

# COMMISSION OF THE EUROPEAN COMMUNITIES

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PROPOSAL FOR A COUNCIL DIRECTIVE ON THE DISPOSAL OF POLYCHLORINATED BIPHENYLS  
AND POLYCHLORINATED TERPHENYLS

(presented by the Commission)

EXPLANATORY MEMORANDUMA. Introduction

1. The safe disposal of dangerous waste is one of the objectives of Community waste management policy set out in the second action programme on the environment adopted by the Council on 17 May 1977.<sup>1</sup> These objectives were confirmed in the third action programme adopted in February 1983<sup>2</sup> and hold good for the lifetime of the fourth action programme adopted by the Council on 19 October 1987.<sup>3</sup>

The fourth programme also states that the Commission will amend the PCB Directive under its programme for the safe disposal of unavoidable waste.

2. PCBs and PCTs have been used for some 40 years in very varied applications such as components in paints, glues, lubricants, plastics and as dielectrics and hydraulic fluids. Nowadays most of the PCBs and PCTs still in use are found in transformers, condensers and, in some cases, in hydraulic mining equipment. Such equipment is considered to be of the closed circuit type.

3. The dangerous nature of these substances has gradually become apparent through their use and as a result of a number of accidents:

- (a) in 1986 a heat exchanger released PCBs into rice oil in Japan. Some 1 000 persons were poisoned.
- (b) a fire broke out in 1981 in the basement of an office block in Binghampton, New York. A transformer exploded and Askarel (PCB) which it contained was broken down by the heat. Accordingly to the analyses carried out, the building was filled with polychlorinated dibenzofurans

(PCDFs) and polychlorinated dibenzodioxins (PCDDs) which are produced in the pyrolysis of PCBs and are some of the most toxic substances in existence. Studies carried out after this accident showed that some of the clinical symptoms attributed to PCBs are due to PCDFs.

4. These accidents are the best known of a whole series of smaller incidents. A number of lessons have been learnt from such incidents over the years. PCBs can be dispersed into the environment by a transformer even if this is considered to be a closed system. After an explosion of appliances containing PCBs, preceded or followed by a fire, toxic products can be found in the soot formed in the pyrolysis of PCBs and mixtures of PCBs and trichlorobenzene; in the main these are polychlorinated dibenzodioxins (PCDDs).

PCBs can also be dispersed into the environment in materials contaminated by PCBs which are handled without special precautions.

5. The recent measures proposed by the Commission and adopted by the Council to ban the marketing of PCBs will inevitably lead to an increase in the volume of used PCBs and in material contaminated by PCBs. Efforts will be made to replace these since it will affect equipment maintenance.

6. Clearly there is a need to supplement the provisions now in force. The Netherlands and Luxembourg have drawn up programmes for the disposal of PCBs and other Member States are preparing such programmes. It is estimated that at the present time there are some 260 000 PCB transformers in operation in Europe containing 180 000 tonnes of fluid. There are estimated to be some hundreds of millions of capacitors of varying sizes with a PCB content ranging from a few grammes to a few hundred kilos.

7. There is not sufficient disposal capacity to cope with this quantity of PCBs.

The only industrial-scale method of destroying PCBs available is high-temperature incineration. Research and experiments have been carried out in many countries with several destruction processes for PCBs but these have not yet produced industrial applications. Such processes can be divided into thermal, physical/chemical and biological methods.

Thermal processes use high temperatures (ranging from 1 000 to 25 000<sup>0</sup>C) with/without oxygen. In addition to incineration, which is the best known process, these are plasma torches, steam cracking, pyrolysis and vitrification.

There are two methods of high-temperature incineration:

- (a) incineration on land: this is the most common method of destruction used. PCBs are burnt in excess oxygen at high temperatures. The process requires a large energy input which is usually provided by burning PCBs with other toxic waste with a high energy content.
- (b) incineration at sea: this is carried out on a few special vessels (e.g. the 'Vulcanus'). Such technology is not sufficiently advanced. Because the incinerator is on a ship the PCB residence times in the combustion process are not sufficiently long. This type of incineration is used for liquid waste contaminated by PCBs and is less expensive than onshore incineration. This method of waste destruction was discussed in detail at the London Conference on 24 and 25 November 1987 and a recommendation was adopted banning its use in the North Sea. Special incinerator capacity in the Community for the disposal of PCBs is

estimated to be some 16 000 tonnes a year. The following Table contains some information on these incinerators.

