

Chlorine and PVC Restrictions and PVC-Free Policies

**A List Compiled by
Greenpeace International**

July 1999

If your organisation has restricted the use of Chlorine/PVC or has a Chlorine/PVC-free policy and you would like to be included on this list, please send details to:

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Introduction

Greenpeace has been campaigning for the phase out of organochlorines since 1987, because their production leads to the release of hazardous substances which are persistent, toxic or bioaccumulative. The production of PVC plastic uses the largest proportion of chlorine produced (30%) and is a major source of hazardous substances in the environment, both during manufacture and disposal. As well as using chlorine as a raw materials, PVC contains many additives, some of which are also hazardous, such as heavy metal stabilisers or phthalate softeners. Greenpeace has focussed specifically on PVC since the early 1990's and is calling for its material substitution with cleaner alternatives, as a way of eliminating these hazardous substances.

As a result, a large number of local authorities, businesses, and various other organisations have agreed to restrict or phase out PVC and chlorine to various extents. This report is a compilation of these restrictions, to the best of our knowledge. It demonstrates the feasibility of replacing chlorine and PVC with cleaner alternatives and shows that this is actually happening at an increasing level, in a large number of different countries and businesses.

This report is in two sections. The first lists the many international agreements on the elimination and reduction of hazardous substances, in particular organochlorines, and lists specific actions taken by national and local governments, and other organisations, to restrict chlorine and PVC. The second section lists the companies that have taken varying degrees of action to phase out the use of PVC: some have virtually eliminated PVC, such as IKEA and LEGO, others have recently initiated a phase out, such as NIKE.

1 Political

1.1 Summary of Political Initiatives

Over the years there have been a number of international agreements on hazardous substances, and organochlorines specifically. The most notable recent agreement is the **OSPAR** agreement to 'move towards the target of cessation of discharges emissions and losses of hazardous substances by the year 2020', which is known as the '**generational goal**'. This agreement was made by 14 countries discharging into the North East Atlantic, and the EU.

The most significant global initiative on hazardous substances is the development of a legally binding global convention on **Persistent Organic Pollutants (POPs)** by the United Nations Environment Programme (UNEP), which has prioritised 12 POPs for action, including dioxins and furans. The convention is due to be signed by the end of 2000.

Restrictions on PVC by cities and communities began in the German town of **Bielefeld** in 1986. Since then numerous restrictions have been enacted in Germany, and there are currently 274 communities and 6 Federal States which have confirmed their policies in writing. In the early 1990's many local authorities in **Austria, The Netherlands** and the **Nordic** countries also restricted PVC. In the late 1990's the trend spread to **Spain**, where 52 Spanish cities have been declared PVC free, and to the **UK, Japan** and the **USA**.

Sweden was the first country to propose **national restrictions** on PVC generally; in 1995 the Swedish Parliament voted to phase out both soft and rigid PVC, which led to following comment by the Swedish Minister for the Environment, Anna Lindh; '*The question is not whether to phase out PVC, but how to phase it out*'. Acting on this commitment was postponed until 1999, when a new chemical strategy was made law in an Environment Bill, to implement the OSPAR generational goal. The strategy includes deadlines for voluntary phase outs of several PVC additives and a ban on phthalates in toys for children under three.

In **Denmark** a new strategy on PVC was announced in June 1999 by Environment Minister Svend Auken, partly in response to criticism of the voluntary efforts to recycle PVC waste that have been in place since 1991 in Denmark. The new strategy not only includes a sales tax on PVC of two Danish Kroner per kilogram of PVC, but also forbids the use of PVC additives that are harmful to health or the environment, including heavy metals and phthalate softeners. Where recycling is difficult or impossible, PVC would be substituted. The strategy also aims to limit incineration of PVC.

Partly as a response to these various national and local initiatives to restrict PVC in European countries, the **European Union** is currently exploring 'horizontal' measures to address the problem of PVC in the waste stream. This approach was announced after measures in a proposed Directive on End of Life Vehicles to ban the use of PVC in cars were removed following industry lobbying.

In 1999, **Austria** became the first country to implement a ban on the use of phthalates in toys for children under three, followed by **Denmark, Greece** and **Sweden**. Bans are also proposed in **Finland, Norway** and **Italy**, as well as calls for voluntary withdrawal of products from shelves in many more countries.

1.1. International agreements on hazardous substances.

International agreements and conventions have set the direction and priority on how to address hazardous substances. Many of them have identified substances which are persistent, toxic and bioaccumulative, and have specified organohalogenes as a priority target. Synthetic chlorine based substances (organochlorines) make up a substantial proportion of organohalogenes. Greenpeace is campaigning for these agreements to be implemented through a clean production approach, which targets the substitution of hazardous substances or materials which give rise to hazardous substances such as PVC, as the most effective method of stopping the release of these dangerous substances into the environment.

Organochlorines have been regarded as a dangerous class of compounds by many legislators since the 1970s. Since then many regional forums have recommended the phase-out of discharges of organochlorines to the environment:

Mediterranean

In 1993, the Contracting Parties to the Barcelona Convention on the Mediterranean Sea, in a recommendation adopted on the 'Implementation of the Land Base Sources Protocol and Dumping Protocol,' agreed:

'...to recommend that the Contracting Parties reduce and phase out by the year 2005 inputs to the marine environment of toxic, persistent and bioaccumulative substances listed in the LBS [Land Based Sources] Protocol, in particular organohalogen compounds having those characteristics. In this framework, high priority is to be given to both diffuse sources and industrial sectors which are sources of organohalogen inputs.'

The Contracting Parties to the Barcelona Convention also agreed:

'...to promote measures to reduce inputs into the marine environment and to facilitate the progressive elimination by the year 2005 of substances having proven carcinogenic, teratogenic and/or mutagenic properties in or through the marine environment.' This is to include organophosphorous pesticides.'

The Contracting parties to the Barcelona Convention are Albania, Algeria, Bosnia Hercegovina, Croatia, Cyprus, Egypt, the European Union, France, Israel, Italy, Lebanon, Malta, Monaco, Morocco, Portugal, Spain, Slovenia, Syria and Tunisia.

North-East Atlantic (OSPAR & North Sea Conference)

In 1992, the Contracting Parties to the Oslo and Paris Conventions (OSPAR) for the prevention of marine pollution in the North East Atlantic adopted a series of commitments to reduce and eliminate discharges of toxic chemicals into the sea.

Luxembourg and Switzerland joined the Ministers from the Contracting Parties (13 countries and the European Union)¹, and signed with them the 1992 'OSPAR Ministerial Declaration', by which they all agreed that:

¹ The Contracting Parties to the Oslo and Paris Conventions are Belgium, Denmark, the European Union, Finland, France, Germany, Iceland, Ireland, the Netherlands, Norway, Portugal, Spain, Sweden, and the UK.

‘...as a matter of principle for the whole Convention area, discharges and emissions of substances which are toxic, persistent and liable to bioaccumulate, in particular organohalogen substances, and which could reach the marine environment should, regardless of their anthropogenic source, be reduced, by the year 2000, to levels that are not harmful to man or nature with the aim of their elimination; to this end to implement substantial reductions in those discharges and emissions and where appropriate, to supplement reduction measures with programmes to phase out the use of such substances.’

At the North Sea Conference in June, 1995 the European countries bordering the North Sea signed the following declaration (*Ministerial Declaration of the Fourth International Conference on the Protection of the North Sea. Final Declaration, Esberg, Denmark. June 9, 1995. Paragraph 17.*):

‘Ministers agree that the objective is to ensure a sustainable, sound and healthy North Sea ecosystem. The guiding principle for achieving this objective is the Precautionary Principle. This implies the prevention of the pollution of the North Sea by continually reducing discharges, emissions and losses of hazardous substances thereby moving toward the target of their cessation within one generation (25 years) and the ultimate aim of the concentration in the environment near background values for naturally occurring substances and close to zero concentrations for man-made synthetic substances.’

Definition of Hazardous Substances. Annex 2:

‘In the content of the declaration hazardous substances are defined as substances or groups of substances that are toxic, persistent and liable to bioaccumulate. This definition of toxic should be taken to include chronic effects such as carcinogenicity, mutagenicity, teratogenicity and adverse effects on the function of the endocrine system.’

This commitment was consolidated by OSPAR in July 1998, (*Ministerial meeting of the OSPAR Commission, Sintra Statement, 23 July 1998*) which agreed:

‘...to prevent pollution of the maritime area by continuously reducing discharges, emissions and losses of hazardous substances (that is, substances which are toxic, persistent and liable to bioaccumulate or which give rise to an equivalent level of concern), with the ultimate aim of achieving concentrations in the environment near background values for naturally occurring substances and close to zero for man-made synthetic substances. WE SHALL MAKE every endeavor to move towards the target of cessation of discharges, emissions and losses of hazardous substances by the year 2020. WE EMPHASIZE the importance of the precautionary principle in this work.’

To this end, the Commission will:

‘– implement our strategy progressively and with well-defined intermediate targets: this implementation will start from the OSPAR List of Chemicals for Priority Action which we have already agreed, including carrying forward the drawing up of programmes and measures by 2002.’

The OSPAR List of Chemicals for Priority Action includes several substances which are by-products of the production of chlorine and PVC, or additives in PVC: dioxins & furans, chlorinated paraffins, mercury and organic mercury compounds, lead and organic lead compounds, organic tin compounds, certain phthalates (DBP & DEHP).

In addition the Commission stated:

"WE ACKNOWLEDGE the need to provide consumer and purchaser with information on hazardous substances in goods thereby promoting the reduction of risks from the use of such chemicals, and WE WILL DEVELOP, individually or jointly, further means for disseminating this information."

USA/Canada

In April, 1992, the International Joint Commission on Great Lakes Water Quality published its Sixth Biennial Report and stated:

‘It is prudent, sensible and indeed necessary to treat these [chlorinated organic] substances as a class rather than as a series of isolated individual chemicals. Further, in many cases, alternative production processes do exist. The Commission concludes that the use of chlorine and its compounds should be avoided in the manufacturing process.’

‘The Commission therefore recommends that the Parties, in consultation with industry and other affected interests, develop timetables to sunset the use of chlorine and chlorine-containing compounds as industrial feedstocks and examine the means of reducing and eliminating other uses, recognizing that socio-economic considerations must be taken into account in developing the strategies and timetables.’

The latest Biennial Report of the International Joint Commission (1996) states (page 32):

‘A large and increasing amount of polyvinyl chloride (PVC) is manufactured and used in the Great Lakes basin. The industry states that its production and use is harmless and even environmentally beneficial, that PVC is a stable product and its manufacture does not cause pollution. We are concerned about the growing use of this material and the need to address its eventual disposal and destruction, through incineration or the open environment. We encourage industry and Governments to address these issues within a full lifecycle and cost-accounting framework and continue research to develop more environmentally benign alternatives.’

United Nations Council on Environment and Development (UNCED)

In Agenda 21 in Chapter 17 on ‘Protection of the Oceans,’ the participants to the 1992 Rio ‘Earth Summit’ agreed that:

‘As concerns other sources of pollution, priority actions to be considered by states may include...eliminating the emission or discharge of organohalogen compounds that threaten to accumulate to dangerous levels in the marine environment.’

UNCED Agenda 21, Chapter 19 calls for governments, through the cooperation of relevant international organizations and industry to:

‘adopt policies and regulatory and non-regulatory measures to identify, and minimize exposure to, toxic chemicals by replacing them with less toxic substitutes and ultimately phasing out the chemicals that pose unreasonable and otherwise unmanageable risk to human health and the environment and those that are toxic, persistent and bio-accumulative and whose use cannot be controlled.’

United Nations Environment Programme (UNEP)

The United Nations Environment Programme Governing Council in 1990 (Decision 16/30 B) recommended:

‘...accelerated work on reducing the use and emission of hazardous substances that are toxic, persistent and bioaccumulative with the ultimate aim of phasing out those uses which cannot adequately controlled and obtaining agreed regional timetables for phasing them out.’

UNEP – global action on Persistent Organic Pollutants

As follow-up to the Earth Summit, or the Rio Declaration of 1993, governments agreed in February 1997 to negotiate a legally binding global convention to reduce and/or eliminate persistent organic pollutants or ‘POPs.’. At its 19th Governing Council Meeting in February, 1997, UNEP agreed to start negotiations toward this goal and the first meeting of an Intergovernmental Negotiating Committee (INC) took place in June 1998 in Montreal.

12 POPs have been given priority (the ‘dirty dozen’). These are:

DDT, toxaphene, chlordane, heptachlor, endrin, mirex, aldrin, dieldrin, hexachlorobenzene, polychlorinated biphenyls, dioxins and furans.

Many POPs are chlorine- containing, synthetic compounds, as are all of the ‘dirty dozen’. Of the 12, DDT, toxaphene, chlordane, heptachlor, endrin, mirex, aldrin and dieldrin are pesticides. PCBs and hexachlorobenzene are industrial chemicals. Dioxins, furans, PCBs, hexachlorobenzene and toxaphene can arise as by-products of the production, use and disposal by incineration of chlorine-containing chemicals.

1.2. Country lists of PVC restrictions and other initiatives: A-Z

Austria

a) National Government

Austria was the first country to ban phthalate plasticisers in toys for children under three years old (phthalates are most commonly used in soft PVC). The ban came into force in January 1999.

The Environment Ministry has a ‘PVC working group’, which discusses PVC issues like toys and local construction PVC restrictions. The goal of this working group is to network with local/regional authorities on PVC and PVC alternatives. The longer term goal is to get a proposal from the Environment Ministry on Federal PVC building policy based on all the knowledge available in Austria after over 10 years of debate on PVC issues. Greenpeace is a member of the pvc working group. (ref. It’s coordinator is Mrs. Eva Reiss, Federal Ministry for Environment, Tel: +43-1-51522-2332)

b) Regional, City and Community

The Austrian city of Linz has recently achieved an 85% PVC phase-out in public buildings. Seven of the nine regional governments in Austria have now placed restrictions on the use of PVC: Vienna, Lower Austria, Styria, Salzburg, Tyrol, Vorarlberg, Upper Austria.

Regional Capitals have also restricted the use of PVC: Vienna, Linz, Salzburg, Innsbruck, Bregenz, Klagenfurt, Graz. Other Smaller communities include: Sankt Valentin, Traun, Bruck an der Leitha, Judenburg, Hoechst, Wolfurt, Ludesch, Feldkirch, Dornbirn, Wolfsberg, Klosterneuburg.

The public transport system in Vienna is PVC-free, as is the main Viennese hospital.

c) Other organisations

The Austrian Supreme Court ruled on a complaint by the PVC industry about a Greenpeace billboard campaign, summarised the hazards of PVC and stated 'Therefore it can be summarised that the statement of the accused 'PVC is an environmental poison' is not untrue.' (April 1994).

Belgium

a) National Government

On October 3, 1997, Marcel Colla, Belgian Minister of Public Health urged toy retailers to take immediate voluntary measures to cease the marketing of soft PVC toys designed to be chewed by young children.

In December 1997 the Belgian government division 'Kind and Gezin (Child and Family),' which oversees the health and safety of 70,000 children in public and private day care centers and kindergartens in the Dutch-speaking part of Belgium, provided information to parents, especially new mothers, recommending they not buy soft PVC toys. A letter was sent to the owners and operators of the facilities, urging them to 'be critical when buying toys and choose alternatives, and not soft PVC toys.' Lastly, 'Child and Family' called on the toy industry to ban PVC from their production lines. The French equivalent organization, O.N.E., 'Office de la Naissance et de l'Enfance', acted similarly after receiving advice from its pediatric advisors in the French speaking part of Belgium.

Canada

a) National Government

In June 1996 Health Canada issued a public warning on lead in PVC miniblinds.

In relation to packaging, Division 23 of Part B of the Food and Drug Regulations under the Food and Drugs Act contains the following clauses:

B.23.002 Subject to section B.23.003 no person shall sell any food in a package that has been manufactured from a polyvinyl chloride formulation containing an octyltin chemical. (B.23.003 gives some exceptions to the previous section for certain kinds of organotins and certain kinds of foodstuffs.)

B.23.007. No person shall sell a food in a package that may yield to its contents any amount of vinyl chloride (according to a specified test method).

In November 1998, the government health authority, Health Canada, advised parents to throw away soft vinyl (PVC) toys designed to be sucked or chewed, "because there are

scientific indications of a potential health risk for very young children (weighing less than 8kg) who have high oral contact with soft vinyl products".

b) Regional, City and Community

In November 1994, BC Environment (the Environment Ministry of British Columbia) issued a 'Backgrounder' entitled 'A Timely and Cost-Effective Environmental Strategy for the Management of British Columbia's Biomedical Waste Stream'. Under the heading 'Long term actions to be taken', it says:

'We will challenge the hospitals and other users of products made with PVC plastic to use their purchasing power with manufacturers to bring about a transition to non-PVC plastics, consistent with these new plastics meeting appropriate performance specifications'.

