Judgment of the Court (Fifth Chamber) of 15 June 2000. - ARCO Chemie Nederland Ltd v Minister van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer (C-418/97) and Vereniging Dorpsbelang Hees, Stichting Werkgroep Weurt+ and Vereniging Stedelijk Leefmilieu Nijmegen v Directeur van de dienst Milieu en Water van de provincie Gelderland (C-419/97). - Reference for a preliminary ruling: Raad van State - Netherlands. - Environment - Directives 75/442/EEC and 91/156/EEC - Concept of "waste". - Joined cases C-418/97 and C-419/97.

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Keywords

1. Environment - Waste - Directive 75/442, as amended by Directive 91/156 - Means of proof - Application of rules of national law - Conditions

(EC Treaty, Art. 130r (now, after amendment, Art. 174 EC); Directive 75/442, as amended by Directive 91/156))

2. Environment - Waste - Directive 75/442, as amended by Directive 91/156 - Definition - Substance which has been discarded - Mere fact of undergoing a recovery operation within the meaning of Annex IIB - Insufficient

(Council Directive 75/442, as amended by Directive 91/156, Annex IIB)

3. Environment - Waste - Directive 75/442, as amended by Directive 91/156 - Definition - Substance which has been discarded - Use of a substance as fuel - Criteria of assessment

(Council Directive 75/442, as amended by Directive 91/156, Art. 1(a))

4. Environment - Waste - Directive 75/442, as amended by Directive 91/156 - Definition - Substance which has been discarded - Criteria of assessment

(Council Directive 75/442, as amended by Directive 91/156, Art. 1(a))

5. Environment - Waste - Directive 75/442, as amended by Directive 91/156 - Definition - Criteria of assessment

(Council Directive 75/442, as amended by Directive 91/156, Art. 1(a) and Annex IIB)

Summary

1. In the absence of Community provisions, Member States are free to chose the modes of proof of the various matters defined in the directives which they transpose, provided that the effectiveness of Community law is not thereby undermined.

The effectiveness of Article 130r of the Treaty (now, after amendment, Article 174 EC) and Directive 75/442 on waste, as amended by Directive 91/156, would be undermined if the national legislature were to use modes of proof, such as statutory presumptions, which had the effect of restricting the scope of the directive and not covering materials, substances or products which correspond to the definition of waste within the meaning of the directive.

(see paras 41-42)

2. It may not be inferred from the mere fact that a substance undergoes a recovery operation listed in Annex IIB to Directive 75/442 on waste, as amended by Directive 91/156, that that substance has been discarded so as to enable it to be regarded as waste for the purposes of the directive.

(see para. 51 and operative part)

3. For the purpose of determining whether the use of a substance as a fuel is to be regarded as constituting discarding, it is irrelevant that those substances may be recovered in an environmentally responsible manner for use as fuel without substantial treatment.

The fact that that use as fuel is a common method of recovering waste and the fact that those substances are commonly regarded as waste may be taken as evidence that the holder has discarded those substances or intends or is required to discard them within the meaning of Article 1(a) of Directive 75/442 on waste, as amended by Directive 91/156. However, whether they are in fact waste within the meaning of the directive must be determined in the light of all the circumstances, regard being had to the aim of the directive and the need to ensure that its effectiveness is not undermined.

(see paras 72-73 and operative part)

4. The fact that a substance used as fuel is the residue of the manufacturing process of another substance, that no use for that substance other than disposal can be envisaged, that the composition of the substance is not suitable for the use made of it or that special environmental precautions must be taken when it is used may be regarded as evidence that the holder has discarded that substance or intends or is required to discard it within the meaning of Article 1(a) of Directive 75/442 on waste, as amended by Directive 91/156. However, whether it is in fact waste within the meaning of the directive must be determined in the light of all the circumstances, regard being had to the aim of the directive and the need to ensure that its effectiveness is not undermined.

(see para. 88 and operative part)

5. The fact that a substance is the result of a recovery operation within the meaning of Annex IIB to Directive 75/442 on waste, as amended by Directive 91/156, is only one of the factors which must be taken into consideration for the purpose of determining whether that substance is still waste, and does not as such permit a definitive conclusion to be drawn in that regard. Whether it is waste must be determined in the light of all the circumstances, by comparison with the definition set out in Article 1(a) of the directive, that is to say the discarding of the substance in question or the intention or requirement to discard it, regard being had to the aim of the directive and the need to ensure that its effectiveness is not undermined.

