玩具上的小珠含有一種具有毒副作用的化學藥物，不小心吞下時，經過身體代謝後會釋放「化學物質轉化劑」(CHB)，嚴重者可導致呼吸困難、甚至死亡。



澳大利亞全國已下令即時回收的「迷姦魔法珠」玩具。



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Toxic Baby Bottles
Scientific study finds leaching chemicals in clear plastic baby bottles

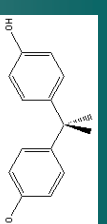


Table 1: Summary of Testing for Bisphenol A Leaching in Baby Bottles

Baby Bottle Brand	Range of Bisphenol A Detected (parts per billion)
Avent	8 – 10 ppb
Dr. Brown's	6 – 7 ppb
Evenflo	8 – 9 ppb
Gender	6 – 7 ppb
Playtex	5 – 6 ppb

Source: [http://www.environmentaljournal.org/reports/environmental-health-environmental-health-reports/toxic-baby-bottles](http://www.environmentaljournal.org/reports/environmental-health/environmental-health-environmental-health-reports/toxic-baby-bottles)

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Existing Chemicals

- ◆ Substances listed in
 - European **Inventory of Existing Commercial chemical Substances (EINECS)**
 - ◆ 100,204 chemicals
 - European **List of Notified Chemical Substances (ELINCS)**
 - ◆ contains 4,381 substances.

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Plastic baby feeding bottles containing BPA

All plastic baby feeding bottles stocked at Toys “R” Us stores are compliant with recognized international safety standards.

However in response to the latest information coming out of Canada regarding Bisphenol-A (BPA) content, (http://www.hc-sc.gc.ca/hlcc-asc/media/nr-cp/2008/2008_59_e.html), Toys Li Fung (Asia) Ltd has removed all plastic baby feeding bottles from our stores across Asia as a precautionary measure.

We will keep these products off the shelves until further notice. Customers who have any questions are requested to contact the Toys “R” Us customer hotline at 2991 6222

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Existing Chemicals

- ◆ REACH estimates more than 30,000 chemicals in use in Europe at more than 1 tonne per year

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Dangerous Substances

- ◆ Dangerous substances have the following properties
 - Persistent
 - Bioaccumulated
 - Toxic

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Persistence

- ◆ Stable compounds can take years to breakdown
 - Low water solubility, high lipid solubility and high molecular masses
- ◆ Resistant to environmental degradation through chemical, biological, and photolytic processes
- ◆ Low levels can produce long-term effects

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Bioaccumulation

- ◆ Bioaccumulation occurs when an organism absorbs a toxic substance at a rate greater than that at which the substance is lost.
- ◆ Non-polar organic compounds – soluble in fats
- ◆ Accumulate and are retained in living organism

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Bioaccumulation

- ◆ The longer the biological half-life of the substance the greater the risk of chronic poisoning, even if environmental levels of the chemicals are very low
- ◆ Concentrate in the food chain
- ◆ Biomagnification can result in high levels in predators

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Toxicity

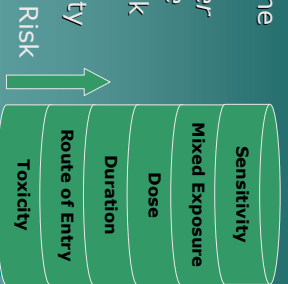
- ◆ The degree to which something is able to produce illness or damage to an exposed organism
- ◆ For examples
 - Carcinogens → Cancers
 - Mutagens → Genetic damages
 - Reproductive toxins → infertility

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Toxicity

- ◆ The likelihood that the substance will exert its toxic effects *under the conditions of use*
- ◆ The actual health risk of a chemical is a function of the toxicity and the actual exposure

$$\text{RISK} = \text{TOXICITY} \times \text{EXPOSURE}$$



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Toxicity

Toxic Chemicals Exposure

Latency Period

Expression of health effect

Immediate

Acute

Months/Years

Chronic

- Short latency
- Often involves large dose
- Often reversible after exposure stops
- Can be minor or severe