Toronto City Council, at its meetings on April 29 and 30, 1996, adopted the following resolutions (amongst others):

'Ensured that when the City of Toronto disposes waste material containing PVC, the material will not be sent to an incinerator, it must be recycled or landfilled.'

'Directed that only ductile iron pipe or concrete will be used for water lines installed in soils that are contaminated with substances, such as solvents or hydrocarbons, that can permeate through plastic or PVC pipe.'

'Requested the Province of Ontario and the Federal Government to introduce legislation or regulations that will prevent the disposal of PVC waste by incinerator.'

'Expressed its continuing support for the virtual elimination of persistent toxic substances such as organochlorines to the environment'.

'Requested the Acting Fire Chief to report on setting up dioxin residue tests for scenes of fires.'

A large fire in Hamilton, Ontario also generated much concern about PVC fires, especially since high levels of dioxins were found in the soot on-site.

Czech Republic

a) National Government

The new Waste Bill, signed May, 1997, stipulates that: 'From the 1 st January 2001 it is forbidden to produce and import packaging made of polyvinylchloride (PVC) and products packaged in such material.' (See 3.1).

On May 11, 1998, the Chief Health Officer of the Czech Republic, Dr. Jiri Vytlacil, informed citizens that PVC toys for children under one year of age have not been approved for marketing in the country.

Denmark

a) National Government

In 1996 the Danish Parliament adopted a proposal which places specific restrictions on the manufacture, use and disposal of PVC. While the Danish government is not ready to call

for a strict ban on PVC, the measures adopted address different problems in the PVC life-cycle, from manufacture to use, to disposal. The Environment Committee also called for the elimination of heavy metal stabilizers and phthalates, the minimization of PVC construction material use in public buildings and the reduction of the incineration of PVC waste. In an official document entitled, 'Proposal for Parliamentary Resolution for the Phasing Out of PVC,' Minister of the Environment Svend Auken predicted that fulfillment of these objectives would likely lead to a reduced use of PVC. The measures follow a report published in January of 1996 which warns of the potential toxic and estrogen-mimicking effects of phthalate plasticizers used in flexible PVC products.

On January 15 1998, a Government Strategy on chemicals was published, which includes 'phasing out the use of problematic chemicals', and refers to the future publication of a 'phthalate action plan' and a 'PVC investigation' (expected to cover the use of stabilisers, collection of PVC waste, recycling and disposal).

A national ban on phthalate plasticisers in toys and childcare articles for infants under 3 came into force on April 1 1998. Companies are given one year to clear existing stock, and inflatable toys are allowed until 1 January 2003.

From January 1 1999, there will be a tax of 12 kr/kg (approx. 2 dollars/kg) on all PVC foils (clingfilm or saran wrap) for foodstuffs.

In June 1999 a new **strategy on PVC** was announced by Environment Minister Svend Auken, in part in response to criticism of the voluntary efforts to recycle PVC waste that have been in place since 1991 in Denmark. The new strategy includes a goal of reducing the use of phthalates by 50 per cent by the year 2010, and is Denmark's first concrete step towards implementing its OSPAR commitments.

The new proposed PVC strategy from the Danish government includes:

- * A tax on PVC of two Danish Kroner per kilogram (Approx. 0.3 USD/kg)
- * A tax of 7 Danish Kroner per kilo of phthalates (Approx. 1.2 USD/kg)
- * New PVC products shall be without additives harmful to the health or the environment
- * Where separate collection of PVC from the waste stream is difficult, PVC should be substituted
- * PVC waste shall not be incinerated
- * New waste treatment technologies should be developed
- * Recyclable PVC shall be collected and recycled
- * Recycling of PVC containing heavy metals shall be limited and only occur in controlled systems

Besides this, Minister for the environment, Svend Auken, also pledged to lobby in the European Union for a phase-out of the use of PVC in underbody coating for cars and in textile printing.

b) Regional, City and Community

The municipality of Aarhus has a PVC free policy for toys. Aarhus is the second largest town in Denmark. They specify that products should be PVC-free and natural rubber (latex) free products. It should be specified which plastic material plastic toys are made of. The city of Aarhus is also committed to reduce the use of PVC in hospitals and other institutions.

c) Other Organisations

The Danish Consumers Council said in a letter in May 1998 (See 3.2).

‘On this background the Consumer Council finds that the health and environmental problems related to PVC are so serious that the use of PVC should be banned as soon as possible with the exception of some very specific areas where there are no alternatives.’

European Union

April 24, 1998 – The EU Scientific Committee on Toxicity, Ecotoxicity and the Environment concluded that PVC teething rings made from polyvinyl chloride (PVC) leach up to ten times what is considered acceptable levels of softeners known as phthalates. On May 20, 1998 the European Commission agreed on the need for a directive to specifically address soft PVC toys in the medium to long term. A proposal by European Commissioner for Consumer Protection, Emma Bonino for an emergency ban, was rejected by Commissioners. However, a recommendation that Member States take action to protect children’s health was published in the official journal.

The European Union is currently exploring ‘horizontal’ measures to address the problem of PVC in the waste stream, after measures to ban the use of PVC in cars were removed following industry lobbying (in a proposed Directive on End of Life Vehicles). A draft communication is foreseen for the end of 1999.

The following wording was introduced into the preamble of waste incineration directive at the council meeting in June 1999:

"Concerning a possible ban on the incineration of certain wastes, the Commission following its commitment made in the Proposal for a Directive on end of life vehicles (COM (97) 358 final), is considering the evidence on the environmental issues related to the presence of PVC in waste streams in order to define an overall strategy on PVC waste management.

This will be the basis for a Communication on PVC foreseen in the work programme of the Commission for 1999. In this context, the Commission is currently studying the environmental impact of the incineration of PVC through independent studies.

Concerning other wastes the Commission is considering initiatives for specific waste streams, in particular for batteries and electrical and electronic waste, which take into account the environmental impact from incineration or landfilling of these wastes".

c) Other Organisations

April 9, 1998 – The European consumer’s organization, Bureau Europeen des Unions de Consommateurs, called on the European Commission to urgently ban soft PVC toys.

Finland

In February 1999, the Finnish Trade Ministry informed the EU that it would ban six additives in toys and childcare products for children under three that are intended for oral use (the additives are mostly used in soft PVC). The ban would begin three months from adoption.

Germany

a) National Government

The German EPA (UBA) and the Ministry of Health (BGA) have recommended that 'the use of plastics containing chlorine and bromine should be completely excluded, as far as is possible. UBA and BGA propose a ban on the use of plastics containing chlorine and bromine in apparatus susceptible to fire.' (German Federal Office of the Environment (1992). Environmental Damage by PVC: An Overview. Berlin: Umweltbundesamt, 1992.) In 1994, the government set up an Enquete Commission (a coalition assembly body), which recommended substituting for PVC/wood composite materials and proposed take-back-and-recycle obligations for long-lived PVC products.(Enquete Commission, 1994.)

In addition, in 1992, the German Federal Government enacted a prohibition against using chlorinated and brominated compounds as petrol additives in order to reduce the release of chlorinated and brominated dioxins and furans from car exhausts. (Schulz, D. 1993. PCDD/PCDF – German policy and measures to protect man and the environment, Chemosphere 27 (1-3): 501-507.)

According to German municipal waste regulations, depositing PVC on waste dumps is banned from 2005.

At the level of the [German] Länder it was agreed in a joint statement that the input of PVC to waste incinerators will be minimised and that PVC products which are difficult to recycle will be phased out." (p.16 "Position Paper of the Netherlands on PVC", Ministry of Housing, Spatial Planning and the Environment, October 1997).

December 12, 1997 – The German Federal Institute for the Protection of Consumer Health and Veterinary Medicine, the BgVV, issued a statement which called on toy manufacturers to take steps to 'markedly reduce the burden of softeners or to stop using them altogether in toys for small children'. It also called on the industry 'as a matter of responsibility, to see that these products do not get on the market'.

The BgVV further recommended that 'parents not buy toys made of soft PVC for children up to three years of age, since it cannot be said with certainty that these products are safe.'

January 15, 1998 – In a letter to Greenpeace Germany, the German Ministry of Health stated that 'it would be highly desirable for industry to voluntarily refrain completely from selling teething rings and other baby toys made of soft PVC'. On February 18, 1998 – The German Ministry for Family Affairs agreed with the Minister of Health concerning the need for industry to withdraw soft PVC toys from the market.

b) Regional, City and Community

In 1986, the town of Bielefeld became the first community in Germany to enact restrictions against PVC. Since then numerous restrictions have been enacted. Greenpeace Germany has compiled a list of 274 communities which have confirmed in writing their policies to phase out or restrict, in addition to six Federal States (see 3.3). Some of the bigger ones include:

Bonn. On December 13, 1995, the Committee for Environmental Issues of the German Capital city of Bonn announced a policy which would phase out most major uses of PVC in public construction.

Berlin. Over 130 public building projects completed since 1989 have been built with restrictions on the use of PVC.

Hesse. PVC is allowed only if a recycling guarantee is given, the product has a high recycling content, it does not contain heavy metal stabilizers (in particular lead and cadmium) and the PVC-free product is more than 20% more expensive. Hesse avoids many PVC uses.

Aachen. In 1996 Aachen became the first community to include a ban on the use of PVC in cables.

c) Other Organisations

In 1994, the president of the German Wood and Plastic Processors Labor Union wrote that 'the pressing problems associated with this material must be addressed. With this objective, our organization in Germany is committed to a medium-term transition to chlorine-free materials, such as polyolefins and PET'. (Gisbert Schlemmer, President of the Gewerkschaft Holz und Kunststoff (Wood and Plastic Processors Labor Union – GHK), 'The future of plastics production must be ecologically acceptable,' Modern Plastics, July 1994, p 92.)

Consumers

In December 1997, the German Consumers Organization, AgV, called for a ban of soft PVC children's toys, and the German Ecological Product Control Association, OKO-TEST, published results of its own tests of 37 teething rings in which all PVC products containing phthalates were classified 'not recommendable.'

Greece

a) National Government

Late in 1998, the General Secretary of the Department of Commerce announced that the government would ban PVC toys containing phthalates for children under three years old. The legislation was finalised on 15th January 1999 and bans soft PVC teething toys immediately, with a ban on the sale of all soft PVC toys for children under three from July 1999.

Italy

a) National Government

In early March 1999, the Ministry of Industry informed the European Union it was intending to ban soft PVC toys containing phthalate additives. The ban would begin 3 months from adoption.

b) Regional, City and Community

During 1998, 37 provinces and municipal councils in Italy, including Rome, Milan and Turin, voted in favour of a motion which calls for a phase-out of the use of soft PVC in toys for children under three and for their withdrawal from the market. In Turin, they also

voted on a resolution to remove all such toys from public schools under the City Hall's jurisdiction.

India

a) National Government

In September 1998, the Ministry of Environment and Forests notified the Bio-Medical Waste (Management and Handling) Rules. One of the key features of the rules is that they clearly specify a ban on incineration of chlorinated plastics in medical waste incinerators, which lead to very toxic pollutants like dioxin and furans. The toxic metals in the incineration ash shall be limited within the regulatory quantities as defined under the hazardous waste (Management and Handling) rules 1989.

International

c) Other organisations

Firefighters

The **International Association of Firefighters** made the following statement:

"Due to the intrinsic hazards, we support efforts to identify and use alternative building materials that do not pose as much risk as PVC to firefighters, building occupants or communities."

(Letter to the Concord, Massachusetts School Board dated April 14, 1998, signed by Richard M. Duffy, Director Dept. of Occupational Health and Safety, Washington DC.)

Youth

The **Youth Hostel Association** internationally has adopted an environmental charter which includes not using PVC (Communication with New Zealand branch of YHA, August 1994).

Japan

a) National Government

Concerns about dioxin from garbage incineration led the Japanese government to enact a new container and wrapping materials law requiring producers to recycle waste products by the year 2000. The law prompted several major Japanese makers of household goods and cosmetics, including the Shiseido Co., Kao. Corp and Lion Corp. to announce timetables by which they would switch to polypropylene and other materials for various types of cosmetic, food and pharmaceutical packaging. ('Japanese Makers to Switch from PVC to Eco-Based Containers', Nikkei, Tokyo, January 14, 1998.)

b) Regional, City and Community

Both Abiko City and Narasino City's assemblies (in the Chiba prefecture) have passed resolutions asking their cities to reduce the amount of PVC used, because of the burden it creates when incinerated. A similar written resolution was passed by the congress in Nakano (Tokyo)

Luxembourg

c) Regional, City and Community

In 1991 the Council of the capital of Luxembourg passed the technical recommendation for sewage systems. It says that no new PVC pipes will be allowed for sewage systems in the capital. It covers the public as well as the private building sector.

Netherlands

a) National Government

On July 16, 1997, after testing teethingers, rattles and toy figurines sold for babies, the Netherlands Ministry of Health found that the Dutch advised total daily intake of DINP would be exceeded by 5- 50% for all babies sucking or chewing on PVC teethingers. 'Although the phthalate concentration and migration values found do not result in an immediate danger to the health of babies, negative effects cannot be excluded. Exceeding of the total daily intake is undesirable; therefore, the ministry urges major retailers to prevent babies from being exposed to phthalates in toys.'

b) Regional, City and Community

The four biggest Dutch towns – Amsterdam, Den Haag, Rotterdam and Utrecht – have a list of construction materials in order of preference. PVC belongs to the list of materials to 'avoid' or 'last choice.'

Mexico

a) National Government

The Health Ministry announced on November 30, 1998 that it would stop the import of soft PVC toys for small children and withdraw these products from sale.

The Netherlands

The official policy of the Dutch Government is that 'PVC applications for which no feasible system of recycling and reuse can be established the use of more environmental sound alternative material is to be preferred.' (Directorate General for Environmental Protection, Ministry of Environment, letter 14 January 1994).

This policy was 'modified and can be restated as follows:

1. Encourage the recycling of PVC.
2. In order to reduce the volume of flue gas treatment residue continue, at least until 2000, to reduce the use of PVC in products which cannot be recycled, unless less polluting alternatives do not exist.
3. Reduce the volumes of flue gas treatment residue going to landfill from incinerators using dry flue gas treatment by modifying the flue gas treatment process or the method of disposing of the residue.
4. Be circumspect in using phthalates as plasticisers for PVC.

5. Reduce the use of lead compounds as PVC stabilisers without increasing the content of tin stabilisers in virgin PVC.’
(Position paper on the Netherlands on PVC, Ministry of Housing, Spatial Planning and the Environment, 31 October 1997).

Norway

a) National Government

On December 18, 1998 the Norwegian EPA proposed a ban on the use of phthalates in toys sold for children under three years old that would come into force on July 1, 1999.

b) Regional, City and Community

Norway’s second largest city, Bergen, made a decision in 1991 to phase out PVC in public buildings.

Philippines

a) National Government

On October 24, 1997, the Philippines Department of Health issued a press statement, citing Greenpeace’s findings, and called on all toy retailers and manufacturers to remove from sale ‘soft PVC toys and infant care products for infants/children under 3 years of age’. The government also recommended the use of alternatives to soft PVC that do not require additives or softeners.

On June 23, 1999 the Philippine government approved the Clean Air Act, which includes a total ban on incinerators. The precedent setting law signed by President Joseph Estrada makes the Philippines the first country in the world to approve a nationwide ban on incineration, and includes measures to:

- 1) Ban incineration totally (incineration being defined as the burning of municipal, bio-medical and hazardous waste for disposal), exempting cremation (for carcasses and body parts only) and traditional forms of burning for agricultural purposes.
- 2) Within three years, phase-out the use of existing medical waste incinerators, provided that such units shall be limited to the burning of pathological and infectious wastes and subject to close by monitoring by the Department;
- 3) Local government units are mandated to promote, encourage and implement a comprehensive ecological waste management scheme that includes waste segregation, recycling and composting;
- 4) Mandate the Department of Environment and Natural Resources to promote and encourage the use of ecologically safe NON-BURN technologies for the handling, treatment and destruction and disposal of unsorted, unrecycled, uncomposted municipal, bio-medical and hazardous wastes.

Russia

a) National Government

In March 1998 the Russian Federation agreed a State Standard for a Chlorine Free Label. It is due to come into force in July 1998. The label is voluntary and its main provisions are:

‘This standard is applied to the label, which means “Totally chlorine free”, and sets out form, dimensions, general requirements and rules of the label use, aimed at confirming the fact that the products correspond to the requirements of total lack in them of artificial chlorinated compounds, dioxins included; presence of the label guarantees that during the production, processing, reprocessing and utilisation of the products the environment is not polluted by chlorinated organic compounds, and informs consumers of this.’ (See 3.4).