(see para. 97 and operative part)

Parties

In Joined Cases C-418/97 and C-419/97,

REFERENCES to the Court under Article 177 of the EC Treaty (now Article 234 EC) by the Nederlandse Raad van State, The Netherlands, for a preliminary ruling in the proceedings pending before that court between

ARCO Chemie Nederland Ltd

and

Minister van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer (C-418/97)

and between

Vereniging Dorpsbelang Hees,

Stichting Werkgroep Weurt+,

Vereniging Stedelijk Leefmilieu Nijmegen

and

Directeur van de dienst Milieu en Water van de provincie Gelderland,

joined party:

Elektriciteitsproductiemaatschappij Oost- en Noord-Nederland NV (Epon) (C-419/97),

on the interpretation of Council Directive 75/442/EEC of 15 July 1975 on waste (OJ 1975 L 194, p. 39), as amended by Council Directive 91/156/EEC of 18 March 1991 (OJ 1991 L 78, p. 32),

THE COURT (Fifth Chamber),

composed of: D.A.O. Edward, President of the Chamber, J.C. Moitinho de Almeida, L. Sevón (Rapporteur), C. Gulmann and J.-P. Puissochet, Judges,

Advocate General: S. Alber,

Registrar: D. Louterman-Hubeau, Principal Administrator,

after considering the written observations submitted on behalf of:

- Elektriciteitsproductiemaatschappij Oost- en Noord-Nederland NV (Epon), by H.J. Breeman and J. van den Brande, of the Rotterdam Bar,

- the Netherlands Government, by J.G. Lammers, Acting Legal Adviser in the Ministry of Foreign Affairs, acting as Agent,

- the Danish Government, by J. Molde, Head of Division in the Ministry of Foreign Affairs, acting as Agent,

- the German Government, by E. Röder, Ministerialrat at the Federal Ministry of Economic Affairs, acting as Agent,

- the Austrian Government, by C. Stix-Hackl, Gesandte in the Federal Ministry of Foreign Affairs, acting as Agent,

- the United Kingdom Government, by S. Ridley, of the Treasury Solicitor's Department, acting as Agent, and D. Wyatt QC,

- the Commission of the European Communities, by L. Ström and H. van Vliet, of its Legal Service, acting as Agents,

having regard to the Report for the Hearing,

after hearing the oral observations of Elektriciteitsproductiemaatschappij Oost- en Noord-Nederland

NV (Epon), represented by J. van den Brande, Vereniging Dorpsbelang Hees, represented by G.C.M. van Zijll de Jong-Lodenstein, duly authorised representative, Stichting Werkgroep Weurt+ and Vereniging Stedelijk Leefmilieu Nijmegen, represented by F. Scheffer, Jurisconsult, Deventer, the Netherlands Government, represented by M.A. Fierstra, Head of the Department of European Law at the Ministry of Foreign Affairs, acting as Agent, the German Government, represented by C.-D. Quassowski, Regierungsdirektor at the Federal Ministry of the Economy, acting as Agent, the United Kingdom Government, represented by D. Wyatt, and the Commission, represented by H. van Vliet, at the hearing on 22 April 1999,

after hearing the Opinion of the Advocate General at the sitting on 8 June 1999,

gives the following

Judgment

Grounds

1 By two orders of 25 November 1997 received at the Court on 11 December 1997, the Nederlandse Raad van State (Council of State, The Netherlands) referred to the Court in each case two questions for a preliminary ruling under Article 177 of the EC Treaty (now Article 234 EC) on the interpretation of Council Directive 75/442/EEC of 15 July 1975 on waste (OJ 1975 L 194, p. 39), as amended by Council Directive 91/156/EEC of 18 March 1991 (OJ 1991 L 78, p. 32, hereinafter the directive).

2 Those questions arose in the context of appeals lodged against administrative decisions concerning substances destined to be used as fuel in the cement industry or to produce electrical energy; the national court is in doubt as to whether those substances constitute raw materials or waste within the meaning of the directive.

Applicable Community legislation

3 Article 1 of the directive provides the following definitions:

(a) "waste" shall mean any substance or object in the categories set out in Annex I which the holder discards or intends or is required to discard.

