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## Press Release

### Chemicals in Food & Consumer Products Linked to Obesity and Diabetes

A **CHEM Trust** (Chemicals, Health and Environment Monitoring Trust) report released today highlights the dangers of our exposure to hormone disrupting chemicals in food and consumer products because of their links to obesity and diabetes. Studies published in recent years provide compelling evidence that human chemical contamination can play a part in both conditions.

The report concludes that the cocktail of chemicals that we accumulate throughout life, via our everyday lifestyles, is likely to contribute to these modern epidemics, both of which are major financial drains on the National Health Service (NHS) and the economy.

The report, commissioned by CHEM Trust, entitled; ***Review of the Science Linking Chemical Exposures to the Human Risk of Obesity and Diabetes***, is written by two of the world's leading experts; Professor Miquel Porta and Professor Duk-Hee Lee. They reviewed over 240 research papers to reach their conclusions.

This report shows that exposures to certain chemicals in the womb, at other critical periods of life and in adulthood may be linked to obesity and disruption of the normal functioning of insulin in later life. Evidence of the role of hormone disrupting chemicals comes from both laboratory studies and studies on human populations. Obesity and diabetes are increasing in the UK and the EU at an alarming rate. In humans, obesity is the greatest known risk factor for developing diabetes.

Professor Miquel Porta stated "*The epidemics in obesity and diabetes are extremely worrying. The role of hormone disrupting chemicals in this must be addressed. The number of such chemicals that contaminate humans is considerable. We must encourage new policies that help minimise human exposure to all relevant hormone disruptors, especially women planning pregnancy, as it appears to be the foetus developing in utero that is at greatest risk*".

The chemicals suspected of increasing weight gain and diabetes in humans include a variety of chemicals in our food, homes, schools, offices, and cars. They have the ability to disrupt our natural hormones which control both fat storage and sugar regulation, and hence can play a role in obesity and diabetes.

**The increase in obesity and diabetes is of great public health, social and economic concern worldwide:**

- **In England 6 out of 10 adults and 3 out of 10 children were overweight or obese in 2009** and it is particularly worrying that the number of children and adolescents who are overweight has risen in parallel with that reported for adults.
- **Diabetes in the UK has more than doubled since 1996 from 1.4 to 2.9 million people** to reach a figure of 1 in 20 people affected.
- **In the UK, the NHS spent £1Million per hour on diabetes in 2008, which equates to £9 billion/year or 10% of NHS spending.** A similar spending pattern is true for the USA and many other EU nations eg Belgium 7%, Denmark 7%, Italy 6%, Spain 6% and Finland 11%.
- **The estimated number of adults living with diabetes has soared to 366 million worldwide, representing 8.3% of the global adult population.** This number is projected to increase to 552 million people by 2030, or 9.9% of adults, which equates to approximately three more people with diabetes every 10 seconds.
- **This report notes that obesity represents a potential threat to the continued increase in life expectancy that has been achieved by medical and public health advances during the last decade.**

Elizabeth Salter Green CHEM Trust Director stated *“If exposure to hormone disrupting chemicals is programming us to be fat, it is high time that public health policy takes into account cutting edge science. Obesity and diabetes are examples of the adverse health trends linked with endocrine disruption which need to be urgently addressed. We are talking about prevention, not cure here, and in this time of financial squeeze, anything that can help with prevention, reducing NHS spending, is a good idea.”*

*“CHEM Trust is calling for the UK Government and the EU to urgently identify hormone disruptors to ensure that chemicals suspected of playing a role in diabetes and obesity are substituted with safer alternatives.”*

**END**

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**Notes to Editors:**

**1. CHEM Trust (Chemicals, Health & Environment Monitoring Trust)**

[www.chemtrust.org.uk](http://www.chemtrust.org.uk), is a science-based charity with the aim of protecting humans and wildlife from harmful chemicals. CHEM Trust makes the links between chemicals and disease more widely understood and seeks to improve chemicals regulation and health protection

**2. The Report: *Review of the Science Linking Chemical Exposures to the Human Risk of Obesity and Diabetes*** is available on the CHEM Trust website [www.chemtrust.org.uk](http://www.chemtrust.org.uk) (at 00.01hrs, Tuesday, 20<sup>th</sup> March 2012). A shorter version of the report (8 pages), including the Executive Summary and Conclusions & Recommendations is also available on the CHEM Trust website.