Spain

a) National Government

In 1995 the Spanish Parliament included a goal of 20% reduction in the use of PVC packaging in Spain over the next five years.

Instituto Nacional de Consumo

In February 1998 the National Institute of Consumption, of the Ministry of Health and Consumption, withdrew five infant teething rings from the market because they exceeded levels of phthalates permitted by the Institute.

The manufacturers and importers voluntarily withdrew four of the products, and the trademarks are:

- ‘Anillo Dentición’, trademark Smart Baby;
- ‘Masticador’, shape of a car, trademark Chavalín;
- ‘Teething ring’, shape of sailing boat, trademark Prenatal, Ref. 409.227
- ‘Teething ring’, shape of a hand, trademark Suavinex, Ref. 97032708 CN 303834

The teething ring named ‘Fruta para morder refrescante’, trademark The First Years, model refrigerated apple, was withdrawn by the inspection services.

b) Regional, City and Community

In November of 1996 the parliament in Andalucía approved a resolution on PVC which includes several measures, including a phase-out in the use of PVC in health care institutions.

Resolution of the Parliament of Catalunya

On May 1996 the Parliament approved a non law proposition to phase out PVC in food packaging with the aim of its total elimination. The text approved by the territory’s political commission on May 28, 1997 states:

‘The Parliament of Catalunya urges the Generalitat Government to, starting from their proper competence on industry, commerce and food matters, forbid the manufacture and use of PVC, in any type of packaging for food’.

b (ii) PVC-free cities

52 Spanish cities have been declared PVC free cities, 43 were declared during 1997 and the beginning of 1998 (See 3.5). The 'standard' measures approved are:

1. To subscribe to the decision of the Spanish Senate of 19-12-95, which asked for a state regulation on PVC.
2. To ask the regional and central government to consider the risks for public health of the consumption of food packed in PVC, as well as the risks from its production and disposal, and therefore, in order to regulate its uses.
3. That the municipality, or its entities, will not buy or use mineral water or other drinks or food packed in PVC, in any of their activities. In first instance glass bottles are recommended followed by PET or other alternative plastics that don't harm public health.
4. To recommend to all its citizens not to buy food products packed in PVC, due to the risk it may cause to humans and other living organisms.
5. To elaborate a municipal strategy that will allow in the medium term the substitution of PVC construction materials with other alternatives such as wood, in new installations, constructions, renovations, etc., carried out or funded by the municipality, with the objective that the city of...will become PVC-FREE.
6. To communicate this agreement to all institutions, and departments affected by it.

In addition to these measures, the following agreements are notable:

Barcelona

This city of approximately 2,000,000 inhabitants, was declared in May 1997 'free of chlorine products' and established measures to phase out these products, among them PVC plastic, in favour of cleaner alternative materials. Within 6 months the City Council will present an evaluation of the uses of PVC and other chlorine products in all their activities, buildings and services with municipal involvement, and a plan for its substitution. (See 3.6).

Bilbao

In December 1997, the Bilbao City Council, a municipality of 400.000 inhabitants, approved a motion in which they 'omit the use PVC toys in all infants departments of their responsibility, to prevent children being exposed to toxic products' and urged the Government of the Vasque country to request the voluntary withdrawal of these products from the market. (See 3.6).

Lloret de Mar

This city council approved in January 1998 a motion on 'the withdrawal of PVC infants toys in the Municipal day nursery'. (See 3.6).

In November 1997, this same city council, approved a 'Basis for the concession of grants in the introduction of renewable energy and the substitution of PVC'. Among other measures they adopted a reduction of 10% in the cost of building site licences to promoters that avoid using PVC in the construction of houses. The concession of these grants will be limited by the established economic endowments in the municipal budgets.

Madrid – Juvenile Ombudsman

In March 1998, the Juvenile Ombudsman (Defensor del Menor) of the Autonomous Community of Madrid, Javier Urrea, expressed to Greenpeace his concern on the subject of soft PVC toys, and will do all within his power to safeguard children's health.

c) Other organisations

Consumers Organisations

CECU

In September 1997, the Confederación de Consumidores y Usuarios (CECU) – Consumer and User Confederation – asked the Ministry of Health to establish mandatory labelling of the materials used for the manufacturing of the product, in the interests of consumer protection.

The CECU also recommends the elimination, when possible, of the consumption of PVC infant products, and that the toys purchased before their withdrawal from the market should be returned to the store, asking for a refund.

FUCI

In February 1998 the Federación de Usuarios-Consumidores Independientes (FUCI) – Independent Users-Consumers Federation – joined the Greenpeace campaign alerting consumers about the risks derived from PVC toys.

‘...from FUCI we demand a legislation that clarifies the actual situation of products with the mentioned substance, as well as an information campaign promoted by our own Ministry so as to alert and inform consumers of the risks of using these products’.

‘Furthermore, the FUCI demands a comparison and modernisation of the consumer protection legislation in accordance with the unification situation of the European legislation and to protect the Spanish consumer at the same level they’re protected in other European countries such as Denmark or Austria’.

The FUCI also demands that retailers should withdraw these products until the situation is clarified.

Parents Organisation – CEAPA

In October 1997 the Confederación Española de Asociaciones de Padres y Madres de Alumnos (CEAPA) – the Spanish Confederation of Associations of Students Fathers and Mothers – sent a letter to the Minister of Education in which they ask the Ministry of Education to withdraw soft PVC toys from all infant educational centres so as to preserve children’s health.

Sweden

a) National Government

There is a relatively long history of proposed restrictions on PVC in Sweden.

In 1994, the ‘Ecocycle Committee’, a group appointed by the government, recommended a phase out of ‘today’s’ soft PVC, as well as rigid PVC containing hazardous additives’. They also said in their recommendation that, ‘PVC has no future.’

Public awareness of the problems with PVC is good in Sweden. Concerns about hormone effects from exposure to additives in PVC has triggered the Swedish government to institute a voluntary industry policy to ban all production of PVC, Anna Lindh, Sweden's environment and natural resources minister told BNA in 1996. ('Government Concern About Hormone Effects Spurs Policy Seeking Ban on PVC Production' BNA International Reporter, May 15, 1996).

In November 1995, the Swedish Parliament voted to phase out both soft and rigid PVC speedily, following a recommendation from the Committee for Agriculture, which stated:

'The Committee's opinion is that it is possible to make an overall assessment of today's PVC in all its parts from chlorine manufacture to waste. It is the Committee's opinion that such an overall assessment shows that PVC cannot be part of an eco-cycle society. Today's plasticised PVC, as well as rigid PVC with environmentally harmful additives, should therefore be phased out. The phase out should begin speedily.'

(Swedish Parliamentary Standing Committee on Agriculture, 1995)

The decision by the Parliament led to the following comment by Anna Lindh, Swedish Minister for the Environment:

'The question is not whether to phase-out PVC, but how PVC should be phased out'.
November 1995

Over the years, the government has postponed its own recommendations on PVC, by ordering several additional studies, which have been carried out by both the Swedish EPA and KemI. Both authorities have been negative to a general PVC phase out, but are anxious to phase out certain additives.

In June of 1996 the government appointed a chemical committee to draw up a proposal for future chemical policy in Sweden as it relates to the European Union. One sub-group within the committee looked at policies concerning PVC. The Chemical Committee concluded that PVC 'does not belong in an eco-cyclic society' and recommended that the government immediately initiate negotiations with interested parties and take other measures to phase out all new uses of PVC.

On 28 April 1999, the Swedish Government adopted a new Environment Bill as a response to the Chemical Committee's report.

The new Bill incorporates the goals set by the North Sea and Visby Declarations, to eliminate the discharge and leakage of hazardous substances into the Baltic and North Seas by the year 2020.

The new Swedish chemical policy is based on the concept that inherent properties of a chemical substance – such as its bioaccumulative capacity and stability – will be determining factors for deciding whether it can be released on the market. In addition, chemical substances will be treated in groups.

Annex 1 of the Bill (Further guidelines for a chemicals policy), states that the following guidelines should be applied:

“*New products introduced onto the market are largely
-Free from man-made organic substances that are persistent and bioaccumulative,
and from substances that give rise to such substances and

- free from man-made substances that are carcinogenic, teratogenic and endocrine disruptive - including those which have adverse effects on the reproductive system”

“*Man-made organic substances that are persistent and bioaccumulative, occur in production processes only if the producer can show that health and the environment will not be harmed...”

In addition, the specific measures against certain hazardous substances are included. The following relate to chlorine production and PVC:

Lead ... all use of lead in PVC products should cease before the year 2002. The cessation should be achieved by voluntary measures from industry.

Mercury ... It's the opinion of the government that the use of mercury within the chlorine alkali industry must stop before the year 2010.

For short chained chloroparaffins, the government says that all remaining use of these should be phased out by the year 2000, and add that also all use of chloroparaffins as flame retardant or softener in PVC should cease by that time.' (Voluntary measures)

Phthalates etc

It is the government's opinion that 'all use of phthalates and other softeners with hazardous or suspected hazardous effects on health or environment should be phased out by voluntary measure.'

More specifically, the government suggests that all use of DEHP (and other softeners etc) in PVC for outdoor use such as tarpaulins, covered metals and corrosion preventers for cars should be phased out by 2001.

Other uses of DEHP as softeners in PVC - except for medical uses - should be phased out by 2005. A ban on phthalate softeners in PVC toys for children under three years old was initiated in September 19, 1998. The proposal also includes a provision to prohibit other chemical additives from replacing phthalates. The ban is expected to come into force in mid 1999.

Tin: The use of tin stabilisers in PVC should be reduced by voluntary measures by producers and importers. The use of the most hazardous tin stabilisers should be phased out quickly. The government will order KemI to develop a phase out plan for the most hazardous tin stabilisers.

"When it comes to reducing the environmental load from PVC, the government concludes that Sweden is a small market from an international perspective, and on that basis it would be difficult to introduce national demands on products that are made of PVC. Also, it can be stated, that the Swedish industry has shown that it is possible, without extraordinary costs, to in certain product groups replace hazardous additives in PVC, and in other product groups to replace PVC with other materials. It is important that producers and importers continue to work for a reduction of the environmental load from PVC, develop better PVC and substitute the use of PVC in applications/uses where PVC can be suspected to cause negative effects on health or environment. The government will follow this development closely, and is prepared to impose additional measures, e.g bans, if a reduced environmental load from PVC is not achieved on a voluntary basis in compliance with the stated goals."

b) Regional, City and Community

128 communities in Sweden, including Gothenburg, have already implemented restrictions on the use of PVC in public buildings.

c) Other Organisations

Hospitals

The 'Landstingsfoerbundet,' which runs the hospitals, has a policy which 'agree(s) with the Ecocycle Committee's opinion that the use of today's soft PVC should be phased out. That should also be the case regarding the stabilizers the committee points out as hazardous'. In a shopping guide for hospital products produced together with 'Kommunfoerbundet' (the umbrella organization of all Swedish communities) they advise against the purchase of chlorinated plastics.

Also, the state-owned company responsible for all sales of pharmaceutical products in Sweden 'Apoteksbolaget', has a clear anti-PVC stand.

Switzerland

a) National Government

In 1990 the Swiss government banned the use of PVC in mineral water bottles. However, in June 1999, the Swiss environment ministry announced plans to lift the ban, as part of a proposal to amend Switzerland's drinks container waste law. The government stresses, however, that an end to prohibition of PVC bottles is intended to placate the European Commission and the PVC industry rather than lead to an increase of the plastic's use in Switzerland. A 1985 voluntary agreement with drinks manufacturers remains in force and continues to require them to reduce the use of PVC. In addition, the government plans to introduce what one official called a "prohibitive" deposit on PVC bottles, which would encourage their return to sales outlets rather than disposal.²

b) Regional, City and Community

The Swiss state of Basel and the City of Basel itself have published guidelines for environmentally-friendly materials which list PVC as environmentally harmful and propose alternatives.

UK

a) National

The Department of Environment Transport and the Regions recently published a document called Greening Government on its website (<http://www.environment.detr.gov.uk/greening/greenpro/greenpro.htm>). It is intended as a guide to buyers and suppliers and basically advises against the use of PVC and organochlorines in general. 'Toxic organochlorines include CFC's (which destroy the ozone layer), pesticides, dioxins, chlorine bleach (used in paper manufacture) and PVC plastics. They are often bio-accumulative and persistent in the environment. Alternatives to

² ENDS Daily - 04/06/99

bleaching include oxygen bleaching and using UV light. Alternatives to PVC include ethylene based plastics’.

b) Regional, City and Community

In July 1998, Newhaven Town Council became the first British local authority to adopt a PVC free policy, which includes avoiding PVC in all purchases, and in refurbishing or constructing public buildings, except where an alternative cannot be found at a reasonable cost. The Council also aims to encourage other Local Authorities and agencies to implement PVC restrictions. (See 3.7).

The following local authorities have policies not to fit PVC windows: Carlisle City Council Gateshead Metropolitan Borough Council, Eden District Council, Redcar and Cleveland Council, Derwentside District Council, Teignbridge District Council, Castle Morpeth Borough Council, St Edmundsbury Borough Council. Leicester City Council recommends departments not to buy or specify PVC.

The following Housing Associations have policies not to fit PVC windows: The Gwalia Housing Society will not specify PVC window or doors, Family Housing Association (Birmingham) Ltd, Liverpool Housing Action Trust, The Home Group (Newcastle upon Tyne), Perthshire Housing Association Ltd, Gloucestershire Housing Association Ltd, Cadarn Housing Group Ltd (Barry, Wales), Elderpark Housing Association Ltd (Glasgow), Waltham Forest Housing Action Trust, Broomleigh Housing Association (Beckenham), Cds Housing Association (Liverpool), Langstane Housing Association Ltd (Aberdeen).

c) Other Organisations

Unions

‘..the FBU is now particularly concerned about the safety of PVC based building materials, that are used in the construction and fitting out of buildings, when involved in fire..... the FBU welcomes the work done by Greenpeace to create a directory of alternative building materials which are PVC-free and we would recommend to you to make use of their report (Building the Future, Greenpeace UK) when planning new buildings or the refurbishment of existing ones.’ (Ken Cameron, General Secretary, Fire Brigades Union, open letter, September 20, 1996).

USA

a) National Government

In June, 1996, the U.S. Consumer Product Safety Commission issued a warning to consumers to avoid PVC mini-blinds which contained lead additives. A number of retailers, such as Home Depot, responded by immediately removing the lead-containing vinyl miniblinds from their shelves. Day care centers, state health officials and others grew alarmed by information that the PVC industry had not provided about its own products.

On December 2, 1998, the Consumer Product Safety Commission (CPSC) announced a voluntary withdrawal on the manufacturing of teething toys containing phthalates (made of soft PVC) and requested retailers withdraw these products from their shelves.

b) Regional, City and Community

The Municipal Council of the **City of Rahway, New Jersey** prohibits the use of PVC or polystyrene by retail food vendors located within the city, and requires them to use degradable packaging (Ordinance No: 0-53-96 providing uniform packaging requirements for retail food establishments, Office of the City Clerk, Rahway, New Jersey)

The **City of Lake-in-the-Hills, Illinois**, banned the use of CPVC pipe for construction in March 1996, citing problems with using pipe-thawing equipment for non-metal piping, worker exposure to glues and solvents during installation, and other issues. (Dave Selleck, Building Commissioner, memo to President & Board of Trustees, Lake-in-the-Hills, Illinois, March 25, 1996.) In **Kansas, the state Department of Health and Environment** found vinyl chloride monomer leaching out of PVC pipes installed to carry drinking water 20 years earlier. Other studies have shown VCM and organotin migration from PVC pipe into water. ('Kansas VCM Contamination,' David Eckstein, Unibell PVC Pipe Association, memo 1993.) A report from Graz, Austria has outlined the main disadvantages of PVC after 30 years of use. The report concluded that the number of PVC pipework defects was rising and that repair costs were substantially higher for PVC than for other materials. The cost of installing PVC was not lower than other materials such as ductile steel. (Weinbauer, K.P., 'Analysis of Supply Lines Construction Costs,' report commissioned by the City Authorities, Graz, Austria, June 1992.)

On August 20, 1998 the **Washington State Department of Ecology** announced its long-awaited report on dioxin sources, and along with it, issued a "call to action" to the state of Washington to commit to a strategy 'to virtually and permanently eliminate all releases of toxic, persistent and bioaccumulative chemicals into the state's environment (land, air and water) by 2025.'

February 2, 1998. **Oakland's City Council** unanimously passed a resolution entitled, "Establishing a Regional Task Force and Policy on Dioxin, Public Health, and the Environment." which included resolutions that it 'promotes less-toxic, non-chlorinated, sustainable alternative products and processes, such as chlorine-free paper and PVC-free plastics, to the extent possible' and that it 'urges Oakland health care institutions to reduce PVC use and eventually become PVC-free'.