The Commission, acting in accordance with the procedure laid down in Article 18, will draw up, not later than 1 April 1993, a

list of wastes belonging to the categories listed in Annex I. This list will be periodically reviewed and, if necessary, revised by the same procedure;

(b) "producer" shall mean anyone whose activities produce waste ("original producer") and/or anyone who carries out pre-processing, mixing or other operations resulting in a change in the nature or composition of this waste;

(c) "holder" shall mean the producer of the waste or the natural or legal person who is in possession of it;

(d) "management" shall mean the collection, transport, recovery and disposal of waste, including the supervision of such operations and after-care of disposal sites;

(e) "disposal" shall mean any of the operations provided for in Annex II, A;

(f) "recovery" shall mean any of the operations provided for in Annex II, B;

(g) "collection" shall mean the gathering, sorting and/or mixing of waste for the purpose of transport.

4 Annex I to the directive is entitled Categories of waste and lists 16 categories of waste. The final category, Q16, comprises:

Any materials, substances or products which are not contained in the above categories.

5 In Decision 94/3/EC of 20 December 1993 establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste (OJ 1994 L 5, p. 15) the Commission drew up a harmonised and non-exhaustive list of waste, commonly referred to as the European Waste Catalogue.

6 Article 3(1) of the directive provides:

Member States shall take appropriate measures to encourage:

(a) firstly, the prevention or reduction of waste production and its harmfulness ...

...

(b) secondly:

(i) the recovery of waste by means of recycling, re-use or reclamation or any other process with a view to extracting secondary raw materials, or

(ii) the use of waste as a source of energy.

7 Article 4 of the directive provides that Member States are to take the necessary measures to ensure that waste is

recovered or disposed of without endangering human health and without using processes or methods which could harm the environment.

8 Annexes IIA and IIB to the directive specify what is meant by the disposal and recovery of waste.

9 Annex IIA to the directive states that it is intended to list disposal operations as they occur in practice. That annex includes categories of the following types:

D1 Tipping above or underground (e.g. landfill, etc.)

D2 Land treatment (e.g. biodegradation of liquid or sludge discards in soils, etc.)

...

D4 Surface impoundment (e.g. placement of liquid or sludge discards into pits, ponds or lagoons, etc.)

...

D10 Incineration on land.

10 Annex IIB of the directive states that it is intended to list recovery operations as they are carried out in practice. It includes the following categories:

R1 Solvent reclamation/regeneration

R2 Recycling/reclamation of organic substances which are not used as solvents

...

R4 Recycling/reclamation of other inorganic materials

...

R9 Use principally as a fuel or other means to generate energy.

Facts and questions referred to the Court

Case C-418/97

11 ARCO Chemie Nederland Ltd (hereinafter ARCO) applied to the Minister van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer (Minister for Housing, Planning and the Environment, hereinafter the competent authority) for authorisation to export to Belgium 15 000 000 kg of LUWA-bottoms. Although ARCO states that in its view LUWA-bottoms are not waste, it none the less applied for that authorisation in case the competent authority should consider that they were waste.

12 LUWA bottoms are one of the by-products of the manufacturing process used by ARCO. In addition to propylene oxide and tertiary butyl alcohol, that manufacturing process produces a flow of hydrocarbons containing molybdenum. The molybdenum comes from the catalysts used to produce propylene oxide. The molybdenum is extracted from the flow of hydrocarbons in a dedicated plant and the process produces the substance which ARCO describes as LUWA-bottoms. Those LUWA-bottoms, which have a calorific value of between 25 and 28 MJ/kg, are destined for use as a fuel in the cement industry.

13 By decision of 3 February 1995 the competent authority stated that it had no objection to the contemplated export of that waste until 1 February 1996. ARCO lodged a complaint with the competent authority against that decision. By decision of 20 July 1995 the competent authority rejected the complaint as unfounded. ARCO therefore lodged an appeal against that decision before the Nederlandse Raad van State.

14 The Nederlandse Raad van State is unsure as to whether the shipment of LUWA-bottoms to Belgium is covered by Council Regulation (EEC) No 259/93 of 1 February 1993 on the supervision and control of shipments of waste within, into and out of the European Community (OJ 1993 L 30, p. 1). It is therefore necessary to determine whether that substance constitutes waste for the purposes of the directive.