MEMBER STATE	COMPANY	ANNUAL VOLUME OF DISPOSAL TONNES
<u>UNITED KINGDOM</u>		
Wales	Rechem	750/1 000
Ellesmere Port	Cleanaway	500/550
<u>FRANCE</u>		
St Vulbas	Tredi	8 000
Limay	Sarp Industries	planned
<u>FEDERAL REPUBLIC OF GERMANY</u>		
Leverkusen	Bayer AG	1 000
Wiesbaden	Hessische Industrie Mühl-GmbH	2 000
Ludwigshafen	Basf	internal
Ebenhausen	Gesellschaft für Sondermühlbeseitigung	1 000
<u>BELGIUM</u>		
Antwerp	Basf	internal
Antwerp	Endaver	planned
<u>ITALY</u>		
Porto Marghera	Montedison	600
<u>NETHERLANDS</u>		
Rotterdam	AVR	1 000

Other methods of destroying PCBs are still at the development stage but look promising. These are:

(a) physico-chemical processes including PCB absorption over activated carbon, the use of ozone with ultraviolet radiation, catalytic dechlorination and chemical dechlorination.

(b) biological processes.

B. Community Directives on PCBs

In 1976 the Council of the European Communities adopted two Directives on PCBs. Their objective was to prevent the dispersion of PCBs in use or of used PCBs and to control their disposal. These are:

1. Directive 76/769/EEC of 27 July 1976 on the approximation of the laws, regulations and administrative provisions on the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations.<sup>4</sup> This Directive limits the use of PCBs in concentrations of over 1 000 ppm to closed systems such as transformers only.

2. Directive 76/403/EEC of 6 April 1976 on the disposal of polychlorinated biphenyls and polychlorinated terphenyls.<sup>5</sup> Under this Directive only used PCBs or PCBs contained in objects or equipment which are no longer used must be disposed of. It also recommends the regeneration of PCBs.

These two Directives have failed to curb all pollution by PCBs or their dispersion into the environment.

A first step towards ensuring better control of PCBs was made with the adoption on 6 December 1984 by the Council of Directive 84/631/EEC on the supervision and control within the European Community of the transfrontier shipment of hazardous waste.<sup>6</sup> This Directive introduces a system of waste supervision using a standard document containing details of movements of dangerous waste from one Member State to another.

On 1 October 1985 the Council adopted an amended version of Directive 76/769/EEC, Directive 85/467/EEC of 1 October 1985.<sup>7</sup> This prohibits the marketing of PCBs in concentrations of more than 100 ppm and will inevitably lead to a rise in the volume of used PCBs and contaminated materials.

When the Directive was adopted, the Council requested the Commission to make a proposal amending Directive 76/403/EEC to improve the conditions of PCB disposal as it was aware of the consequences which this Directive would have.

The Commission has also looked at the question of waste oils contaminated with PCBs. On 22 December 1986 the Council adopted Directive 87/101/EEC amending Directive 75/439/EEC on the disposal of waste oils.<sup>8</sup> Under the terms of the latter any waste oil containing more than 50 ppm of PCBs must be treated as PCBs.

### C. Conclusions

It was considered appropriate to replace Directive 76/403/EEC by the following proposal in view of the extent of the amendments needed.

The proposal concentrates on the following aspects:

- (a) fixing of a level which will determine whether a mixture containing PCBs is subject to the rules laid down in the proposal;
- (b) inclusion of material contaminated by PCBs;
- (c) a ban on regeneration;
- (d) ensuring supervision of firms which dispose of PCBs without a licence by laying down minimum conditions concerning the structure and operation of plants. These are firms which destroy or collect PCBs;
- (e) ensuring supervision of firms which remove PCBs from materials and replace PCBs in transformers by other dielectric fluid;
- (f) requirement that equipment containing PCBs be labelled;
- (g) requirement that equipment containing more than 8 dm<sup>3</sup> of PCBs be declared and national inventories be compiled;
- (h) requirement for Member States to draw up disposal plans for PCBs and collection plans for small capacitors;

D. Amendments proposed in the Directive

Legal basis

The disposal of PCBs is an industrial activity which is carried out throughout the European Community and divergences in the rules governing this activity may not only form an obstacle to the establishment of the internal market but also contribute to environmental pollution through the dispersion of PCBs. It is hence necessary to base the Directive on Article 100a which provides for measures for the approximation of the provisions laid down by law, regulation or administrative action in Member States and to ensure a higher level of environmental protection.

Article 2

Paragraph (a)

Since PCBs can be mixed with various liquids, it was considered necessary to define a minimum PCB content below which the liquid in question would not be treated as PCBs. A level of 50 ppm was judged to be acceptable (see waste oils). Where absorbent/non-absorbent solids are contaminated by PCBs studies should be carried out in order to define precise limits for PCB contamination.

Paragraph (c)

The requirement that equipment containing a dielectric fluid which has not been identified be treated as equipment containing PCBs is necessary, particularly for capacitors, as it is sometimes difficult to establish whether they contain PCBs. This is a practice which is already in use in Switzerland.

Paragraph (e)

Decontamination involves the use of one or more techniques based on physico-chemical processes which are tailored to the type of materials from which PCBs are to be removed. This is carried out where pollution is caused by the dispersion of dielectric fluids or by the formation of dioxins and furanes, where PCBs are replaced by other dielectric fluids in transformers or where equipment is decontaminated before the materials it contains are recycled or destroyed.