March 22, 1999 the **San Francisco** Board of Supervisors voted unanimously to adopt the resolution, "Establishing Dioxin Pollution as a High Priority for Immediate Action for the City and County of San Francisco in order to restore Water, Air, and Total Environment Quality." San Francisco becomes the first county in the country to pass a resolution whose intent is the elimination of dioxin wherever possible.

c) Other Organisations

Hospitals and health care

The **American Public Health Association (APHA)**, the nation's largest association of public health professionals passed Resolution 9304 in 1994 calling for an industrial chlorine phase-out. (American Public Health Association, 1994. Resolution 9304: Recognizing and addressing the environmental and occupational health problems posed by chlorinated organic chemicals. American Journal of Public Health 84(3): 514-515.)

'The only feasible and prudent approach to eliminating the release and discharge of chlorinated organic chemicals and consequent exposures is to avoid the use of chlorine and its compounds in manufacturing processes.'

In 1996, the APHA followed up on its previous commitment with resolution # 9607, 'Prevention of Dioxin Generation from PVC Plastic Use by Health Care Facilities' which urged health care professionals to adopt policies leading toward the eventual elimination of the use of PVC plastic products. (American Public Health Association, 1996. Resolution # 9607.)

The APHA is not alone in the position it takes. More than 50 groups — unions, community organizations, environmental groups, physicians, and health care institutions — are participating in the **Health Care Without Harm Campaign**. One of the goals of the campaign is 'to phase out the use of PVC and persistent toxic chemicals, and to build momentum for a broader PVC phase out campaign'. (Health Care Without Harm, mission statement. To contact the campaign call: (703) 237-2249.)

In June 1998 the **Council of the Chicago Medical Society** passed a resolution on PVC (see 3.8). The CMS is the largest county medical society in the country representing between 7 and 8,000 of the approximately 11,000 practicing physicians in Cook County, Illinois. The following are extracts from the resolution:

'WHEREAS, highly effective programs for the reduction of hospital waste have been initiated in the U.S. and programs for the substitution of PVC are in place in some hospitals in Europe, therefore be it

RESOLVED, that the CMS encourage the study and evaluation of alternative products and practices that will lead to the reduction and elimination of dioxin release into the environment from medical products composed of chlorinated hydrocarbons;'

The **Minnesota Medical Association** House of Delegates passed a strong resolution in support of PVC substitution at its annual meeting in October 1998, which says: 'that the Minnesota Medical Association acknowledge the role that polyvinyl chloride (PVC) plays in the production of dioxins, acknowledge the environmental and physical threats associated with dioxins, acknowledge the need to reduce the use of PVC products, and support efforts to address dioxin as a pollutant through strategies including, but not limited to, material substitution of PVC products.'

The **California Medical Association** House of Delegates passed a resolution in February 1998 to 'encourage the study and evaluation of alternative products and practices that will lead to the reduction and elimination of dioxin release into the environment from medical products composed of chlorinated hydrocarbons;'

The 1997 **American Nurses Association** House of Delegates produced a report on the Reduction of Health Care Production of Toxic Pollution which recommends promoting 'alternatives to products made of PVC'.

2 Market

Summary

An increasing number of companies are phasing out the use of PVC and chlorinated substances, in response to consumer demand, Greenpeace campaigns and pressure of regulations (in particular on the recyclability of materials, and stringent emission standards for incinerators). In many cases companies have also switched to alternative materials for functional reasons.

The trend began in the early 1990's in the Scandinavian and German speaking countries. Furniture retailer **IKEA** and toy manufacturer **LEGO** were among the first companies to initiate a phase out, and are now virtually PVC free. At the same time supermarkets in these countries began to phase out PVC in packaging, for example **Migros** in Switzerland and **Tengelmann** in German; supermarkets in countries like Austria and Germany are now virtually PVC free for packaging.

The rejection of the use of PVC in packaging spread to France and Spain, with a major proportion of water bottling companies switching from the use of PVC to PET, including market leaders **Nestle** (owner of brand names **Perrier**, **Vittel** and others) and **Evian**.

In parallel, with increasing numbers of local authorities going PVC free, many new buildings were built with minimal use of PVC (for example avoiding PVC windows, doors, pipes, floorings, and cabling). The highest profile of these projects is the **Sydney 2000 Olympics**, which has avoided the use of PVC wherever possible, as well as incorporating many other environmental objectives such as the use of renewable energy.

Following the launch in 1997 of Greenpeace's 'Play Safe' campaign about the dangers of soft PVC toys, a large number of Toy companies are now phasing out the use of PVC, for example Italian market leader **Chicco**, Japan's largest toy producer **Bandai**, **Playmobil** of Germany and **Ravensburger** of the Netherlands. A larger numbers of retailers have withdrawn these products from their shelves.

The move to phase out PVC is now expanding into other sectors, and other regions of the world, notably in the USA and Japan. Shoe and sports equipment manufacturers **Nike** announced in 1998 that they had begun a phase out. Telecommunications companies **German Telekom** and **Nippon Telegraph and Telephone** of Japan are also going PVC free.

Most recently Greenpeace has targetted the use of soft PVC in IV bags by the medical sector. **Baxter International Inc.** one of the world's largest medical supplies manufacturers is committed to exploring and developing alternatives to PVC and to substituting IV bags.

This report compiles the available information on commitments to phase out PVC by companies. It is organised by industrial sector. There is also a country by country index in Appendix X. and a company index

Car manufacturers

Many auto makers are already working to phase out PVC. A number of companies, including Nissan, Volkswagen, BMW and Adam Opel AG, GM's European subsidiary, are already substituting for PVC³.

Daimler Benz has already phased out the use of PVC in underbody coating and in the interior of all cars produced since summer 1995⁴ and expects to phase out all PVC uses within five years⁵.

Nissan announced in 1997 that they have developed an alternative for PVC cables that they will start using in their cars starting in Autumn 1997⁶.

Toyota has developed an alternative plastic known as 'Toyota Super Olefin Polymer (TSOH)' for use in car interiors and as bumpers, but will still use PVC for some uses because of cost⁷.

Opel does not use PVC anymore in car interiors⁸.

Volkswagen AG is looking for alternatives with better material characteristics⁹.

BMW's materials specifications give preference to materials other than PVC for dashboards, trim and wire coating, as 'automobile recycling rules in parts of Europe favor other polymers over PVC, in spite of MBW's recognition of PVC's price-performance qualities¹⁰. BMW offers PVC-free dashboards¹¹.

Mercedes Benz does not use PVC in car interiors¹².

Peugot is reducing its use of PVC in both interior and exteriors, due to weight and to prevent recycling problems¹³.

Auto suppliers

The auto supplier **Haartz Corp.** of Acton, Massachusetts is taking its first steps to move into olefinic interior panels stating that European legislation is expected to change that could affect recycling laws in the US dramatically. Their Sales Director is quoted as saying, "the switch to olefins could happen very quickly."¹⁴

³ 'Plans for PVC-free Car Will Boost PUR Uses,' Modern Plastics, November 1993, page 13.

⁴ Daimler Benz, 1997

⁵ Letter to Greenpeace Germany, 30 May 1997.

⁶ Nissan Motor Co Ltd, Press Release, March 24, 1997.

⁷ Toyota Focus Management Letter, 1997

⁸ personal communication, 1997.

⁹ Letter from VW, May 27 1997

¹⁰ Chemical Week, January 18 1995

¹¹ letter from BMW, May 27 1997

¹² letter from Daimler Benz, May 30 1997.

¹³ Letter from Peugeot, June 23 1997.

¹⁴ March 22, 1999 Plastics News.

Delphi Interior Systems a unit of Delphi Automotive, Michigan, the largest independent auto-parts producer worldwide, is providing potentially the first thermoplastic olefin skin on a North American-built vehicle¹⁵.

Lear Corp, Michigan, is looking into new technology using expanded polypropylene bead foam. The moded foam can make an entire, energy-absorbing instrument panel, integrating skin, substrate and reinforcing beam. 'U.S.-based automakers are challenging the industry to come up with new instrument panel materials that shy away from PVC', said Tom Ottman, manager of Lear's instrument panels¹⁶.

Battery manufacturers

After secondary lead smelters in the U.S. identified PVC separators used in lead acid batteries as a chlorine-donor for dioxins formed in the smelters, battery manufacturers drastically reduced their use of PVC in batteries, causing EPA to drop new proposed dioxin emission standards. In this way, the deselection of PVC by product manufacturers allowed the recycling industry to avoid the expense of additional pollution control equipment and reduced the bureaucratic burden of developing and enforcing dioxin emissions standards¹⁷.

Construction industry

Sweden

In May 1996, two of Sweden's leading construction companies, JM and Svenska Bostder, announced that they are phasing out their use of PVC. Other major Swedish construction companies, NCC, SIAB and Skanka plan to follow. SIAB's environmental director Eva Mensson said 'I don't think anyone in the construction business today believes there is a future for PVC.'¹⁸.

Construction projects

See also the Greenpeace UK report 'Building the Future' for examples of PVC free buildings.

Austria

The SMZ Ost Hospital in Vienna is almost entirely PVC free, and other hospitals in Austria are following SMZ-Ost's example.

The new governmental centre for the province of Lower Austria in St. Poelten was built without PVC wherever possible, following Lower Austria's decision to phase out PVC in February 1993.

Australia

¹⁵ Plastics News, March 8, 1999.

¹⁶ Plastics News, March 8, 1999

¹⁷ Versar, Inc., 'Formation and Sources of Dioxin-Like Compounds: A Background issue Paper,' prepared for Matthew Lorber, U.S. EPA National Center for Environmental Assessment, November 7, 1996.

¹⁸ Dagens Nyheter, May 21 1996.

The Australian Stadium 2000 Consortium which won the competition to design, construct and build Sydney's Olympic 110,000 seater stadium included a number of environmental features in their proposal, including a commitment to minimise the use of PVC. In particular the Consortium is committed to using alternatives to PVC in plumbing, drainage and flooring materials for the project. The Environmental Guidelines for the Sydney 2000 Olympics further explain that 'Sydney is committed to minimising and ideally avoiding the use of chlorine-based products such as PCBs, PVC and chlorine bleached paper.' For more information see Greenpeace Australia's Olympic updates.

The builders of the Olympic Athlete's Village have managed to reduce PVC use by 80% compared to a regular housing development. Much of the remaining 20% which remains is a result of Government and Health regulations which only specify PVC for use. If not for these outdated regulations, virtually all of the PVC in the Village could have been eliminated.

The Olympic Co-ordination Authority (OCA) have recently issued their first official review of ESD initiatives of the Games venues¹⁹ – which provides some examples where PVC use has been minimised or avoided.

Some examples taken from the document include:

(a) Hotel: PVC has been eliminated from:

- all electrical services, light, power cabling, including sub-mains
- general communications and computer cabling
- wet area flooring
- hydraulic services (cold and hot water systems, reclaimed water reticulation, in-ground sanitary drainage and in-ground stormwater drainage)

(b) Muti-Use Arena

- PVC will not be used in plumbing stacks and downpipes
- PVC will not be used in seating, floor and wall finishes

(c) Showground

- Polyethylene (14 kilometers) has been used for main trunk services
- Above ground pipework is copper except for fire services which will be galvanised steel in the Grandstand
- Teflon glass coating has been used in fabric shade structures in lieu of PVC

(d) Stadium

- PVC will not be used in plumbing and seating
- Where possible the PVC content in cabling has been reduced
- Teflon coated glass fibre for the main arch shading membrane is being used in lieu of PVC

(e) Shooting Centre

- Polyethylene will be used in plumbing and drainage

Unfortunately, not all companies involved in the construction of the Olympic Village were willing to avoid PVC. In particular, Telstra, the Australian national telecommunications company, refused to switch from PVC conduits despite the availability of viable non-PVC

¹⁹ 'Compendium of ESD Initiatives and Outcomes for OCA Facilities and Venues, 1st Edition, Olympic Co-ordination Authority, 1998.

alternatives. To the company's credit, efforts were made to significantly reduce the amount of PVC conduits used in Olympic Village phone and data lines.

In addition, official Olympic sponsor Westpac Bank produced its first set of Olympic mascot toys with PVC despite the Olympic Environmental Guidelines commitment to reduce or eliminate PVC. After consulting Greenpeace, toys were packaged with warning labels stating that the mascots were not suitable for children under three who would be most likely to put the toys in their mouths. Greenpeace studies have shown that PVC plastic toys contain phthalates that can leach out and be ingested when chewed. Westpac did, however, agree to greatly reduce the number of mascot toys produced and are in dialogue with Greenpeace over a possible switch to PVC alternatives.

Denmark

The Society of Danish Engineers are building their new headquarters in Copenhagen entirely free of PVC. It is expected ready by August 1998. Interested architects can contact Society of Danish Engineers, Karl Aage Hagelund E-mail kah@ida.dk, phone +45 33156565.

Germany

In Berlin, the Museum of Jewish Culture the Transport museum and over 130 other buildings have been built with restrictions on the use of PVC.

Netherlands

'Designed in conjunction with William McDonough & Partners, **Nike's** new European headquarters in Hilversum, the Netherlands implements many ecologically intelligent (TM) design features. For example Nike has implemented a 'no PVC' regime. All suppliers and subcontractors have been asked to ensure that they do not provide Nike with or use PVC materials or products in connection with the construction and fitting of the site. All piping for the electricity, sewage, grey water and heat systems is PVC free. All data cabling and the majority of electric cabling are PVC free.'²⁰.

Norway

The Krohnengen school and many other buildings in Bergen, Norway have been built avoiding the use of PVC since a 1991 decision to phase out PVC in public buildings.

Spain

The guidelines for the City of Seville's application for the 2004 Olympics include a materials policy which states: 'Therefore products derived from chlorine or other toxic materials must not be used. Specifically, we must avoid the use of PVC in construction, infrastructure, accessories and any other complements in Olympics facilities.'

Construction of the Olympic stadium, villa and others will begin as they will anyway become a football stadium and student residence.

United Kingdom

Construction Resources Centre: Southwark London – PVC free, except some minor parts.
The Reserve Centre at Redgrave and Lopham Fen,

²⁰ statement to Greenpeace Business, July 10 1998.

Earth Centre: Doncaster, PVC free (Architect Andy Theobald, partner Fielden Clegg Design)

Hockerton Nottinghamshire – 5 domestic houses built without PVC cables or pipes. (Architects Robert and Brenda Vale)

The new **Tate Gallery of Modern Art** has minimised the use of PVC. (Alternatives have been used for all piping (rainwater, soil and waste) roofing materials and electrical cables. PVC remains only in sleeving for some underground pipes).

A key feature of the **Environment Agency's** new Lower Trent area office in Nottingham is a reduced use of PVC.

USA

Some commercial buildings (like the World Trade Center in New York), US Navy vessels and Newfoundland offshore drilling applications have chosen to replace PVC jacketed power cable²¹.

In Washington, the **Environmental Protection Agency's** new headquarters will be mostly vinyl-free. The project, to be completed in 2002, will cover 2.5 million square feet in five new buildings and parts of two others. The architectural and interior design firm Gruzen Sampton opted for wood furniture, linoleum flooring, marble chip shelving and polypropylene upholstery. The buildings' carpeting, however, will have PVC backing.

The materials used in place of PVC are 30-50 percent more expensive, but they offer increased performance in most cases. In addition, prices for alternative materials have been decreasing in recent years as they grow in use and acceptance²².

Cosmetics, detergents and household goods manufacturers

Germany

Several cosmetics producers, like **Wella**, no longer use PVC packaging.

Japan/Global

Proctor & Gamble: In a statement to Greenpeace Japan (1998), they said 'P&G's world wide position is to use PVC only when there are no technically feasible or economically affordable materials. P & G in Japan also follows the Company's global position and now only very limited packages use PVC. Consistent with our global position, Japan P & G is working to eliminate the use of PVC in packages, hopefully by 2,000, as we believe we will soon have alternatives for our specific uses.'

Japan

Shiseido, the largest cosmetics producer in Japan and among the top three in the world, formulated on January 12 1998 an environmental report that, among other topics, includes the halting of the use of polyvinyl chloride as a packaging material by the year 2000²³.

²¹ CHEMinfo Services Inc. 'A Technical and Socio-Economic Comparison of Options to Products Derived from the Chlor-alkali Industry' Final Report, prepared for Environment Canada, November 1997.

²² Plastics News, 19 November 1998, Experts battle over PVC as building material.

²³ COMLINE Daily News Chemicals and Materials, January 19, 1998.