### **3. About the Authors**

**Miquel Porta MD MPH PhD** - Senior Scientist, Hospital del Mar Research Institute, Barcelona, Spain. Professor, School of Medicine, Universitat Autònoma de Barcelona. Adjunct Professor, School of Public Health, University of North Carolina at Chapel Hill, USA.

**Duk-Hee Lee MD PhD** – Professor, Department of Preventative Medicine, School of Medicine, Kyungpook National University, Daegu, South Korea.

**4. What is diabetes?** Diabetes is a disease caused by too much glucose (sugar) in the blood. Insulin is the natural hormone that controls blood sugars, but in Type 2 diabetes the body becomes resistant to insulin, leading to elevated blood sugars. If left untreated diabetes can be fatal and can also lead to serious complications (eg heart disease and blindness). Life expectancy is reduced, on average, by up to 10 years in people with Type 2 diabetes.

**5. Which chemicals and in what?** Chemicals in consumer products and food that have been reported to be linked to weight gain and/or diabetes:

**a) ‘Old’ Industrial Chemicals: Dioxins, PCBs and Organochlorine pesticides** - many of which are now banned, but because they are persistent they still contaminate the food we eat, and will continue to do so for many years to come.

**Dioxins** are by-products of many industrial processes and waste incineration. They widely contaminate the environment and food chain.

**PCBs** (now banned) are heat resistant and good insulators. They were used widely as coolants and lubricants in electrical equipment eg transformers and capacitors and as flame retardants. They were also used as paint additives, in carbonless copy paper and as a flame retardant additive in plastics. They still contaminate the food chain and the environment.

**Organochlorine Pesticides** - persistent and bioaccumulative chemicals, found widely in the environment, wildlife and humans. Fortunately due to legislative action, levels of many are now slowly declining.

**b) Current-use chemicals: BPA, certain BFRs, organotins and phthalates** - suspect chemicals that are very much in use today. They are found in consumer products in our homes, offices and schools:

**BFRs (brominated flame retardants)** - used to prevent fire taking hold, and found in upholstery, mattresses, furniture and electrical and electronic goods. Some BFRs have been banned in the EU.

**BPA (Bisphenol A)** - used in tin can linings, mobile phone & computer housings, water pipes and recently banned from babies bottles in the EU.

**Organotins** have many applications including stabilisers in PVC, catalysts in chemical reactions, glass coatings, and in anti-odour/anti-fungal treatments for textiles.

**Phthalates** - used to make hard plastics soft and found in vinyl flooring, shower curtains, other plastics and soft tubing.

## **6. EU data**

### **Diabetes**

Diabetes is undergoing a rapid increase in the EU, and for example, in the UK, diabetes more than doubled in the last 15 years. Current estimates of the prevalence of diabetes in adults aged 20-79 years range from around 5% in the UK, to 6% in Italy and Greece, to around 6.5% in Spain and France, to over 7.5% in Poland and Portugal, and up to around 9% in Germany and Cyprus.

### **Obesity**

The rate of obesity has more than doubled over the past 20 years in most countries and now affects 1 in 6 of the adult EU population. Across Europe, on average 1 in 4 of the children aged between 6-9 years are overweight or obese, with rates of overweight primary school children being particularly high in Italy (36% of 8-9year olds), Portugal (31% of 7-9 year olds) and the Czech Republic (31% of 6-10 year olds), whereas in France (11-17 year olds) and Germany (5-17year olds) around 20% of the children measured were overweight. In Spain, a third of children aged between 13 and 14 years of age were reported to be overweight.

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