Paragraph (f)

The replacement of PCBs by other dielectric fluids in transformers is a temporary alternative solution to the final disposal of such equipment. This involves replacing PCBs by appropriate dielectric fluids after transformers have been decontaminated with solvents.

Article 3

This Article recommends a ban on various practices such as mixing PCBs with other types of waste to prevent pollution by PCBs simply being transferred to other types of waste and, in particular, to prevent fraudulent disposal of PCBs. The example of waste oils contaminated by PCBs calls for vigilance on our part. The ban is also intended to prevent the practice of diluting PCBs with other substances to avoid having to dispose of them in the proper and controlled manner, which may be costly.

Incineration at sea is also prohibited. Following the London Declaration in November 1987 by ministers of the countries which are parties to the Oslo Convention, which covers matters relating to the North Sea, a total ban has been imposed on the incineration of dangerous waste on incinerator vessels with effect from 31 December 1994. A similar, tacit, agreement also exists under the Barcelona Convention, which covers the Mediterranean.

Article 4

Since the marketing of PCBs has been banned their regeneration is no longer justified, and could perpetuate the problems caused by PCBs. An exception is made for transformers which are in good working order and do not leak. Authorized firms will be allowed to maintain them to check the dielectric quality of the fluid.

Article 5 (second indent)

PCBs must be kept apart from any equipment containing flammable substances in view of their fire risk. This needs to be spelt out in the Directive.

## Article 6

Pollution by PCBs is not only accidental, it may also be due to poor management. It is hence considered expedient to lay down general rules which will provide a legal framework for safe disposal. In view of their technical nature these rules are set out in the annex (Annexes 1A and 1B) and may be revised by the Commission pursuant to Article 8.

### Paragraph (2)

According to the provisions of Directive 75/442/EEC transport is considered to form part of the disposal process; consequently firms which transport used PCBs are subject to periodic checks. Transfrontier shipments are governed by Council Directive 84/631/EEC.

Annex 2 defines the applicability of these rules to the transport of PCBs.

### Paragraph (3)

The removal of PCBs from contaminated materials and the replacement of PCBs by other fluids are operations which must be carried out by firms with experience in this field and which operate legally. They are not included in the lists of disposed operations in Annexes IIA and B to Directive 75/422/EEC as amended. It was hence necessary to state specifically, in this paragraph, that firms which carry out this type of operation should be subject to authorization pursuant to this Directive.

### Paragraph (4)

The purpose of notifying and publishing details of firms which dispose of PCBs is to ensure that such information circulates in all Member States and hence facilitates the disposal of PCBs.

### Paragraph (5)

Licences issued to firms which carry out disposal, decontamination or replacement of PCBs must be recognized by all Member States of the Community to ensure that such waste can be carried to its destination without hindrance, that competition is allowed to operate freely and with a view to the completion of the internal market by 1992.

### Article 7

There are a number of risks involved in the replacement of PCBs by other dielectric fluids both during the actual operation and on account of the substance selected. The advantage of this practice is that it reduces the risks attached to PCBs and facilitates transformer's eventual disposal.

Replacement will in some cases be preferred to disposal because cost is the major consideration for holders of used PCBs. This operation will enable holders of equipment which is still in good working order to save some of the cost of its disposal. In most cases this will be an immediate saving of at least 30%. It was hence considered better at this stage to make this practice subject to supervision under the conditions defined in Annexes 3 and 4 rather than to ban it completely.

### Article 9

It is essential to identify equipment containing PCBs in order to prevent their dispersion or being handled without precautions, hence the value of labelling. Furthermore, PCB labels must be put on all entry doors to premises where such equipment is located to ensure that appropriate measures are taken on such premises. A model of this label is given in Annex 5. It must be possible to undertake long-term planning for PCB disposal, and for this a PCB inventory is essential. This inventory will form part of the measures provided for in Article 10 which will form the basis for rational disposal at Community level. The choice of 8 dm<sup>3</sup> is a reasonable compromise based on practical considerations. Instructions are given in Annex 6 on how to compile this inventory.

Notification of summaries of Member States' inventories to the Commission will provide further detailed information at European level in this field. A store of centralized information will give useful details of the volume of PCBs to be destroyed, investment to be made and lead times required to solve the PCB problem.

### Article 11

Information programmes for PCB holders will help ensure that the declaration forms are correctly completed by holders of equipment containing PCBs. They will also make holders more aware of their responsibilities and ensure that such equipment is used more safely.

Public information campaigns will help put PCBs in their proper context and provide the public with objective and factual information.