Other Japanese manufacturers of cosmetics, detergents and other common household goods are phasing out PVC. **Kao** will completely cease the use of the PVC in packaging by this spring. **Lion** also hopes to end its own usage by 2000²⁴.

UK

The **Body Shop** has phased out PVC in their products, packaging and in their buildings, internationally.

Neals Yard Remedies (Cosmetics company) in the UK is phasing out PVC bottles in favour of PET. In their mail order catalogue they state:

‘...you may have noticed that our plastic bottles have changed slightly. This is because we are in the process of switching from using PVC to PET. The reason for this change is that PET is the plastic with the best recycling infrastructure in place. PET is in great demand for conversion into polyester for textile manufacture. There is also evidence that PET is much cleaner than PVC when incinerated into waste at power plants.’

USA

Cosmetics company **Helene Curtis Inc.** Illinois, replaced its PVC bottles with PET for packaging Suave during the course of 1994²⁵.

Den-Mat Corp, CA, the manufacturers of Rembrandt Mouth Refreshing Rinse plan to switch to a PET bottle²⁶.

Bristol-Myers Products, NJ, distributors of the SEA BREEZE Astringent is switching from PVC to recyclable PET²⁷.

Greenseal, the US household cleaner manufacturers, has a comprehensive policy which includes the following commitment on PVC: ‘After January 1, 1995, products shall not be packaged in primary or secondary packaging containing polyvinyl chloride.’²⁸

Simple Green, a U.S. manufacturer of cleansers has decided to switch from PVC to PETE. "We had originally bottled in PVC plastic because the products required a durable plastic to guarantee that they would not leak, which is particularly a concern for our reusable spray bottles. Fortunately, PETE is now able to provide us with a comparable alternative that will prevent leaking and ensures that our spray bottles can still be reused over and over again."²⁹

Henry Thayer Co., a small cosmetics company has decided to go PVC-free. In a phone message to the US NGO, Mothers & Others, the company president stated that "We just changed our bottles from PVC to PETE and we're planning on doing that with our witch hazel as well.....Our goal is 100% out of PVC by the end of 1999....I think your cause is worthwhile, we're 100% behind you."

²⁴ COMLINE Daily News Chemicals and Materials January 13, 1998.

²⁵ Letter, February 4 1994, Denise Stewart, Consumer Representative).

²⁶ Letter, February 25 1994.

²⁷ Letter, February 17 1994, Carla Navallo, Regulatory and Product Investigation Specialist.

²⁸ Household Cleaners (GS-08) First Edition, November 2, 1993 Copyright 1993 Green Seal, Inc.

²⁹ Letter to Allison Sloan of Mothers & Others, from Milt Krause of Simple Green, April 1999.

Credit Card Companies

Japan

Toppan Printing Co. will stop using vinyl-chloride plastic as the basic material for credit cards by the year 2000 because it emits toxic dioxin gas when incinerated at low temperatures. Toppan has developed a new material for cards it claims is as sturdy as vinyl chloride plastic, with a degree of flexibility that also makes it ideal for smart cards³⁰.

In a letter to card manufacturers, **Visa International**, San Francisco, CA, has endorsed the use of PETG for its credit cards. Visa has recommended that "in countries where [member banks] require card products produced with a more environmentally friendly material, glycol-modified PET be substituted for PVC."³¹.

Electrical appliances

Germany

AEG Electronics and Appliances is phasing out PVC. In Austria they produce only totally PVC free items such as vacuum cleaners, ovens, washing machines etc. AEG also sells all types of totally PVC free electrical cables.

Vorwerk, a leading German manufacturer of hoovers, electrical equipment and fitted kitchens, states 'Vorwerk manufactures all products from materials that have been produced in an environmentally sound manner, materials that can be almost entirely recycled. Therefore we avoid the use of PVC to a large degree.'³².

Japan

Sharp Co.Ltd. one of the biggest home appliance manufacturers in Japan announced they will get out of PVC in 1998.

Sweden

The world's leading appliance manufacturer **Electrolux** was 'the first company to launch PVC free products in 1997 and a full range in 1998... The reasons behind the development are to improve the value of recycled materials and to respond to the demand from customers..

On regular products PVC is mainly used in door gaskets, electrical wires, tapes and labels. The development work to find replacements started around 1992. Still, most of the PVC free parts have a premium cost.

In 1998, a full range of products was launched on the Scandinavian market with refrigerators and cookers. Electrolux will increase the range as the market demand for PVC free products increases.'³³.

³⁰ Oct 08, 1998 (Asia Pulse via COMTEX)

³¹ Modern Plastics, April 1999 VISA INTERNATIONAL APPROVES PETG FOR USE IN CREDIT CARDS

³² Vorwerk brochure

³³ Henrick Sundstrom, Electrolux, presentation to Greenpeace Business Conference, London September 7 1998

Electronics Industry

Europe

Sony Europe, one of the world's biggest users of packaging, has adopted an internal packaging policy. The goal is to eliminate all uses of plastic in packaging and to achieve 100 percent recycling or return of packaging. When using plastic, PVC will be replaced by PE, PET, or PS.

Japan

Matsushita Electric Industrial plans to eliminate the use of vinyl chloride now used in the wiring of its electric products by the spring of 2000. Matsushita has already embarked on a campaign to reduce the number of plastics used in its products in order to make them more recyclable. The varieties used have fallen from 400 a decade ago to less than 40 now³⁴.

Electronics - office equipment manufacturers and suppliers

Austria

Bene (Austria's largest office supplier)
Herlitz (Austrian office equipment company)

Japan

Ricoh Co., Japan's leading comprehensive maker of OA equipment, is aiming to cease using PVC-covered electric wire by 2000. In its place, polyolefin resin-covered wire will be adopted. The objective is to reduce use of lead, which is incorporated in PVC resin as a stabilizer³⁵.

Financial Services

UK

Bradford & Bingley Building Society (United Kingdom), state that their policy is: 'Based on the precautionary principle the society will:

- Source substitute materials whenever available which are considered to be less damaging to the environment, equal or better from a quality or functionality viewpoint and stand reasonable life cycle cost comparisons.
- Advise suppliers of a preference for non-PVC packaging
- Specify low smoke and fume (SLF) cable insulation in preference to PVC
- In major purchases, where PVC forms part of the product the methodology of rejection of alternatives will be recorded by the Society manager responsible for the purchase.³⁶

The **Jupiter Ecology Fund** has adopted a two pronged and precautionary policy to address the problem (of PVC):

³⁴ Daily News Electronics, December 2, 1998

³⁵ COMLINE Daily News Electronics May 6, 1998.

³⁶ Letter from Bradford and Bingley Building Society, January 1997.

- ‘The Fund will continue to avoid investment in companies which are directly involved in the manufacture of PVC’
- ‘The Fund will actively encourage companies continuing to use PVC to minimise their consumption. The ultimate objective of this is to achieve a total phase-out when full acceptable substitutes become available.’³⁷

Food Packaging & Water Bottling

Austria

In Austria PVC food packaging is basically non-existent (food producers had to change due to the united action of all major supermarket chains in Austria in the early 90’s).

Brazil

In May 1999 **Cargill** launched a new PET container onto the Brazilian market. Cargill will bottle its Liza soybean oil brand into PET containers as of next June. The new bottle will replace the PVC one, while tin cans will continue being used as normal. Cargill will invest a total of US \$6mil to launch its PET containers onto the Brazilian market.³⁸

Europe

The following European bottled water companies have phased out the use of PVC: **Spa** (Belgium) phased it out in 1993, **Evian** in 1994, and the market leader in France, Nestle (owner of brand names **Perrier, Vittel, Hagar, Vitteloise, Contrex**) announced in January 1995 they would upgrade their water bottling plants. Bottles represented 100,000 mt/year and 12% of the total French PVC market³⁹.

Spain

The Spanish branch of mineral water of the multinational **Danone** – called **Fonvella** and which controls 35% of the mineral water market in Spain – is phasing out PVC. **Perrier** is doing the same.

Following a campaign by Greenpeace Spain, 25 following water bottling companies have replaced the use of PVC for PET, as follows:

Trademark	Company
SOLARES	Manantial de Fuencaiente, S.A.
FONTEMILLA	Fuentes de Cutamilla, S.A.
SANCHÍS	Aguas de Sierra Sanchís, S.A.
BEZOYA	Leche Pascual, S.A.
CARDÓ	Leche Pascual, S.A.
EROSKI	EROSKI
AGUA DE QUESS	Piloña Acqua Mundo, S.A.
AGUA PRYCA	Piloña Acqua Mundo, S.A.
AGUA CONTINENTE	Piloña Acqua Mundo, S.A.
AGUA SUPER	Piloña Acqua Mundo, S.A.

³⁷ Jupiter Ecology Fund Newsletter, Winter 1996.

³⁸ Gazeta Mercantil Page: B-24 Date: May 24, 1999

³⁹ Chemical Week, January 18 1995.

AGUA CMD Piloña Acqua Mundo, S.A.
PE-ACLARA Eycam Perrier
CORCONTE Agua de Corconte, S.A.
CARRIZAL Zerep Carbónica y Aguas, S.A.
PALLARS Manantials d'Aigua del Pallars, S.L.
AIGUA DE RIBES Fontaga, S.A.
AGUA DEL MONTSENY Aguas del Montseny, S.A.
CABREIROA Aguas de Cabreiroa, S.A.
MONDARIZ Grupo Vichy Catalán
VALTORRE Agua de Valtorre, S.A.
LUNARES Alimentos y Bebidas, S.A.
AGUAS DE ALMEDIJAR Aguas de Almedijar, S.A.
AGUA DE MIJAS Agua de Sierra Mijas, S.A.
SIERRA DE JAÉN Sierra de Jaén, S.A.
ZAMBRA Zambra, S.A.
FUENSANTA Aguas de Fuensanta S.A.

Middle East

According to Al-Rayah newspaper (January 20, 1999), Mr. Fabio Farmanni, Regional Director of the Italian "**Siba**" Bottling and Packaging Technology Company, said that bottle and package manufacturers in the Middle East have been using more and more P.E.T. material, instead of the traditional PVC material.

USA

Federated Group has changed the container used to package its Better Value Non-Dairy Creamer and Parade Non-Dairy Creamer. In a letter to Greenpeace Federated stated, "Our company has been closely working with its' suppliers the last few years to move our products into packaging that is environmentally friendly. Two different manufacturers package our Creamers. One of our suppliers has completed a conversion to PET. Our second supplier has plans to convert during 1999. By the end of 1999 all of our creamer packaging will have converted to PET containers."⁴⁰.

Eagle Family Foods Inc. 'expect to introduce these products (CREMORA Brand Non Dairy Creamers) in PET packaging'⁴¹.

Dean Foods Co. Chicago, aims to replace PVC with glycol modified PET for labels on its Milk Chug polyethylene bottles⁴².

Interior furnishings manufacturers

Austria

EWE Kuechen, a big Austrian kitchen furniture manufacturer, advertises their furniture as PVC free.

Sweden

⁴⁰ Letter, December 18, 1998, Alan J Dell' Aringa.

⁴¹ letter to Greenpeace, 4 May 1999

⁴² Plastics News 11/30/98.

The following are committed to phasing out PVC

Eco AB, Borastapeter (Swedish wallpaper companies)
Kinnarps AB (Swedish furniture manufacturer)

Medical products

Denmark

Grenaa Centralhospital have phased out/substituted 95 % of the PVC usage. Head of section, Tommy Willis ph. +45 89 585614 can be contacted for more information, or see PVC free database on homepage www.aaa.dk/pvc (in Danish) for PVC-free articles in hospitals , packaging, office supplies etc.

Germany

The German medical products companies **Braun-Melsungen** and **Fresenius** are aware of the discussion regarding PVC and have eliminated PVC packaging of their products and have a pretty good labelling system of their products in place. They also offer several products (incl. complicated ones like dialysis sets (consists of bag, tubings etc.) labelled as 'PVC free'.

USA

McGaw Inc., which supplies PVC-free IV bags has increased its market share in the past years as a result of the concerns over dioxin and the leaching of phthalates from PVC medical supplies during their use⁴³.

Baxter International Inc, one of the world's largest medical supplies manufacturers, has made the following commitment:

“Baxter is committed to exploring and developing alternatives to PVC products and is developing and implementing proposed timetables for substituting its current containers for intravenous solutions (IV) with a container that does not contain PVC. Baxter will acknowledge and discuss this at its 1999 Annual Meeting of Stockholders to be held on May 4, 1999.

In the future, Baxter will update the shareholders on the steps to be taken towards replacing its global line of PVC-containing products other than IV containers with non-PVC alternatives.”⁴⁴

Kaiser Permanente, the largest non-profit Health Maintenance Organization in the U.S., has made the following statement:

“Recently, Kaiser Permanente established a new latex-safe, national standard for exam gloves, eliminating 43 million PVC (vinyl) gloves annually from use and disposal, creating

⁴³ McGaw, Inc. Company brochures and communications with Greenpeace.

⁴⁴ Extracted from a Memorandum of Understanding, dated March 5, 1999, between Baxter International Inc. ("Baxter") and the Retirement Plans for the Employees of the Sisters of Mercy Regional Community of Detroit, the Sisters of Charity of Cincinnati and the Service Employees International Union (the shareholders).

a safer health care setting and eliminating pollution from the environment. Kaiser Permanente has also encouraged key suppliers of products containing PVC to develop alternatives.

Last month, Baxter International, Kaiser Permanente's supplier of intravenous (IV) solution bags, announced that it was developing and implementing substitutions for its current product that do not contain PVC. "As we learned with mercury instruments, some of the weapons we use to fight disease can also be weapons that compromise a healthy environment," said Dr. Lawrence⁴⁵.

Universal Health Services, the US's third largest hospital management company, announced at its annual shareholder's meeting in May 1999 that it will seek to replace PVC medical supplies with cost effective alternatives. UHS acknowledges that "polyvinyl chloride (PVC) plastic, a component in various medical products, may result in damage to the environment." UHS plans to investigate the amount of PVC it is currently using and formally ask its suppliers to develop non-PVC alternatives.⁴⁶

Pharmaceuticals

Bayer (German pharmaceutical company) changed their packaging material from PVC to PP in 1991, as they claim PP is a better moisture barrier than PVC.

Sweden

The **Association of the Swedish Pharmaceutical Industry** and the **Association of Representatives of Foreign Pharmaceutical Industry** 'supports a phase out of PVC in the long term. For pharmaceuticals such a phase out can only happen when the medical safety aspects allow a change to other materials.'⁴⁷

Publishers using totally chlorine-free paper

Barnes and Noble Classics Series
Cornell University Press
Harvard University Press
Harcourt Brace children's books
IKEA home furnishings catalogues
Kinkos Inc., the copying chain, offers chlorine free paper
Massachusetts Institute of Technology Press
Simon and Schuster for a book about Ben and Jerry
World Watch, magazine of the Worldwatch Institute⁴⁸

Retailers

Austria

In Austria all the major supermarket chains phased out the use of PVC in the early 90's, including SPAR, BILLA, ADEG, LOeWA, and MEINL

⁴⁵ Excerpt from a Kaiser Permanente Internal Press Document, May 13, 1999.

⁴⁶ News Release, Health Care Without Harm, 19 May 1999.

⁴⁷ letter to Agricultural Committee of the Swedish Parliament, 19 March 1993).

⁴⁸ Sources, The Chlorine Free Products Association, Lyons Falls Pulp and Paper Company, June 1997.

Denmark

In Denmark the supermarket chain **IRMA** is demanding that their suppliers (approx. 520) supply them with PVC free packaging, as from October 1996. IRMA has aimed to phase out PVC packaging for the last ten years. In addition **FDB**, (food retailer) as a whole is working to follow the example of IRMA⁴⁹.

The drugstore **Matas** is phasing out PVC.

Hennes & Mauritz, a large clothes retailer in the Nordic and other European countries have a policy not to allow chlorinated organic compounds in their products which means that PVC textile-print is not allowed, with some minor exceptions. They also do not allow PVC in toys and in packaging. Chlorine bleaching is not allowed⁵⁰.

Germany

The German mail order company Otto is phasing out PVC.

All German supermarkets began phasing out PVC in the early 1990's (for example Tengelmann).

Japan

In Japan, chain retailers, including supermarkets and convenience stores, are eliminating the use of vinyl chloride wrapping and are taking other steps to reduce the impact of their operations on the environment. **Ito-Yokado Co.**, a major supermarket operator, planned to switch wrappings for perishables and precooked foods to polyolefin from vinyl chloride by the end of June 1998. Most convenience store chains, including **am/pm Japan Co.**, **Lawson Inc.** and **Seven-Eleven Japan Co.**, had eliminated the use of vinyl chloride wrapping by the end of April⁵¹.