15 When considering whether the conditions of Article 1(a) of the directive were satisfied, the Nederlandse Raad van State noted that Annex I contains a category, Q16, which covers any materials, substances or products which are not covered by another category in that annex. As regards the requirement relating to the act of discarding an object, the national court asks whether that requirement may be regarded as fulfilled by virtue of the circumstance that LUWA-bottoms undergo an operation referred to in Annex IIB to the directive, in that they are destined for use as a fuel.

16 The national court also asks how relevant, for the purpose of determining whether the use of LUWA-bottoms as fuel is to be regarded as constituting discarding, are the criteria which it applies in the context of the case-law relating to the Afvalstoffenwet (Law on Waste) and the Wet Chemische Afvalstoffen (Law on Chemical Waste), according to which a substance deriving from a manufacturing process which can be used as fuel in an environmentally responsible manner without further processing is not to be regarded as waste.

17 The Nederlandse Raad van State also asks whether the criteria initially formulated in the Indicatief Meerjarenprogramma Chemische Afvalstoffen 1985-1989 (Multiannual programme of guidelines for chemical waste 1985-1989), which were later set out in the letter of 18 May 1994 from the competent authority to the President of the Second Chamber of the Staten-Generaal (Parliament) are relevant. Those criteria provide that substances can avoid being classified as waste only where:

- they are passed on directly by the person who made them,

- to another person who, without any processing (which alters the nature, properties or composition of the substances), uses them as to 100% in a manufacturing or refining process, for example in place of raw materials hitherto used, but

- without such use amounting to a common method of waste disposal.

18 The national court points out in that regard that since under national law the expression waste disposal means both final disposal and recovery of waste within the meaning of the directive, the use of LUWA-bottoms as a fuel within the meaning of heading R9 of Annex IIB to the directive is still to be regarded as constituting discarding.

19 Finally, the Nederlandse Raad van State noted that in the contested decision the competent authority had considered it significant that the substance in question was a residue.

20 In the light of those considerations, the Nederlandse Raad van State decided to stay proceedings and to refer the following questions to the Court for a preliminary ruling:

1. May it be inferred from the mere fact that LUWA-bottoms undergo an operation listed in Annex IIB to Directive 75/442/EEC that that substance has been discarded so as to enable it to be regarded as waste for the purposes of Directive 75/442/EEC?

2. If Question 1 is to be answered in the negative, does the reply to the question whether the use of LUWA-bottoms as a fuel is to be regarded as constituting discarding depend on whether:

(a) LUWA-bottoms are commonly regarded as waste, it being relevant whether they may be recovered in an environmentally responsible manner for use as fuel without substantial processing?

(b) the use of LUWA-bottoms as a fuel amounts to a common method of waste recovery?

(c) the substance used is a main product or a by-product (a residue)?

Case C-419/97

21 On 25 January 1993 Elektriciteitsproductiemaatschappij Oost- en Noord-Nederland NV (Epon) (the electricity-generating company for eastern and northern Netherlands, hereinafter Epon) applied for authorisation under the combined provisions of the Hinderwet (Law on Dangerous, Unhealthy and Noxious Establishments), the Wet inzake de Luchtverontreiniging (Law on Air Pollution) and the Wet geluidhinder (Law on Noise Pollution) to change the operation of its Gelderland electricity-generating station in Nijmegen in the Netherlands.

22 That application related to a project involving the use of wood residues from the construction and demolition sector delivered in the form of wood chips, which were to be transformed into wood powder and used as a fuel to generate electricity.

23 The application did not describe those substances as waste and did not seek authorisation under the legislation on waste.

24 By decision of 11 February 1994 the Gedeputeerde Staten van Gelderland granted Epon the authorisation applied for.

25 The authorisation prohibits the incineration or dumping of waste within the undertaking's establishment or the placing of waste in the soil or groundwater other than in accordance with the application.

26 Point 2.1 of the authorisation requires that quality specifications (conditions of acceptance) for the wood chips are to be agreed with the suppliers and approved by the Director of Environmental and Water Services (hereinafter the Director).

27 Epon submitted those specifications to the Director by letter of 17 July 1995; the Director approved them by letter of 18 July 1995.

28 Point (c) of the conditions of acceptance provides:

The wood chips must be free of sand, paint particles, stone, glass, plastic particles, textile and fabric particles and metal parts.

A container of wood chips may contain:

- not more than 20% chipboard;

- not more than 10% fibreboard.

Within the abovementioned quality specifications a limited quantity of sleepers, water-impregnated wood and preserved (creosoted) wood is permitted.