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- 1 OJ No C 139, 13.6.1977.
  - 2 OJ No C 46, 17.2.1983.
  - 3 OJ No L 328, 7.12.1987.
  - 4 OJ No L 262, 27.9.1976.
  - 5 OJ No L 108, 26.4.1976.
  - 6 OJ No L 326, 13.12.1984.
  - 7 OJ No L 269, 11.10.1985.
  - 8 OJ No L 42, 12.2.1987.

Proposal for a  
COUNCIL DIRECTIVE

ON THE DISPOSAL OF POLYCHLORINATED BIPHENYLS  
AND POLYCHLORINATED TERPHENYLS

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community and in particular Article 100a thereof,

Having regard to the proposal from the Commission,<sup>1</sup>

In cooperation with the European Parliament,<sup>2</sup>

Having regard to the opinion of the Economic and Social Committee,<sup>3</sup>

Whereas divergences between the laws of the Member States on the disposal of PCBs may lead to distortions of competition and, as a result, have a direct impact on the establishment and functioning of the internal market; whereas it is hence necessary to approximate laws in this field;

Whereas Council Directive 76/403/EEC of 6 April 1976 on the disposal of polychlorinated biphenyls and polychlorinated terphenyls<sup>4</sup> constituted a preliminary approximation of the laws of the Member States in this field; whereas these rules have not proved sufficient and whereas the state of the art has evolved to a point where disposal conditions can be improved and a high level of environmental protection can be taken as a basis; whereas that Directive should therefore be replaced by a new Directive;

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<sup>4</sup>OJ No L 108, 26.4.1976, p.41.

Whereas the safe disposal of unavoidable waste is one of the objectives of Community waste management policy as set out in the second action programme on the environment and confirmed in the fourth programme;<sup>5</sup>

Whereas Council Directive 76/769/EEC of 27 July 1976 on the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations,<sup>6</sup> as last amended by Council Directive 85/610/EEC<sup>7</sup> underlines the need for a periodic review of the whole problem with a view to moving gradually towards the complete removal of PCBs and PCTs;

Whereas Council Directive 75/442/EEC of 15 July 1975 on waste<sup>8</sup>, as amended by Directive .....<sup>9</sup>, concerns the disposal of waste in general; whereas this Directive contains specific Community rules and can be regarded as a special Directive within the meaning of Directive 75/442/EEC;

Whereas Council Directive 75/439/EEC of 16 July 1975 on the disposal of waste oils<sup>10</sup>, as amended by Directive 87/101/EEC<sup>11</sup>, lays down 50 ppm as the maximum limit for the PCB or PCT content of waste oils and PCBs must hence be defined in the light of that level irrespective of the mixture concerned;

Whereas the marketing of PCBs is now prohibited and whereas substitutes are commercially available and whereas regeneration should consequently be prohibited;

<sup>5</sup> OJ No C 328, 7.12.1987, p.1.  
<sup>6</sup> OJ No L 262, 27.9.1976, p. 201.  
<sup>7</sup> OJ No L 375, 31.12.1985, p.1.  
<sup>8</sup> OJ No L 194, 25.7.1975, p. 39.  
<sup>9</sup> OJ No L  
<sup>10</sup> OJ No L 194, 25.7.1975, p. 23.  
<sup>11</sup> OJ No L 42, 12.2.1987, p. 43.

Whereas PCBs are widely dispersed in the environment and they are known to have harmful effects on human health and the environment and whereas it is consequently necessary to prohibit any uncontrolled operation involving PCBs;

Whereas PCBs should be disposed of in a manner which ensures that they are prevented as far as possible from being dispersed in the environment and whereas it is necessary to lay down minimum conditions under which licences are granted to firms which carry out their disposal;

Whereas the number of PCB disposal plants is small and their capacity limited and whereas consequently disposal programmes for used PCBs must be drawn up to ensure proper planning of PCB disposal;

Whereas it is essential to know what quantities of PCBs exist in order to be able to match disposal capacity to needs and it is therefore necessary to label equipment containing PCBs and to compile an inventory of PCBs;

Whereas the replacement of PCBs in equipment by other fluids is a difficult operation and may not be fully carried out and whereas it is consequently essential to define rules governing this operation,

HAS ADOPTED THIS DIRECTIVE:

Article 1

The purpose of this Directive is to approximate the laws of the Member States on the controlled disposal of PCBs and equipment or objects contaminated by PCBs in order to reduce and prevent pollution.

Article 2

For the purposes of this Directive:

- (a) "PCBs" means: - polychlorinated biphenyls (PCB)  
- polychlorinated terphenyls (PCT)  
- any mixture containing more than 0.005% by weight of PCBs and/or PCTs.
- (b) "Used PCBs" means: any PCBs which are waste within the meaning of Directive 75/442/EEC.
- (c) "Equipment containing PCBs" means: any apparatus or equipment containing PCBs or having contained PCBs which has not been decontaminated or any object contaminated by PCBs.  
Until proof to the contrary is provided, equipment containing a fluid which has not been identified shall be treated as equipment containing PCBs.
- (d) "Holder" means: any person holding PCBs and/or holding or using equipment containing PCBs.