Sweden

IKEA, the Swedish retailer, has phased out most uses of PVC in their shops, internationally. A statement from February 1998 says:

'IKEA decided already long ago, on the basis of the precautionary principle, to try to gradually phase out all use of PVC in our products, wherever possible. Today we have, with the exception of electrical cables, very few products containing any parts made of PVC. The toys we sell should not contain PVC.'

Ica, Konsum (Swedish grocers) and most Swedish supermarkets started phasing out PVC packaging in the early 1990's.

Switzerland

The retail chains **Migros** and **Co-op** are phasing out PVC. Between 1980 and 1992, Migros achieved a 75 percent substitution rate.

⁴⁹ Berlingske Tidende, September 21 1996.

⁵⁰ H & M Hennes & Mauritz AB and H & M Rowells AB Chemical Restrictions, June 1996.

⁵¹ ASIA PULSE JAPANESE ENVIRONMENTAL LAW LOOMS FOR RETAIL CHAINS TOKYO, May 6, 1998.

UK

The UK supermarket **Waitrose** 'has decided to work towards the removal of PVC from the packaging it uses.... Suppliers of branded goods will be advised of our approach and it is hoped they will pursue a similar line. ...alternatives to these (the use of PVC in construction and maintenance) will be investigated.'⁵².

The following retailers have either phased out PVC or are working to eliminate it:
Holland and Barrett (UK health food specialists)
Lloyds Chemists (UK drug store)

Shoe and Sports Equipment Manufacturers

USA/Global

NIKE, the shoe and sports equipment manufacturers are phasing out PVC. In a press release in September 1998 (see 3.9) they state:
'Nike's PVC phase-out began on August 1st of this year and will continue to evolve every day at Nike as we identify more sustainable alternatives and incorporate them into our design and manufacturing processes.'

Telecommunications & cabling

Germany

North German Television's Studio (Hamburg-cabling)

Germany, Japan

As reported in VDI Nachrichten, (the German magazine of the engineers association), January 5 1999, **German Telekom** and **Nippon Telegraph and Telephone** are going PVC free. New products are already PVC free and both companies are aiming for total substitution in the near future.

Japan

The biggest electric cable manufacturer in Japan, Sumitomo Electric Industry, Ltd. announced on 25th of May 1998 that they will ban PVC for general electric cables. They will start to sell non PVC cables and all of the generic cable covers will be replaced with non PVC materials in about 5 years. In September 1998, the company also launched its PVC free Ecocable. The product costs about 20% more, but Sumitomo Electric hopes mass production will hold down the cost.

Toy Manufacturers

A-One, (Japan). Produce PVC toys for children under three but will ban them by the end of 1999.

⁵² Letter from Waitrose, 18 October 1996).

Ambitoys. In November 1998 the Dutch toy manufacturer Ambitoys completed their phase out of all PVC by replacing the PVC suction pads on the last two products with rubber.

APRICA Kassai Incorporated (Toy and baby goods manufacturer) (Japan, markets in Taiwan, HK, Korea, China and Italy): The company started to develop research into PVC alternatives in 1997 and was marketing PVC free products by Xmas 1998. Its new (non-PVC) products are sold in a green package saying "environmentally applied/friendly?" for consumers to be able to identify the non-PVC choice. Their one use of PVC is in a baby car part, however the part is coated.

Artbaby, Argentina, June 1998, said in a letter "...until the Technical Committee (created by the Ministry of Health) working on the issue gives its final opinion, our company has decided to stop the sale of the items(serial numbers of the products), all made of PVC under the tradename TEDDY"

Babelito, (Argentina), April 1998. One of the largest manufacturers of baby products in Argentina confirmed that it withdrew from sale all soft PVC products and confirmed that they had stopped the production and importation of new soft PVC toys.

Bandai, Japan's largest toy producer (most famous for the Tamagocchi virtual pet) sent a fax to Greenpeace on 14 April 1999 confirming that they have already stopped the use of PVC in the manufacture of certain toys. According to Bandai, PVC in the type of toy normally sucked or chewed by children is no longer used in products intended for children under three years of age. The fax stated that Bandai recognises the environmental and public health effects not only of phthalates in PVC, but of PVC as a source of dioxin. Bandai, however, are not yet willing to go 100% PVC free.

BRIO Corporation, Sweden, Message from US branch, December 2 1998. 'Brio does not produce any baby teethingers or rattles containing PVC. We do however, distribute over 330 products only seven of which contain PVC .. it is important to note that all of these products comply with toy safety requirements. BRIO supports the Consumer Products Safety Commission (CPSC) and the Toy Manufacturers Association (TMA) position that vinyl toys are safe for children.' BRIO have made an entire PVC-FREE collection in their summer '98 catalogue of pushchairs and baby carriages. On May 27, 1997 – BRIO Leksaker stated that it would no longer distribute certain Chicco teethingers in Sweden.

Chicco (Artsana & distributors Prenatal), Italy. November 9 1998 'our company decided, long time ago, not to use soft PVC in toys anymore for children under 36 months that can be put in the mouth.' On November 20 the confirmed that they 'the substitute materials are EVA and PP' and 'that they are confident that no more PVC for children under three that can be mouthed are on the shelves.'

Early Start, US,. Do not use PVC, soft plastic is EVA.

Educa Sallent, S.A., Spain. (100% PVC-free. Products made of paper and cardboard), December 1998, have agreed to a pledge to not use PVC.

First Years (USA) in 1999 began labelling their teethingers PVC Free: contains no polyvinyl chloride or phthalates.

FUSTA, Spain, (association of 13 wooden toy manufacturers) which do not use PVC and have signed a pledge (December 1998),:

Juguetes De Artesania, S.L.
Artesania Cervera, S.L.
Artesania Toneu
Can Cels Manuel Coromina Serrallonga
Casa Mora Viraf, S.L.
Divertoys, S.C.C.L.
El Bagul
Fill de Francesc Reig
Javier Bermejo Sotillo
L'art de la Fusta, S.C.
Sanchez De Taradell, S.L.
Vila Soldevila, S.L.
Xangó, S.L.

Garbep, S.A.-Lanco, Spain. (100% toys made of rubber) do not use PVC and signed a pledge not to use it in December 1998.

Giochi Preziosi, (Italy), December 1997. Letter to Greenpeace Italy stating that they will not include soft PVC toys for children under three in their catalogue for 1998 and that they will work on substitutions for other applications of PVC.

GOWI, and Austrian rigid plastic toys producer is PVC free, and often labels their products as such.

Grazioli, Italy; November 1998. Announced their decision to stop using soft PVC in their toys.

Juguetes y Herrajes Joal, S.A., Spain. Toys for children up three. Still use a small amount of PVC in their toys. Have recently released four new models made from an (unspecified) alternative materials to PVC.

Kiko Internacional, S.A, Spain, December 1998, have agreed to a pledge to phase out PVC.

Lamaze Infant Development. Correspondence with Greenpeace, February 1998. 'There is no vinyl in any of our toys that are meant to go into children's mouths. Never has been never will be. Goal is for vinyl to be eliminated by end year for all toys for kids under 3. For other toys, to be eliminated when feasible (and safe) alternative can be found.'

LEGO GROUP (Denmark): August 12, 1997 - The Lego Group issued a statement stating that a phase out of PVC had begun at Lego in 1986, starting with packaging. The company's "general policy of not using PVC will be continued with a view to obtaining a 100% phase out within construction toys and packaging concurrently." Only two types of PVC products still exist at Lego, wires for electrical components and doll's heads for LEGO SCALA.

Little Tikes (Rubbermaid) (US), November 12 1998, statement that the company will phase out the use of PVC entirely, although vinyl is used in less than 2% of its toys.

Mattel (Fisher Price, ARCOTOYS, Tyco Preschool), US, September 23 1998, statement announcing 'its commitment to begin to phase out phthalates in plastic teething toys for children under 36 months. The company plans to begin shipment of phthalate free teething toys and other toys intended for the mouth in the first quarter of 1999 on a worldwide basis.' In addition, Mattel Scandinavia announced in June 1998 that it will phase out PVC packaging in Scandinavia by the end of 1999. Mattel is also listed on the US CPSC's press release.

Novatex, Continua, Fashy, Mapa and Helly (Germany), during 1998, these manufacturers began labelling their toys 'PVC free'.

People Co. Ltd. (Japan) a well known Japanese toy manufacturer, completed a move to move from PVC to other plastics for toys for children under 18 months.

Pilot Ink Co. Ltd (Japan). Their 'basic policy is to phase out PVC. We will address not only on products itself but packaging, too. We will phase out PVC packaging within this year. We will phase out PVC use in toys under three by the end of the year 2000. Toys for above four, PVC will be phased out when the alternative is available.'

Play by Play Novelties (Spain), January 5 1999, it is reported that Play By Play Toys will stop making soft PVC toys for children under three.

Playmobil (Germany): Letter January 1999. 'Since summer 1992 we totally stopped to use any PVC and softeners in our products – The only item still including PVC is the jumping net of our fire bridge item number 3881, due to the fact that there is no material alternative.'

Primetime Playthings, No PVC used.

Ravensburger (Netherlands): In December 1997, the Dutch worldwide toy manufacturer Ravensburger stopped selling PVC products and eliminated PVC packaging from their products.

Richfield Co. Ltd. (toy manufacturer, Japan). Has developed a label which says " This product does not contain any parts made of PVC. You should have no anxiety to play with this" onto their non-PVC products. They have confirmed verbally that they have a policy to minimize PVC use and that they are also in the process of reducing it.

Riko (Richard Kohnstam Ltd), UK, November 30 1998. 'Though the majority of our products are aimed at older children and adults, we still take such issues as PVC content very seriously and are taking appropriate action to ensure that we minimise its usage.'

Sassy Products (US), December 20 1998. Statement 'Our plan is to find PVC alternatives for all our products by the end of the 2nd quarter. The 2 "in the mouth" products which contain PVC will be PVC free before the end of the 1st quarter.'

Tiny Love, PVC elimination policy by 2nd quarter 1999

Toho Co. Ltd (Japan), have stopped new production of soft PVC toys for children under three.

Tolico (toy manufacturer) Denmark. Has had a policy to avoid PVC for a number of years. Tolico does not stock PVC toys for children below three years and does not use PVC packaging.

Tomy (Japan), the second largest toy producer in Japan wrote a letter to Greenpeace Japan in June 1999, confirming that they have already stopped the use of PVC in the type of toy normally sucked or chewed by children and that it is no longer used in products for children under three years age. Tomy said that they have been researching on alternatives not only for soft PVC but also hard PVC (packaging materials). Tomy recognises the environmental and public health effects not only of phthalates in PVC, but of PVC as a source of dioxin. Tomy, however, are not yet willing to go 100% PVC free.

Turner Toys, US, July 1998. This independent toy manufacturer (wooden toys) has incorporated information about the problems of soft PVC toys into their website. They will use this information in an outreach to 1,500 toy buyers, manufacturers, and distributors.

Young Epoch Ltd. (Japan) plan to phase out the use of PVC in the year 2000 in toys for children under three. For toys for children above three, some are to be banned, others are to be decided. Overall policy for PVC toys is 'we would like to phase out PVC as soon as possible.'

Toy Retailers

Austria

At the end of 1997, over 20 retailers in Austria stated that they have withdrawn soft PVC toys for small children. Some of the most well known include: DM and BIPA, both drugstore chains, Kastner & Ohler and Gerngross, both department store chains, Heinz and Trio, both toy retailers with several stores in Austria.

Other Austrian retailers have agreed to establish a concrete plan to withdraw certain soft PVC toys from their shops. These include: SPAR and INTERSPAR supermarkets and the Schlecker drugstore chain.

Belgium

On October 16, 1997 the Belgian Federation of Retailers (FEDIS) announced it would withdraw all soft PVC toys designed to be chewed by young children.

Czech Republic

Czech Republic, November 1997, 4 retailers removed soft PVC toys from their stores.

Denmark

Bilka; on May 22, 1997 - The Danish superstore Bilka removed all soft PVC toys for children under 3 from its shops.

Faetter BR (toy retailer) Denmark, 1996, removed all soft PVC toys from their shelves by the end of 1996.

FDB: on May 13, 1997 FDB, Danish superstore chain, removed all PVC toys for children under 3 from its shops.

Foetex; on April 18, 1997 the Danish supermarket chain Foetex removed all soft PVC toys from its shelves.

Top Toys (Toys R Us), Denmark, May 23. 1997: CEO Henrik Gjoerup from Top Toys guaranteed that "no such toys (soft PVC toys for children below 3 years) can be found in the Toys R Us shops (in Denmark)". Top Toys is also supplier of the toy chain Faetter BR. Equally, Faetter BR does not stock soft PVC toys for children below 3 years.

Germany

In December 1997, the German Association of Toy Retailers, Vedes, and a toy trading company, Spiel and Spass, have called upon their members to withdraw from sale all toys made from soft PVC for children under three. 70% of the retail market withdrew soft PVC toys for children under three, including: Karstadt, Hertie, Horten, Kaufhof Warenhaus AG and Kaufhall, mail order companies Otto and Quelle, and drugstore chains dm and Bunikowski.

Italy

Coop, decided not to sell soft PVC toys containing phthalates.

Japan

GranPapa (toy retailer), Japan, July 9 1998, declared its company PVC free regarding toys for children under three years old.

The Seibu Department Stores, Ltd. (Japan), April 1998, withdrew all soft PVC toys from their shelves.

Seiyu Supermarket Stores, (Japan), July 1 1998, withdrew soft PVC toys from all of their shelves.

The following retailers also stopped selling soft PVC toys for children under three; Matsuzakaya (Sep.98) Marui (Jul. 98) and Marui-Imai (Oct.98). About 20 other Japanese retailers have withdrawn soft PVC teething toys.

The Toy Museum, (this is not a shop but a museum of toys) (Japan). Every December, the Toy Museum select the "Good Toys" of the year. In December 1998 the removed two PVC toys from their list of 'Good Toys' because of they contained phthalates.

The Netherlands

de Bijenkorf, NL, 6 August 1997, removed known PVC toys from their shelves.

Blokker (Bart Smit Toys & Intertoys), NL, July 3 1997, informed Greenpeace Netherlands 'in all future orders we will state that toys intended for children under the age of three may not contain PVC and that the use of PVC packaging is not allowed.'

Toys R Us (The Netherlands), July 4 1997 stated in a letter that it would 'make it fully clear to our suppliers that we are not in favour of the use of PVC in toys and packaging, that is stated as a condition of supply when orders are issued,'.

Vendez (Vroom and Dreesman), NL, July 15 1997, informed suppliers that all toys must be PVC free.

Spain & Portugal

Imaginarium, (toy retailer, shops in Spain & Portugal) October 1997, decided to stop selling PVC teething rings and rattles.

Sweden

KF; on May 27, 1997 - The Swedish superstore chain KF announced that it stopped selling soft PVC toys intended for children under the age of three. Approximately 50 toys were removed from its toy assortment.

USA

Giant Eagle Inc. US, November 23 & 24 1998. 'The Consumer Product Safety Commission will rule in the next few weeks on whether these items are safe or not. Until that time, pull off the shelves all the items listed that would normally be put in a baby's mouth, such as teething rings etc.' (List includes squeeze and bath toys).

Generations, Michigan, US, November 1997, issued a statement about why they removed soft PVC teething rings from their shops.

K-Mart, listed on the US CPSC's press release, December 2 1998, as one of the retailers that 'removed phthalate-containing teething rings, rattles, pacifiers and bottle nipples from store shelves.'

Sears, listed on the US CPSC's press release, December 2 1998, as one of the retailers that 'removed phthalate-containing teething rings, rattles, pacifiers and bottle nipples from store shelves.'

Target, listed on the US CPSC's press release, December 2 1998, as one of the retailers that 'removed phthalate-containing teething rings, rattles, pacifiers and bottle nipples from

store shelves.’ In December 1997 Target agreed to remove two PVC products identified by Greenpeace as containing significant quantities of lead.

Toys R Us, November 13 1998, announced its ‘immediate plans for the worldwide removal of all direct-to-mouth products for infant use containing phthalates, such as teethers, rattles and pacifiers.’

Walmart, listed on the US CPSC’s press release, December 2 1998, as one of the retailers that ‘removed phthalate-containing teethers, rattles, pacifiers and bottle nipples from store shelves.’

Transportation systems

Austria, Germany

The underground systems in Vienna, Berlin and Dusseldorf no longer use PVC cables.

Germany

Deutsche Bahn (German Railways) have had a policy to avoid the use of PVC and halogenated materials since 1996, if requirements can be fulfilled by other materials. For new vehicles, PVC-free materials should be specified⁵³.

Spain

The Bilbao metro system uses PVC-free cabling for environmental and safety reasons.