29 Vereniging Dorpsbelang Hees and others lodged complaints against the decision of 18 July 1995 approving the specifications. When the Director rejected those complaints as inadmissible or as unfounded, they appealed to the Nederlandse Raad van State.

30 The appellants in the main proceedings claim that the conditions of acceptance allow, inter alia, wood containing carcinogenic materials, dioxins or substances which release dioxins when burned to be accepted. They claim, in particular, that the treatment of the wood does not enable it to avoid being classified as waste, since it could contain materials such as paint, impregnating substances, glues, plastics and solvents.

31 For the purposes of the appeal, it is necessary to consider whether the quality specifications of the wood chips (conditions of acceptance) approved by the decision of 18 July 1995 are compatible with the authorisation to change the operation of the electricity-generating station granted on 11 February 1994.

32 For reasons analogous to those stated in connection with Case C-418/97, the Nederlandse Raad van State decided to stay proceedings and to refer the following questions to the Court for a preliminary ruling:

1. May it be inferred from the mere fact that wood chips undergo an operation listed in Annex IIB to Directive 75/442/EEC that that substance has been discarded so as to enable it to be regarded as waste for the purposes of Directive 75/442/EEC?

2. If Question 1 is to be answered in the negative, does the reply to the question whether the use of wood chips as a fuel is to be regarded as constituting discarding depend on whether:

(a) in regard to the building and demolition waste from which the chips are produced operations are carried out already at an earlier stage than burning which are to be regarded as a discarding of the waste, namely operations (recycling operations) to render the waste suitable for re-use (use as a fuel)?

If so, is an operation to render waste suitable for re-use (recycling operation) to be regarded as an operation for recovery of waste only if that operation is expressly mentioned in Annex IIB of Directive 75/442/EEC, or also if that operation is analogous to an operation mentioned in Annex IIB?

(b) wood chips are commonly regarded as waste, it being relevant whether they may be recovered in an environmentally responsible manner for use as fuel without substantial processing?

(c) the use of wood chips as a fuel amounts to a common method of waste recovery?

33 By order of the President of the Court of 23 January 1998 the two cases were joined, pursuant to Article 43 of the Rules of Procedure, for the purposes of the written and oral procedure and the judgment.

Findings of the Court

34 It should be noted as a preliminary that pursuant to Article 1(a) of the directive any substance or object in the categories set out in Annex I which the holder discards or intends or is required to discard is to be regarded as waste.

35 However, category Q16 in Annex I is a residual category in which any materials, substances or products which are not covered by the other categories may be classified.

36 It follows that the scope of the term waste turns on the meaning of the term discard (Case C-129/96 Inter-Environnement Wallonie ASBL v Région Wallonne [1997] ECR I-7411, paragraph 26).

37 The Court has held that that term must be interpreted in light of the aim of the directive (see, in particular, Joined Cases C-206/88 and C-207/88 Vessoso and Zanetti [1990] ECR I-1461, paragraph 12).

38 In that regard, the third recital in the preamble to Directive 75/442 states that the essential objective of all provisions relating to waste disposal must be the protection of human health and the environment against harmful effects caused by the collection, transport, treatment, storage and tipping of waste.

39 It should further be pointed out that, pursuant to Article 130r(2) of the EC Treaty (now, after amendment, Article 174(2) EC), Community policy on the environment is to aim at a high level of protection and is to be based, in particular, on the

precautionary principle and the principle that preventive action should be taken.

40 It follows that the concept of waste cannot be interpreted restrictively.

41 Finally, it should be noted that in the absence of Community provisions, Member States are free to chose the modes of proof of the various matters defined in the directives which they transpose, provided that the effectiveness of Community law is not thereby undermined (see in particular, in that regard, Joined Cases 205/82 to 215/82 Deutsche Milchkontor and Others v Germany [1983] ECR 2633, paragraphs 17 to 25 and 35 to 39; Case 222/82 Marguerite Johnston v Chief Constable of the Royal Ulster Constabulary [1986] ECR 1651, paragraphs 17 to 21; and Case C-212/94 FMC and Others v Intervention Board for Agricultural Produce and Ministry of Agriculture, Fisheries and Food [1996] ECR I-389, paragraphs 49 to 51).

42 The effectiveness of Article 130r of the Treaty and the directive would be undermined if the national legislature were to use modes of proof, such as statutory presumptions, which had the effect of restricting the scope of the directive and not covering materials, substances or products which correspond to the definition of waste within the meaning of the directive.