- (e) "Decontamination" means: all operations which enable equipment, objects or materials contaminated by PCBs to be reused or recycled.
- (f) "Replacement": all operations in which PCBs are replaced by suitable fluids not containing PCBs.

Article 3

Member States shall take the necessary measures to prohibit:

- the uncontrolled disposal of PCBs, used PCBs or equipment containing PCBs;
- the mixing of waste containing PCBs with other waste or substances prior to transfer to a disposal undertaking;
- the incineration of PCBs on incinerator ships from 1995.

Article 4

1. By way of derogation from Article 3 of Directive 75/442/EEC Member States shall prohibit regeneration.
2. Member States may authorize PCBs contained in electric transformers to be treated only if:
  - (a) the purpose of this treatment is to ensure, when such transformers are maintained, that the PCBs they contain comply with technical rules or specifications regarding dielectric quality;
  - (b) such treatment is carried out by an authorized undertaking; and
  - (c) the transformer is in good working order and does not leak.

Article 5

By way of derogation from Article 7 of Directive 75/442/EEC, Member States shall take the necessary measures to ensure that holders of used PCBs or of equipment containing PCBs who have not been authorized pursuant to Article 6:

- transfer them as soon as possible to an undertaking authorized pursuant to Article 6;
- take steps to ensure that they are kept away from equipment or containers containing flammable substances.

Article 6

1. The licence referred to in Article 8 of Directive 75/442/EEC shall be issued only to PCB disposal establishments or undertakings which satisfy at least the conditions laid down in Annex 1 hereto.
2. Used PCBs and equipment containing PCBs must be transported in accordance with the provisions of Council Directive 84/631/EEC<sup>12</sup> and as described in Annex 2 hereto.
3. Any undertaking or establishment which engages in decontamination or which replaces PCBs by other fluids shall require a licence issued by the competent authorities of the Member States.
4. Member States shall notify the Commission of the names, addresses, telephone and telex numbers and disposal capacities of the undertakings authorized to dispose of PCBs and of any change in this information. The Commission shall publish this information in the Official Journal of the European Communities.

<sup>12</sup> OJ No L 326, 13.12.1984, p.31.

5. Licences issued by the competent authorities of a Member State pursuant to paragraphs 1 and 3 shall be recognized by the other Member States.

Article 7

1. Member States shall take the necessary measures to ensure that:
  - (a) PCBs are replaced by other fluids only if other solutions would entail greater risks;
  - (b) the minimum conditions laid down in Annex 3 are observed if the PCBs contained in equipment are replaced;
  - (c) equipment in which fluids are replaced is properly decontaminated;
  - (d) equipment in which fluids are replaced is clearly and indelibly marked as specified in Annex 4;
  - (e) any equipment in which PCBs have been replaced is treated as containing PCBs for the purposes of its disposal, unless proof to the contrary is provided.
2. Member States may prohibit the replacement of PCBs in their territory.

Article 8

The reference method of measurement to determine the PCB content and the adaptation to technical progress of the Annexes shall be decided by the Commission after consulting the Committee for adaptation to technical progress established pursuant to Article 12b of Directive 75/442/EEC and in accordance with the procedure laid down in Article 12c of that Directive.

Article 9

1. Member States shall take the necessary measures to ensure that any equipment containing PCBs is labelled in accordance with Annex 5. This label must also be affixed to the door of premises or rooms where equipment containing more than 8 dm<sup>3</sup> of PCBs is located.
2. Member States shall compile inventories of equipment containing more than 8 dm<sup>3</sup> of PCBs. They shall take the necessary measures to ensure that holders of such equipment notify the competent authorities of the quantities which they hold. Annex 6 sets out the rules for compiling and publishing an inventory and a model of the PCB inventory form to be completed by holders.
3. Member States shall send a summary of these inventories to the Commission.

Article 10

Member States shall, within three years of the notification of this Directive and after consulting the Waste Management Committee set up by the Commission Decision 76/431/EEC<sup>13</sup>, draw up plans such as those referred to in Article 6 of Directive 75/442/EEC relating to:

- the disposal of used PCBs and equipment containing PCBs,
- the collection of capacitors containing less than 7 dm<sup>3</sup> of PCBs or equipment containing such capacitors.

Member States shall notify these plans to the Commission without delay.

<sup>13</sup> OJ No L 115, 1.5.1976, p. 73.

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Article 11

Member States shall implement:

- (a) for holders of PCBs and equipment containing PCBs, information programmes on the hazards of PCBs to human health and the environment and on the precautions to be taken to ensure protection;
- (b) for members of the emergency services, training programmes on measures to be taken in the event of accidents involving PCBs;
- (c) for the general public, information campaigns concerning PCBs.