UK

London Underground’s policy ‘is to specify low smoke, non halogenated cable for underground areas of the railway’ because ‘in underground environments cables need to meet very strict standards with respect to: flammability, smoke emission, toxic fume emission.’⁵⁴

Eurotunnel did not use PVC cables in the Channel Tunnel ‘the cables used in the Tunnel are all low smoke and fume and use cross linked polyethylene, XLPE, as part of the insulation. There is no PVC in the cabling. The Channel Tunnel uses PVC free cable throughout’. With regard to rolling stock ‘the majority of cabling is PTFE which is low toxicity, fire resistant and has low smoke emission properties. ... The floor coatings used on our rolling stock are also free of PVC and are in fact an epoxy resin coating which is painted on’⁵⁵.

P & O Cruises ‘In an effort to reduce their exposure to PVC - and the potential risks to human health that might occur if fire broke out - P&O cruise ships have eliminated PVC wiring on all their new ships. “Oriana”, the 69,000 ton liner, which was built for P&O Cruises in 1995 by Meyerwerft in Papenburg, Germany, was the first ship within the P&O

⁵³ Letter from Dr.-Ing J.Heyn, Deutsche Bahn, 31 July 1996, Substitution of PVC and halogenated materials

⁵⁴ Letter, 11 June 1996, from Hilary Jago, Media Relatives Officer, London Transport.

⁵⁵ Letter, 18 June 1996, from Tony Blyth, Deputy Director Health Safety and Quality, Eurotunnel.

Cruise fleet to adopt this policy.’ According to Mike Monaghan of P & O, the company is actively looking at other ways to reduce their exposure to PVC on all their ships⁵⁶.

British Railways Board, ‘Because of the problems of smoke generation in fires, the use of PVC has effectively been banned in new and refurbished rolling stock for many years. There are a few minor applications where no alternatives are available, such as decals. There is some use of PVC in signalling applications, either as cable insulation or as cable ducts but both applications are discouraged because of technical problems which have arisen.’ PVC is however used in railway buildings⁵⁷.

USA

The **US Department of the Navy** ‘adoped “low smoke” cross-linked polyolefin jacketed cables for the CG class cruisers in the early 1980’s. The PVC jacketed shipboard cables ...were replaced with the low smoke cables ..in 1984. Also in 1984, we purged the Navy supply system of PVC jacketed cables, and invoked low-smoke cable requirements for all new construction. In 1985 we informed all Naval activites to use only low-smoke cable for all shipboard applications, including repairs’⁵⁸.

In the US many transit systems have specified low-smoke, halogen-free cables for underground areas⁵⁹.

In the Aerospace industry, as long ago as 1971 NASA engineers recommended against the use of PVC. A letter to Chemical and Engineering News from Frederick G. Gross of the Materials Engineering Branch (April 26 1971) says: ‘For quite some time I have been confronted with problems from the plasticizers in vinyls for aerospace applications and I have long since come to the conclusion that vinyls should not be permitted in any phase of aerospace usage. The major reasons for this are the considerable volatility (especially in vacuums), ease of transfer, and objectionable optical absorbance of the phthalates. Further, substitute polymers for the vinyls are readily available and in many cases they have far superior physical properties at a small sacrifice in immediate cost.’

Water, Sewerage and Gas Industries

UK

Anglian Water’s water mains renovation programme will replace 2,500 km of mains. ‘The replacement pipework is of polyethylene or ductile iron depending on the diameter. With regard to sewers ‘In September 1995 we advised developers that we would not accept PVC sewers for any new schemes. I would add that this decision was for engineering rather than environmental reasons.’⁶⁰

Welsh Water ‘recognises some limitations on the use of PVC an it is rarely used in buildings we have commissioned. We do however, still use small quantities of PVC in

⁵⁶ Letter, 31 July 1996, from Dr M.T. Monaghan, P&O Steam Navigation Company.

⁵⁷ Letter, 7 June 1996, Chris Gore, Policy Advisor, British Railways Board.

⁵⁸ Letter from J.J. McGlothin, Director, Electrical Power and Distribution Systems Division, US Department of the Navy, April 15 1997.

⁵⁹ CHEMinfo Service Inc. November 1997. Op.cit.

⁶⁰ Letter from Bob Price, Director of Water Quality, Anglian Water Services Ltd, 1 July 1996.

some aspects of our operations but as a rule we have moved away from using PVC for water pipes and now use other alternatives on the market.’⁶¹

The **UK gas industry** now only uses medium density polyethylene (MDPE) pipe because it is more flexible than PVC. MDPE is also gaining market share in the water industry.⁶²

3. Index of companies by country (A-Z)

Argentina

Toy manufacturers

Artbaby
Babelito

Austria

Construction Projects

SMZ Ost Hospital in Vienna

Electronics - Office Equipment Manufacturers and Suppliers

Bene
Herlitz

Food Packaging and Water Bottling

All major food producers

Interior Furnishings Manufacturers

EWE Keuchen

Retailers

All major supermarket chains including SPAR, BILLA, ADEG, LOEWA and MEINL.

Toy Manufacturers

GOWI

Toy Retailers

Over 20 toy retailers,
SPAR and INTERSPAR supermarkets
Schlecker drugstore.

Transportation systems

The underground system in Vienna.

Australia

⁶¹ Letter from Paul Goodwin, Environmental Policy Co-ordinator, Welsh Water, 27 May 1998.

⁶² Ecotec research and Consulting Ltd., in association with IVAM Environmental Research and ZENIT GmbH, ‘New Clean and Low Waste Products, Processes and Services, and Ways to Promote the Diffusion of such Practices to Industry,’ Report on Case Studies for DGIII and DGV, Commission of the European Communities, November 1995.)

Construction projects
Sydney Olympics 2000

Belgium

Toy retailers
Belgian Federation of Retailers (FEDIS)

Brazil

Food packaging and water bottling
Cargill (on Brazilian market)

Czech Republic

Toy retailers
4 retailers

Denmark

Construction Projects
The Society of Danish Engineers

Medical Products
Grenaa Centralhospital

Retailers
IRMA supermarket chain
FDB supermarket chain
Matas drugstore
Hennes & Mauritz, clothes retailer

Toy manufacturers
LEGO Group
Tolico

Toy retailers
Bilka
Faetter BR
FDB
Foetex
Top Toys (Toys R Us DK)

France

Car manufacturers
Peugot

Germany

Car manufacturers
Daimler Benz
Opel
Volkswagen AG

BMW
Mercedes Benz

Construction projects

Museum of Jewish Culture, Transport Museum, over 130 other buildings in Berlin

Cosmetics, detergents and household goods manufacturers

Wella & several other cosmetics producers

Electronics Industry

Sony International (Europe) GmbH

Electrical appliances

AEG Electronics and Appliances

Vorwerk

Medical products

Braun-Melsungen

Fresenius

Pharmaceuticals

Bayer

Retailers

Otto, mail order company

Tengelmann & all German supermarkets

Telecommunications and cabling

North German Television's studio (Hamburg cabling)

Toy manufacturers

Novatex

Continua

Fashy

Mapa

Helly

Playmobil

Toy retailers

Vedes (Germany Association of Toy Retailers)

Spiel and Spass

70% of the market, including:

Karstadt

Hertie

horten

Kaufhof

Warenhouse AG

Kaufhall

Otto

Quelle

dm

Bunikowski

Transportation systems

Berlin & Dusseldorf underground systems

Italy

Toy manufacturers

Chicco (Artsana & distributors Prenatal)

Giochi Preziosi

Grazioli

Toy retailers

Coop

Japan

Car manufacturers

Nissan

Toyota

Cosmetics, detergents and household goods manufacturers

Proctor & Gamble Japan

Shiseido

Kao

Lion

Credit Card Companies

Toppan Printing Co

Electrical appliances

Sharp Co. Ltd

Electronics Industry

Matsushita Electric Industrial

Electronics - office equipment manufacturers and suppliers

Ricoh Co.

Retailers

Many supermarkets and convenience stores including:

Ito-Yokado Co

am/pm Japan Co

Lawson Inc

Seven Eleven Japan Co.

Telecommunications and cabling

Nippon Telegraph and Telephone

Sumitomo Electric Industry Ltd.

Toy manufacturers

A-One

APRICA Kassai Incorporated

Bandai

People Co. Ltd.

Pilot Ink Co. Ltd.

Richfield Co. Ltd.
Toho Co. Ltd
Young Epoch Ltd.

Toy retailers

Gran Papa
Seibu Department Stores
Seiyu Supermarket Stores
Matsuzakaya
Marui
Marui-Imai & about 20 other Japanese retailers
The Toy Museum

The Netherlands

Construction projects

Nike's new European headquarters

Toy manufacturers

Ambitoys
Ravensburger

Toy retailers

de Bijenkorf
Blokker (Bart Smit Toys & Intertoys)
Toys R Us (The Netherlands)
Vendez (Vroom and Dreesman)

Norway

Construction projects

The Krohnengen school & many other buildings in Bergen.

Spain

Construction projects

City of Seville Olympics application

Food packaging and water bottling

Danone (Fonvella)
26 water bottling companies

Toy manufacturers

Educa Sallent S.A.
FUSTA (association of 13 wooden toy manufacturers)
Garbep, S.A. - Lanco
Juguetes y Herrajes Joal, S.A.
Kiko Internacional, S.A.
Play by Play Novelties

Toy retailers

Imaginarium

Transportation systems

Bilbao metro system

Sweden

Construction industry

JM

Svenska

NCC

SIAB

Skanska

Electrical appliances

Electrolux

Interior furnishings manufacturers

Eco AB (wallpaper)

Borastapeter (wallpaper)

Kinnarps AB (furniture)

Pharmaceuticals

Association of the Swedish Pharmaceutical Industry

Association of Representatives of Foreign Pharmaceutical Industry

Retailers

IKEA

Ica, Konsum, and most Swedish supermarkets

Toy manufacturers

BRIO Corporation (PVC free collection)

Toy retailers

KF

Switzerland

Retailers

Migros

Co-op

UK

Construction projects

Construction Resources Centre, Southwark, London

The Reserve Centre (Redgrave and Lopham Fen)

Earth Centre, Doncaster

Hockerton, Nottinghamshire

Tate Gallery of Modern Art

Environment Agency's Lower Trent area office, Nottingham

Cosmetics, detergents and household goods manufacturers

The Body Shop

Neals Yard Remedies (cosmetics)

Financial Services

Bradford and Bingley Building Society
Jupiter Ecology Fund

Retailers

Waitrose supermarkets
Holland and Barrett (health food)
Lloyds Chemists (drug store)

Toy manufacturers

Riko (Richard Kohnstam Ltd)

Transportation systems

London Underground
Eurotunnel
P & O Cruises
British Railways Board

Water Sewerage and Gas Industries

Anglian Water
Welsh Water
UK gas industry

USA

Car manufacturers (auto suppliers)

Haartz Corp.
Delphi Interior Systems
Lear Corp.
US Battery manufacturers

Construction projects

World Trade Centre
Newfoundland offshore drilling applications
Environmental Protection Agency's new headquarters

Cosmetics, detergents and household goods manufacturers

Helene Curtis Inc.
Den-Mat Corporation
Bristol-Myers Products
Greenseal
Simple Green
Henry Thayer Co.

Credit Card Companies

Visa International

Food Packaging and Water Bottling

Federated Group
Eagle Family Foods
Dean Foods Co.

Medical Products

McGaw Inc.
Baxter International Inc.

Kaiser Permanente
Universal Health Services

Shoe and Sports Equipment Manufacturers
NIKE

Toy manufacturers
Early Start
Lamaze Infant Development
Little Tikes (Rubbermaid)
Primetime Playthings
Sassy Products
Tiny Love
Turner Toys

Toy retailers
Giant Eagle Inc.
Generations, Michigan
K-Mart
Sears
Target
Toys R Us
Walmart

Transportation systems
US Department of the Navy

4. Annexes

4.1 The Czech Republic Waste Law

(This law came to force in January 1, 1998)

The Fourth Part
Products, Packaging, Packaging Materials

Par.18

(1) Producers and importers are not allowed to put onto the market any products whose unused parts and whose packaging or waste materials can't be re-used or destroyed in such a way that their influence on the environment doesn't exceed the limits set down by special regulations. (9)

(2) Packaging producers and importers have to ensure that the total amount of lead, cadmium, mercury, and chromium to the power of six doesn't exceed limits laid down in the ministry statutes.

(3) Producers and importers are obliged to mention in a document attached to the product's packaging, in instructions, or by any other means of imparting information, how to make the best of, or how to destroy, the packaging and those parts of the product which it is not possible to use.

(4) From the 1 st January 2001 it is forbidden to produce and import packaging made of polyvinylchloride (PVC) and products packaged in such material.

Par. 19

(1) Producers and importers of packaging and packaging materials are obliged to ensure that packaging waste is made the best of or recycled as laid down in the ministry statutes, at the latest by 31 st December 2000.

(2) Products and packaging have to have a notice explaining what to do with them after being used, and this notice has to correspond with the regulations laid down in the ministry statutes.

(3) The government will decide on the list of packaging and packaging materials which will have to be returnable, and on details regarding how to operate with packaging and packaging materials and wastes from used products and packaging.

(4) Anyone who introduces onto the market a product or packaging which is listed in government regulations, article 3, is obliged to accept this product or its packaging back, after it has been used.

The ministry will decide, in its statutes, on the acceptable content of lead, cadmium, mercury and chromium to the power of six, which can be present in packaging, the limitation on can be used, the means by which they can be recycled and the ways of marking how they products and packaging.

4.2 Danish Consumer Council

The Danish Consumer Councils Policy on the PVC issue.

Tuesday 5. May

The Danish Consumer Council decided on the first of December 1997 to reconsider its policy on PVC. The background for this is that the problems with PVC is expanding to a level where it is no longer possible for consumers as individuals to solve the problem.

Furthermore the Industry has neither shown will nor ability to keep the voluntary agreements intended to increase the reuse and recycling of PVC. The Consumer Council therefore believes that there is a need for a more stringent legislation.

On this background the Consumer Council finds that the health and environmental problems related to PVC are so serious that the use of PVC should be banned as soon as possible with the exception of some very specific areas where there are no alternatives

In order to avoid that the ban creates new problems for health safety and Environment the Consumer Council would like to emphasise that the substitution should only occur to materials less harmful to health and environment than PVC

Yours Sincerely

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4.3 German Towns and Communities Building without PVC

Towns and communities show us the way

Most of PVC-production is used in the building sector. Around about 70 percent of German PVC-production is used for pipes, gutters, window frames, cables, and floor and wall coverings. Alternatives are available for all. In the middle of 1998 Greenpeace knew 274 local authorities, which by their own statements avoid pvc in public buildings or try to decrease the use of pvc. These local authorities show day in and day out that building without PVC is possible, because alternatives for all products are on the market.