- Long latency
- Often involves small dose with repeated exposure
- Many effects are not reversible
- Knowledge often based on animal studies

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Dangerous Substances

- ◆ Substances of major concern must be authorized under REACH and their use may be subject to restrictions. This applies to:
 - CMR substances
 - PBT substances
 - VPVB substances
 - Substances with particular properties

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CMR substances

- ◆ Carcinogenic, Mutagenic and Toxic to Reproduction substances
 - Cause cancer, or mutation or interfere with the body's reproductive function

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PBT substances

- ◆ Substances which are persistent, bioaccumulative and toxic according to Annex XIII
- ◆ Take a long time to break down, accumulate in the body and are toxic

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VPVB substances

- ◆ Substances which are very persistent and very bioaccumulative according to Annex XIII
- ◆ Take a very long time to break down and accumulate in the body

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PBT and vPVBS

- ◆ Potential hazards to
 - ◆ Aquatic
 - ◆ Terrestrial compartment
 - ◆ Atmospheric compartment
 - ◆ Via food-chain accumulation
 - ◆ Microbial activity of sewage treatment systems

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Criteria for identification of PBT/vPVB substances

P	half-life > 60 d in marine water or half-life > 40 d in freshwater or half-life > 180 d in marine sediment or half-life > 120 d in freshwater sediment
vP	half-life > 60 d in marine- or freshwater or half-life > 180 d in marine or freshwater sediment
B	Bioconcentration Factor (BCF) > 2,000 L/kg
VB	Bioconcentration Factor (BCF) > 5,000 L/kg

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Criteria for identification of PBT/vPVB substances

T
No-observed effect concentration (NOEC) < 0,01 mg/L for marine and fresh water organisms, or
Substances are classified as carcinogenic (Cat. 1 and 2), mutagenic (Cat. 1 and 2), and toxic for reproduction (Cat. 1, 2 and 3), or
There is other evidence of chronic toxicity as identified by the classification: T, R48 or Xn

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Dangerous Substances

- ◆ Substances with particular properties
 - which according to scientific knowledge have a likely latent effect upon humans and the environment, giving rise to the same concerns as the above-mentioned substance groups
 - e.g. endocrine disruptors

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Endocrine disruptors

- ◆ An endocrine disrupter is an exogenous substance or mixture that alters function(s) of the endocrine system and consequently causes adverse health effects in an intact organism, or its progeny, or (sub)populations.
- ◆ Have serious and irreversible effects on humans and the environment, for example substances that disturb the body's hormone system

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Endocrine disruptors

- ◆ Man-made chemicals which are potential endocrine disrupters
 - Pesticides (DDT, chlorinated compounds)
 - Plastic additives
 - Industrial chemicals (Polychlorinated bisphenol, Dioxins)

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How to control of Dangerous Substances ?

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REACH

- ◆ REACH will replace or incorporate the following EU chemical legislation
 - Dangerous Substances Directive (the “Seventh Amendment”)
 - Dangerous Preparations Directive
 - Existing Chemicals Regulation
 - Marketing and Use Directive

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Aims of REACH

- ◆ To control and monitor of Dangerous Substances
- ◆ To provide a high level of protection of human health and the environment from the use of chemicals
- ◆ to encourage the replacement of hazardous chemicals with safer ones
- ◆ to spur the chemicals sector into researching and developing more new products.

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REACH

- ◆ Any chemical produced or imported in significant quantities has to be tested unless sufficient safety information already exists.
- ◆ Business will be able to use “substances of very high concern” only if they have authorization from a new European Chemicals Agency.
- ◆ Authorization will be granted under specific conditions, and will have to be regularly renewed, encouraging companies to seek safer alternatives

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REACH

- ◆ Technical Dossier
- ◆ Chemical Safety Assessment and Chemical Safety Report
 - Exposure Scenarios
- ◆ Safety Data Sheet
 - Annex to Exposure Scenarios

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