Article 12

1. Directive 76/403/EEC is hereby repealed with effect from 1 January 1990.

2. References to the Directive repealed under paragraph 1 shall be construed as references to this Directive. References to the Articles of that Directive shall be read in accordance with the table in Annex 7.

Article 13

1. Member States shall take the necessary measures to comply with this Directive from 1 January 1990. They shall forthwith inform the Commission thereof.
2. Member States shall communicate to the Commission the texts of the provisions of national law which they adopt in the field governed by this Directive. The Commission shall inform the other Member States thereof.

Article 14

This Directive is addressed to the Member States.

Done at:

For the Council

ANNEX 1

A. INSTALLATIONS FOR THE FINAL DESTRUCTION OF PCBs

1. These installations shall be designed and maintained according to standards of the best available technology not entailing excessive costs. They shall be operated at all times to ensure that all outflows of solids, fluids or gases do not contain PCBs or products arising from their incomplete (partial) oxidation.

2. All these installations shall be operated in such a way as to ensure that the specific process parameters are continuously maintained and there are sufficient excess reactants to ensure that the reactions reach a safe level of completion.

3. In addition to the general requirements outlined above the following conditions must be observed for incineration installations:

- (a) conventional (open) incineration installations shall be equipped with safety back-up systems to ensure a continued supply of energy and reactants in the event of failure in normal sources of supply in order to maintain safe reaction conditions as long as toxic materials remain in the installation or until the normal supply can be restored;
- (b) the installations shall be equipped with automatic continuous monitoring equipment, the operation of which shall be able to override the operation of the installation and trigger its safety equipment. The monitoring equipment shall be protected from manual interference and shall be designed for regular automatic calibration; it shall be connected to sufficient sensors to enable it to make good representative measurements;

- (c) the incinerator must totally destroy the molecules of toxic substances. For this purpose conventional incineration installations must be equipped with post-combustion chambers with swirl devices. A minimum temperature of 1 200°C must be maintained in this chamber during combustion and the residence time of the gases must be at least two seconds. The gases discharged from the installations must have an oxygen content of 3% by volume;
- (d) where the process does not use post-combustion, incineration efficiency must be comparable to that of conventional incineration.

B. INSTALLATIONS FOR THE COLLECTION AND TEMPORARY STORAGE OF PCBs AND OF EQUIPMENT CONTAINING PCBs

1. Such installations shall be approved and their operation monitored by the competent local authorities; they shall satisfy national requirements for safety at work.
2. All sites where containers, materials or equipment containing PCBs are handled or stored shall have impervious bases capable of supporting any foreseeable load and able to contain any leakage of PCBs.
3. Such sites and structures must comply with the fire prevention and protection requirements approved by the competent authorities (fire service). Containers for PCBs shall be impermeable, have double walls and be labelled.
4. The leak containment capacity shall be not less than half the maximum PCB storage capacity and greater than the total volume of the largest single mass of PCBs contained in the largest piece of equipment.



5. Such structures shall be covered to prevent the entry of atmospheric precipitation and equipped with a special drainage system to collect all contaminated liquids to prevent their escape into the local drainage system.

ANNEX 2

TRANSPORT OF USED PCBs AND EQUIPMENT CONTAINING PCBs

1. Where the relevant international transport agreements which appears in Annex II of Directive 84/631/EEC<sup>(1)</sup> on transfrontier shipment of dangerous and toxic substances, or codes make specific mention of PCBs the requirements of these agreements and codes shall apply to national and international transport.
2. Where there is no specific mention of PCBs in the relevant international transport agreements or codes, the requirements of class 6.1, item 17b, of the ADR and RID shall apply to the national and international transport of PCBs by road and rail respectively. The requirements of class IVa of the ADNR shall apply to the transport of PCBs by inland waterway.
3. When more than 50 ppm of PCBs are present in a mixture with another dangerous substance such as petroleum oil which must satisfy different packaging, labelling or transport requirements, the more stringent requirements shall apply and the two substances must be marked. PCB containers must close hermetically and have absorbent material in their base.

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(1) OJ N° 326. 13.12.84

ANNEX 3

REPLACING PCBs IN EQUIPMENT

1. Equipment containing PCBs must be drained, cleaned and refilled without polluting the environment in any way.
2. Equipment containing PCBs may be refilled only with a suitable fluid which does not contain PCBs.
3. A single item of equipment situated in the vicinity of other equipment which still contains PCBs should not be filled with a substitute fluid with an ignition point under 300°C.
4. The PCBs contained in a substitute fluid must be physically or chemically separable.
5. The level of contamination of the new fluid by residual PCBs in the equipment shall not exceed 500 ppm.
6. During the time required for the residual PCBs to infiltrate the new fluid, the equipment in question shall continue to carry the label to be affixed to equipment containing PCBs shown in Annex 5 while it is in operation and until such time as the new fluid has been shown to have a contamination level below 500 ppm for a period of at least 90 days.
7. When the equipment which has been refilled in accordance with the above provisions has been shown to contain a fluid that is not contaminated with more than 500 ppm of PCBs, during the rest of its lifetime an indelible and clearly visible sign shall be fixed to it as set out in Annex 4.