List of Towns & Communities

Aachen, Achern, Achim, Ahaus, Ahrensburg, Amberg, Ammersbek, Arnsberg, Arolsen, Augsburg, Aumühle,

Bad Hersfeld, Bad Nauheim, Bad Oeynhausen, Bad Pyrmont, Bad Reichenhall, Bad Salzuflen, Bad Tölz, Bad Waldsee, Baesweiler, Balingen, Barsinghausen, Bassum, Bayreuth, Bergheim, Bergisch Gladbach, Bergneustadt, Bielefeld, Bobingen, Bonn, Bornheim, Bramsche, Buchholz, Bühl, Büren, Burgwedel, Butzbach,

Celle, Coesfeld,

Dachau, Delbrück, Diepholz, Dietzenbach, Dingolfing, Donaueschingen, Dormagen, Dorsten, Düren, Düsseldorf,

Eberbach, Eckernförde, Edemissen, Eichstätt, Elmshorn, Emmendingen, Engelskirchen, Erfstadt, Erfurt, Erkrath, Erlangen, Erndtebrück, Essen, Ettlingen,

Flörsheim am Main, Frankfurt, Freiburg, Freilassing, Freising, Friedberg, Friedrichshafen, Fürth,

Ganderkesee, Gauting, Geilenkirchen, Geisenfeld, Geislingen a.d Steige, Geldern, Georgsmarienhütte, Geseke, Gießen, Gifhorn, Glinde, Goch, Goslar, Göttingen, Gransee Amt, Greven, Griesheim, Groß-Gerau, Großhansdorf, Gummersbach, Günzburg,

Haar, Halle Westf., Halstenbek, Hameln, Hamm, Hannover, Haren, Harsewinkel, Hattenhofen, Hattersheim am Main, Hattingen, Heinnsberg, Hennef, Hessisch Lichtenau, Hiddenhausen, Hildesheim, Hof, Hofgeismar, Hofheim am Ts., Hückeswagen, Hüfingen, Husum,

Ibbenbüren, Ingolstadt, Jever,

Kaarst, Kalkar, Kamen, Karben, Karlsruhe, Kassel, Kaufbeuren, Kelheim, Kiel, Kirchen, Klützer Winkel (Amt), Kolbermoor, Köln, Königs Wusterhausen, Königswinter, Kranenburg, Krefeld, Kronach, Kropp, Kulmbach,

Lahr, Landshut, Langen, Langenfeld, Langenhagen, Lauf a.d. Pegnitz, Laufen, Laupheim, Lehrte, Leipzig, Lemgo, Lengerich, Leonberg, Leverkusen, Lilienthal, Limburg a.d., Lahn, Lindau, Lindlar, Lingen (Ems), Linnich, Lippstadt, Löhne, Lübeck, Lüdenscheid, Ludwigsburg, Ludwigslust

Maintal, Mannheim, Marienheide, Marpingen, Marsberg, Meerbusch, Melle, Memmingen, Michelstadt, Moers, Monschau, Mörfelden-Walldorf, Morsbach, Mühldorf am Inn, Mühlheim am Main, Mülheim a.d. Ruhr, München, Münster, Neu-Isenburg, Neu-Ulm, Neufahrn, Neuss, Neustadt b. Coburg, Niedernhausen, Norden, Nordhorn, Nordstemmen, Nümbrecht, Nürnberg,

Oberasbach, Oldenburg, Ostfildern, Ottobrunn, Ottweiler, Paderborn, Parchim, Passau, Peine, Petershagen, Pfaffenhofen a.d. Ilm, Puchheim, Pulheim, Radevormwald, Ravensburg, Reichshof, Remshalden, Reutlingen, Rheine, Rheinsberg, Riedstadt, Rodgau, Rosenheim, Rüsselsheim,

Saarbrücken, Sarstedt, Schenefeld, Schiffweiler, Schloß Holte-Stukenb., Schortens, Schramberg, Schrobenhausen, Schwäbisch Gmünd, Schwalbach/Taunus, Schwalmthal, Sehnde, Seligenstadt, Selm, Siegen, Singen, Sonthofen, Stade, Stuhr, Stuttgart, Sulingen, Sulzbach-Rosenberg,

Taunusstein, Telgte, Traunreut, Traunstein, Tübingen, Tuttlingen,

Uelzen, Unterhaching, Velbert, Verl, Vreden

Waldbröl, Waltrop, Wardenburg, Wedemark, Weil der Stadt, Weilheim, Weilheim, Weissenburg, Werdohl, Werne, Wernigerode, Wertheim, Wesseling, Westerland, Weyhe, Wiehl, Windeck, Wipperfürth, Wittstock/Dosse, Wolfsburg, Wuppertal, Würselen, Würzburg, Wyk auf Föhr, Zirndorf

Greenpeace promotes:

- + Stop the massproduction of chlororganic products
- + Ban PVC
- + The use and promotion of pvc-alternatives

Further Reading:

Chlorfrei: Alternativen zum PVC im Baubereich 2/97 (C 0381)
PVC-Recycling: Wunsch und Wirklichkeit 5/97 (S 0931)
Greenpeace Germany (+49 40/30618-0)

4.4 Russian Federation 'Totally Chlorine Free' Label

State Standard of the Russian Federation
Chlorinated Organic Compounds Free Products
'Totally Chlorine Free' Label
Official edition

Moscow GOST P 51150-98

Preface

Prepared by OMO** 'Greenpeace Council'

Introduced by the State Committee of the Russian Federation for the environmental protection.

Passed and brought into force by Decree #51 of 17.03.98

Brought into force for the first time

(IPK Publishing House of standards, 1998)

This standard cannot be completely or partially reproduced, edited and distributed as official edition if not authorised by Gosstandart*** of Russia.

GOST P* 51150-98

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4. Rules of the label use
5. Annex A: Form and dimension of 'Totally chlorine free' label
GOST P 51150-98

State Standard of the Russian Federation

Chlorinated organic compounds free products GOST P
'Totally chlorine free' label

Date of entry into force 98.07.01

Preamble

This standard is applied to the label, which means 'Totally chlorine free', and sets out form, dimensions, general requirements and rules of the label use, aimed at confirming the fact that the products correspond to the requirements of total lack in them of artificial chlorinated compounds, dioxins included; presence of the label guarantees that during the production, processing, reprocessing and utilisation of the products the environment is not polluted by chlorinated organic compounds, and informs consumers of this.

1. Sphere of application

1.1 Chlorinated organic compounds free products can be labelled 'Totally chlorine free'. The labelling is voluntary.

1.2 'Totally chlorine free' label is applied to the following products, including packages and packing materials:

- timber products;
- timber, cellulose, paper, board, fibre and products made of them;
- polymer materials: fibres, threads, plastics, foam rubber, resins, synthetic rubber and products made of them;
- chemical production: paints, varnishes, mastics, enamels, priming, fertilisers;
- consumer goods, games and toys.

1.3 The standard is not applied to food and pharmacological products and mixed fodder.

1.4 The form and dimensions of 'Totally chlorine free' label are given in annex A.

2. Regulatory references

The standard uses references to the following standards:

GOST 2.304-81 ESKD Drawing types

GOST 14192-96 Cargo labelling

GOST 19433-88 Dangerous cargo. Classification and labelling.

3. General requirements

3.1 Requirements of this standard complement requirements to the labelling, set out in the state standards or other regulative documents for certain types of products and their packages with account of demands, indicated in GOST 14192, GOST 19433.

3.2 Chlorine, chlorine containing oxidisers and chlorinated organic compounds are not used as raw materials during production, processing and reprocessing of chlorinated organic compounds free products.

3.3 Products, earmarked for export, are labelled 'Totally chlorine free'.

3.4 Dimensions of the label proportionally increase or decrease depending on the size of products, dimensions of the package, means and conditions of labelling, while the outline of the label should stay the same. If the size of the label is to be increased, inscriptions should not merge or become unclear.

3.5 The place for the label is chosen with view to the increase of the informative value of its use and accessibility of the visual perception.

3.6 If it's impossible to put the label directly on the product, it's placed on the supplementary sheet, tag or package.

3.7 The colour of the label should be contrasting to the colour of background, where the label is placed. The size of the label is determined by the producer (declarant) in accordance with GOST 2.304-81. Basic size H is at least 10 mm large. The inscription is made by the GOST 14192 type.

3.8 Labelling should be clear and indelible. It's made by typographic, lithographic or electrolytic means, stencilling, stamping, pressing, scorching, labelling machines or other means. Labelling is not made by hand.

3.9 It's impossible to put labels of the same content but in different exposition.

4 Rules of 'Totally chlorine free' label use.

4.1 'Totally chlorine free' label is put after the confirmation of the declaration of correspondence for products, indicated under 1.2.

The declaration of correspondence includes:

- description of technological processes;

- list of primary and raw materials, which are used for the products manufacture. The declaration of correspondence is confirmed by the head of enterprise-producer or enterprise-exporter.

4.2 Permission for use of ‘Totally chlorine free’ label is issued by the certification bodies, accredited in the GOST P system on the grounds of the declaration of correspondence of the enterprise.

The owner of the permit for use of ‘Totally chlorine free’ label bears responsibility for maintenance of the standard demands.

4.5 Spain – PVC free cities

The following are cities which have approved phase out measures:

City	Province	Region
1. Agüimes	(Las Palmas)	Illes Balears
2. Alella	(Barcelona)	Catalunya
3. Alzira	(Valencia)	Valencia
4. <i>Badía del Vallès</i>	<i>(Barcelona)</i>	<i>Catalunya</i>
5. Barcelona	(Barcelona)	Catalunya
6. Bilbao	(Bilbao)	Euzkadi
7. Cabra	(Córdoba)	Andalucía
8. Calonge	(Girona)	Catalunya
9. Calviá	(Mallorca)	Illes Balears
10. <i>Carmona</i>	<i>(Sevilla)</i>	<i>Andalucía</i>
11. Casa-Ibáñez	(Albacete)	Castilla - La Mancha
12. Castelldefels	(Barcelona)	Catalunya
13. <i>Castilleja de la Cuesta</i>	<i>(Sevilla)</i>	<i>Andalucía</i>
14. Castrillón	(Asturias)	Asturias
15. Córdoba	(Córdoba)	Andalucía
16. Coria del Río	(Sevilla)	Andalucía
17. Cornellá	(Barcelona)	Catalunya
18. Ecija	(Sevilla)	Andalucía
19. Esplugues de Llobregat	(Barcelona)	Catalunya
20. <i>Fene</i>	<i>(A Coruña)</i>	<i>Galicia</i>
21. Gandia	(Valencia)	Comunidad Valenciana
22. Guadalcanal	(Sevilla)	Andalucía
23. Illescas	(Toledo)	Castilla - La Mancha
24. <i>Jumilla (en moratoria)</i>	<i>(Murcia)</i>	<i>Comunidad Valenciana</i>
25. La Orotava	(Santa Cruz de Tenerife)	Islas Canarias
26. Lloret de Mar	(Girona)	Catalunya
27. Mairena de Aljarafe	(Sevilla)	Andalucía
28. Málaga	(Málaga)	Andalucía
29. Mancor de la Vall	(Mallorca)	Illes Balears

30. Marchena	(Sevilla)	Andalucía
31. Mislata	(Valencia)	Comunidad Valenciana
32. Montcada y Reixac	(Barcelona)	Catalunya
33. Morón de la Frontera	(Sevilla)	Andalucía
34. Mugarzos	(A Coruña)	Galicia
35. Narón	(A Coruña)	Galicia
36. Neda	(A Coruña)	Galicia
37. Novelda	(Alicante)	Comunidad Valenciana
38. Paiporta	(Valencia)	Comunidad Valenciana
39. Premià de Dalt	(Barcelona)	Catalunya
40. Priego de Córdoba	(Córdoba)	Andalucía
41. Rinconada	(Sevilla)	Andalucía
42. Ripollet	(Barcelona)	Catalunya
43. Sant Bartomeu del Grau	(Barcelona)	Catalunya
44. Sant Vicenç dels Horts	(Barcelona)	Catalunya
45. Tavernes de la Valldigna	(Valencia)	Comunidad Valenciana
46. Terradillos	(Salamanca)	Castilla - León
47. Terrassa	(Barcelona)	Catalunya
48. Torelló	(Barcelona)	Catalunya
49. Torrelles de Llobregat	(Barcelona)	Catalunya
50. Tossa de Mar	(Girona)	Catalunya
51. Utrera	(Sevilla)	Andalucía
52. Vilanova i la Geltrú	(Barcelona)	Catalunya

(The ones in bold have been declared during 1996)

4.6 Spain

– Barcelona

‘Barcelona is declared a Municipality Free of Chlorine Products as a way of expressing the will of this municipality to phase out the use of these types of products, warning our citizens of the need to avoid its use, and as a measure to motivate all economic sectors that use these products, to reconvert progressively their activities to use other types of material less problematic to the environment’.

‘In a time period of 6 months, an evaluation will be presented of all activities, buildings and services with municipal involvement where PVC and other chlorine products are used, and a plan to phase out PVC, in the shortest possible time, including legal and educational measures or of any other nature’.

‘This evaluation will contain at least the following points:

- the use of chlorine plastics;
- the use of chlorine bleached paper;
- the use of chlorine cleaning products;
- the use of insecticides and plaguicides;
- concrete action proposals to substitute in all internal departments of the City Council, chlorine products for other harmless products to the environment;
- ordinances modification proposals;
- proposals to condition municipals public assistance for the non use of chlorine products’.

– Bilbao

Furthermore, they adopted the following measures: ‘the Bilbao City Council urges the Government of the Vasque country through their corresponding Department to request merchants and distributors of the Vasque autonomous region to voluntarily withdraw these products from the market’.

‘The Bilbao City Council urges the Government of the Vasque Country through their corresponding Department to promote information campaigns regarding the risks that is posed by contact with PVC toys and to warn about the unnecessary and easily avoidable risk, of exposing children in contact with this material’.

– Lloret de Mar

The following is the agreement approved in the Plenary Meeting:

‘Withdraw from the municipal day nursery of Lloret de Mar all PVC toys because of the hazard they represent to children’s health, due to the high content of phtalates, a very dangerous chemical substance that leaches during its use, normally resulting from sucking or chewing on soft PVC toys’.

‘Give support to the initiative promoted by Greenpeace in their campaign for the withdrawal of these products from shops and drug stores’.

Lloret de Mar (2)

Among these measures are the following commitments:

‘Building sites (non introduction of PVC): grant equivalent to the 10% of the municipal tax quote on construction, installations and buildings.’

‘Building substitution of PVC elements: grant equivalent to the 100% of the municipal tax quote on construction, installations and buildings related exclusively with these mentioned buildings’.

4.7 UK – Newhaven Town Council.

Council Policy on the use of PVC:-

- The Council will seek to avoid PVC in all products it purchases, including office equipment and furniture, electrical cables and miscellaneous items.
- The Council will make their policy known to suppliers and contractors and give priority to those that offer products that do not use PVC.
- When refurbishing or constructing public buildings or those for which public money is made available, the Council will specify to the designers/contractors that PVC should not be used except where an alternative cannot be found at a reasonable cost. In this case details of attempts to find such alternatives will be required by the Council. This applies to all construction materials including doors and windows, floors, electrical cabling, interior and exterior drainage and waste systems, underground piping and fixtures and fittings.
- The council, by implementing this policy and by other means, will work to educate the public on the environmental hazards of PVC and to lead by example.
- The Council will actively encourage and aid other Local Authorities and other agencies with which the Council works, to implement PVC restrictions.
- The Council recognises that it is the chlorine content of PVC that causes the most serious environmental damage and so will also avoid the use of other chlorinated products, such as chlorine bleached paper and chlorinated disinfectants.

4.8 Chicago Medical Society

No. 98-28 RESOLUTION

PVC Plastic Use by Health Care Facilities

Submitted by: Peter Orris, M.D.,

Councilor, Wood Street Branch

WHEREAS, the U.S. Environmental Protection Agency, in its 1994 Draft Dioxin Reassessment concluded that medical waste disposal is a major source of Dioxin contamination; and

WHEREAS, virtually all chlorinated organic compounds such as dioxins that have been studied exhibit at least one of a wide range of serious toxic effects such as endocrine dysfunction, developmental impairment, birth defects, reproductive dysfunction and infertility, and cancer, often at extremely low doses; and

WHEREAS, dioxins are created and released into the environment during the combustion of chlorinated plastic products such as polyvinyl chloride (PVC), representing on a tonnage basis, the largest and fastest growing class of synthetic chlorinated organic compounds; and

WHEREAS, the use of PVC products by the health care industry has grown rapidly, especially for the single use or short term use applications, accounting for most of the organically bound chlorine in medical waste; and

WHEREAS, any substitution for a chlorinated plastic product must provide a less toxic alternative with concern for the full public health implications of the replacement, including infectious considerations; and

WHEREAS, highly effective programs for the reduction of hospital waste have been initiated in the U.S. and programs for the substitution of PVC are in place in some hospitals in Europe, therefore be it

RESOLVED, that the CMS encourage the study and evaluation of alternative products and practices that will lead to the reduction and elimination of dioxin release into the environment from medical products composed of chlorinated hydrocarbons; and be it further

RESOLVED, that the CMS refer this issue to the ISMS for further action.

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4.9 Nike PVC phase out

September 1998

FOR IMMEDIATE RELEASE

NIKE STATEMENT ON DECISION TO PHASE-OUT PVC

AT NIKE WE ARE LOOKING AT THE BIGGER PICTURE.

A concerted effort to reduce the environmental impact of NIKE's business began in 1993 with the establishment of the NIKE Environmental Action Team. Our move towards sustainable business practices, which includes environmental, social and economic aspects, has evolved since that date.

Our corporate environmental policy (P.A.C.E., Policy Assuring a Cleaner Environment) is intended to cover three key areas: product stewardship, supply chain responsibility and operational stewardship. Under the theme of product stewardship we need to consider a number of elements: conserving resources, minimizing waste, and reducing the potential for any negative impact on the environment or living systems.

Based on these criteria we have committed to phasing out the use of polyvinyl chloride (PVC) in our products.

In reaching this decision, NIKE considered a broad range of scientific information from its own consultants, industry sources, government agencies and independent monitoring groups. Many of these findings indicate that PVC may pose a risk of harm to living systems, particularly if it is manufactured or disposed of improperly. Nike is actively pursuing alternatives to PVC that better meet our sustainability criteria while still meeting our high athletic performance standards.

NIKE's PVC phase-out began on August 1st of this year and will continue to evolve every day at NIKE as we identify more sustainable alternatives and incorporate them into our design and manufacturing processes.

website: http://www.nikebiz.com/media/media_nj.html

4.10 A-Z index of companies

To compile