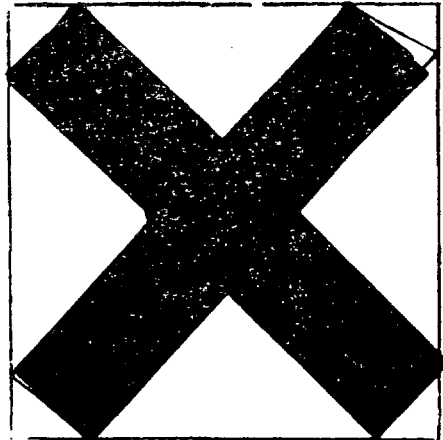
8. At the end of the life of such refilled equipment the fluid shall be analysed. If it contains more than 50 ppm of PCBs, the equipment and fluid shall be disposed of according to the method laid down for the destruction of PCBs. If some components of the equipment have levels of less than 50 ppm of PCBs after decontamination they may be recycled.

9. Member States shall ensure that adequate analytical services are available to owners of equipment containing PCBs.

ANNEX 4

LABELLING OF EQUIPMENT IN WHICH PCBs HAVE BEEN REPLACED BY OTHER FLUIDS

Each item of equipment shall be clearly marked with an indelible and embossed or engraved sign on at least two sides once the new fluid is shown not to contain more than 500 ppm of PCBs in accordance with the provisions of Annex 3. This label must include the following symbol and be worded in the language of the country in which the equipment is used and in English:



This equipment was originally filled with a fluid containing PCBs. It was refilled with ..... (substitute) ..... on ..... (date) .....

There may still be some residual PCBs in the fluid and the equipment. Before treating or disposing of the equipment check (compare) the level of PCBs and the relevant Community rules.

Date(s) of sampling

Residual PCBs

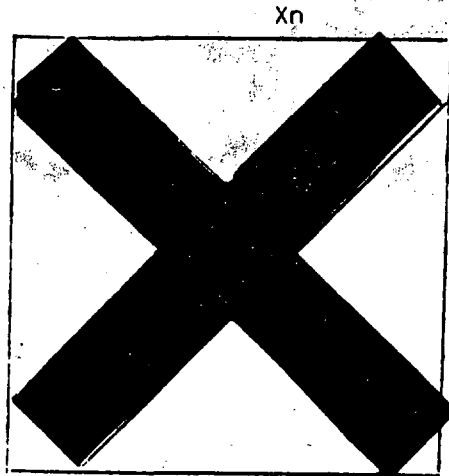
.....  
.....  
.....

.....  
.....  
.....

ANNEX 5

LABELLING OF EQUIPMENT CONTAINING PCBs

Such equipment shall be clearly and individually marked with an indelible sign in accordance with Directive 79/831/EEC and worded in the language of the country in which it is used and in English.



ANNEX 6

INSTRUCTIONS ON HOW TO COMPILE AN INVENTORY

1. To enable identification of equipment containing PCBs and to facilitate the decoding of the coded information on rating plates (name plates), Member States shall obtain all relevant information from manufacturers and distributors of such equipment, in particular of capacitors containing PCBs.
2. The inventory shall be kept up to date by means of the attached form. If equipment is emptied or decontaminated before recycling or destruction, this must be notified and recorded. Every user of equipment containing PCBs is required to keep a logbook in which all changes to the equipment shall be recorded.
3. Copies of the forms must be sent by holders to the competent authorities and the fire and police services.
4. Member States shall publish this information in the industrial press (electrical, maintenance, plant management, etc) and send such information to the fire service, waste disposal companies, local authorities, etc.

ANNEX 6 (continued)

DECLARATION FORM TO BE COMPLETED BY HOLDER OF PCBs

Date of declaration ...../...../19..

Holder (name of individual or company)

.....  
.....

Holder's address .....

..... Telephone No .....

1. LOCAL AUTHORITY UNDER WHOSE JURISDICTION THE OBJECT FALLS:

.....

2. LOCATION OF PCBs .....

(give sufficient details) .....

3. PURPOSE FOR WHICH OBJECT USED .....

(unit containing it) .....

4. DESCRIPTION OF THE EQUIPMENT CONTAINING THE PCB .....

(overall dimensions and volume) .....

5. SERIAL NUMBER/TYPE .....

6. MANUFACTURER .....

7. DATE OF MANUFACTURE .....

8. NAME AND/OR TYPE OF PCBs CONTAINED .....

9. QUANTITY OF PCBs CONTAINED .....



- 10. DATE OF REPLACEMENT .....  
(if carried out) .....
- 11. PRESENT OWNER OF OBJECT .....
- 12. LEGAL ADDRESS OF OWNER .....
- 13. TELEPHONE NUMBER WHERE OWNER  
CAN BE CONTACTED .....
- 14. OTHER COMMENTS .....
- 15. IF YOU CANNOT COMPLETE THIS FORM, COPY THE NAME PLATE

SIGNATURE OF RESPONDENT

Directive 76/403/EEC

Proposed Directive

Article 1(a)

Article 2(a)

Article 1(b)

Article 1(b) and (c) of  
Directive 75/442/EEC as amended

Article 2

Article 3

Article 3

Article 4

Article 4

Article 4 of Directive 75/442/EEC

Article 5

Article 4

Article 6

Article 6

Article 7

Article 8 of Directive 75/442/EEC

Article 8

Article 12

Article 9

Article 10

Article 12 of Directive 75/442/EEC

Article 11

Article 14(1)

Article 12

Article 14(2)

Article 13

Article 15

## REPONSES AUX QUESTIONS DE LA FICHE D'IMPACT

- I. La raison principale d'introduction de ces mesures est l'amélioration de la protection de l'environnement par un contrôle plus strict de l'élimination des PCB.
- II. Les PCB sont des fluides diélectriques contenus dans les transformateurs électriques qui transforment le courant électrique. Ces transformateurs peuvent se trouver dans tout immeuble ou tout endroit où il y a besoin de transformation du courant électrique. Les entreprises concernées sont toutes celles qui possèdent des appareils contenant des PCB qu'elles soient grandes, moyennes ou petites. Sont aussi concernées les entreprises qui éliminent les PCB. Elles peuvent être de tout taille. Ces entreprises ne sont pas spécialement concentrées dans des régions éligibles pour une aide régionale par les Etats membres ni sous le FED.
- III. Les entreprises qui détiennent des appareils contenant des PCB devront:
  - a) - marquer ces appareils conformément aux annexes 4 et 5 de la proposition de directive,  
- déclarer ces appareils suivant les dispositions de l'article 9 et de l'annexe 6 de la proposition de directive.
  - b) Les entreprises qui détruisent les PCB devront se conformer aux conditions de l'annexe 1A de la proposition de directive.
  - c) Les entreprises qui regroupent des PCB devront se conformer aux conditions de l'annexe 1B de la proposition de directive.
  - d) Les entreprises qui transportent des PCB devront se conformer à l'annexe 2 de la proposition de directive.
  - e) Les entreprises qui substituent les PCB par d'autres diélectriques dans les appareils devront se conformer à l'annexe 3 de la proposition de directive.

Les législations concernant les PCB sont existantes dans plusieurs Pays membres mais elles sont souvent divergeantes. Il y a dans ces législations des dispositions similaires à l'une ou à l'autre disposition de la proposition de

directive. Dans d'autres pays tels que l'Espagne, la Grèce ou le Portugal, des compléments importants devront être apportés à leurs législations.

Le coût maximal que devra supporter une entreprise pour un appareil à remplacer sera équivalent au coût de l'achat d'un nouvel appareil ne contenant pas des PCB augmenté du coût de l'élimination de l'ancien appareil.

Les grandes entreprises devront consentir des coûts importants pour le remplacement de leurs appareils car elles ont plus d'appareils que les petites entreprises.

- IV. Les autorités devront délivrer des autorisations aux entreprises qui procèdent à l'élimination des PCB à la décontamination et à la substitution des PCB par un autre diélectrique. Les autorités sont aussi responsables du contrôle de ces entreprises.
- V. Il n'y a pas de mesures qui s'adressent plus spécialement aux petites et moyennes entreprises.
- VI. Le PCB n'étant plus commercialisé les équipements existants seront affectés (mis à part le marquage dont le coût est négligeable) qu'une fois défectueux.

Ils devront être remplacés par des équipements ne contenant plus de PCB et ceci même sans la directive. Cette directive n'a donc pas d'effet sur les sociétés. Par contre pour les sociétés de services elle harmonise les dispositions ce qui contribue à libre circulation des services, conformément aux dispositions du Traité. Cette liberté de prestation de service élargit considérablement le champ d'action des PME concernés et par là, ne peut que contribuer positivement à leur développement, tant en ce qui concerne les effets économiques que d'emploi par la création de nouvelles entreprises de services ou par le développement des entreprises existantes.

Les bénéfices qui vont découler de l'harmonisation des conditions d'opération des installations d'élimination des PCB pourront certainement couvrir la charge des procédures administratives relatives aux inventaires et déclarations de détention demandés par l'article 9.2 de cette proposition.

VII Nous avons eu des contacts avec certaines entreprises d'élimination. Leurs avis ne sont pas concordants avec les dispositions de la directive dans la mesure où ils n'appliquent pas les mesures de sécurité proposées par celle-ci.