43 It is in the light of those considerations that the Court must consider the questions referred by the national court.

First question in both cases

44 By its first question in both cases the national court asks whether it may be inferred from the mere fact that a substance such as LUWA-bottoms or wood chips undergoes an operation referred to in Annex IIB to the directive that the substance has been discarded and whether it is therefore to be regarded as waste for the purposes of that directive.

45 All those who have submitted observations to the Court propose that that question be answered in the negative. Annexes IIA and IIB describe methods of disposal and recovery of substances. However, not all substances treated by such methods are necessarily waste.

46 First, as the Court has pointed out in paragraph 36 of this judgment, it follows from the wording of Article 1(a) of the directive that the scope of the term waste turns on the meaning of the term discard.

47 It follows more particularly from Article 4 of the directive and Annexes IIA and IIB thereto that that term includes, in

particular, the disposal and the recovery of a substance or an object.

48 As stated in the note preceding the various categories listed in Annexes IIA and IIB, those annexes are intended to list disposal and recovery operations as they occur in practice.

49 However, it does not necessarily follow from the fact that certain methods of disposing of or recovering waste are described in those annexes that any substance treated by one of those methods is to be regarded as waste.

50 Although the descriptions of certain methods make express reference to waste, others are formulated in more abstract terms and, accordingly, may be applied to raw materials which are not waste. Thus category R9 of Annex IIB, entitled Use principally as a fuel or other means to generate energy, may apply to fuel oil, gas or kerosene, while category R10, entitled Spreading on land resulting in benefit to agriculture or ecological improvement, may apply to fertilisers.

51 The answer to the first question in both cases should therefore be that it may not be inferred from the mere fact that a substance such as LUWA-bottoms or wood chips undergoes an operation listed in Annex IIB to the directive that that substance has been discarded so as to enable it to be regarded as waste for the purposes of the directive.

Second question in both cases

52 The second question in both cases also concerns the definition of the term discard for the purpose of determining whether a particular substance is waste.

53 The question may be subdivided into three branches. Parts (a) and (b) of the second question in Case C-418/97 and parts (b) and (c) of the second question in Case C-419/97 essentially concern the method of using a substance and will therefore be dealt with together. Part (c) of the second question in Case C-418/97 concerns the method whereby the substance is produced. Finally, part (a) of the second question in Case C-419/97 relates to recycling operations.

Parts (a) and (b) of the second question in Case C-418/97 and parts (b) and (c) of the second question in Case C-419/97

54 By part (a) of the second question in Case C-418/97 and part (b) of the second question in Case C-419/97 the national court asks essentially whether, in order to determine whether the use of a substance such as LUWA-bottoms or wood chips as fuel is to be regarded as discarding that substance, it is necessary to take into consideration the fact that those

substances are commonly regarded as waste or the fact that those substances may be recovered in an environmentally responsible manner for use as fuel without substantial treatment.

55 By part (b) of the second question in Case C-418/97 and part (c) of the second question in Case C-419/97 the national court asks whether, for the purpose of determining whether the use of a substance such as LUWA-bottoms or wood chips as fuel is to be regarded as discarding that substance, it is appropriate to ask whether that use as fuel amounts to a common method of waste recovery.

56 ARCO contends that the fact that a substance is recovered in an environmentally responsible manner and without substantial treatment constitutes a cogent argument that the substance in question is not waste. It states that LUWA-bottoms, whose calorific value is comparable to that of first-grade coal compounds, can be used as to 100% as fuel without further treatment. Their use in the cement industry is an environmentally responsible option, since in that case the molybdenum has no negative effects on the environment but during the process is immediately and completely immobilised and bound up in the cement.

57 On the other hand, there is no need to have recourse to the criterion of whether the use of the substance is similar to a common method of waste recovery.

58 Epon also argues that substances destined to be used in a production process which is the same as or analogous to that undergone by primary raw materials should not be regarded as waste in any event, provided that they are used in an environmentally responsible manner, that is to say, provided that the use of the substances concerned does not have a more adverse effect on human health and the environment than the use of primary raw materials.

59 Epson further argues that the reference to category R9 of Annex IIB (Use principally as a fuel or other means to generate energy) is irrelevant since, owing to the wide definition of that category, it cannot be used as a distinguishing criterion for the purpose of determining whether a substance is waste.

60 The Danish and Austrian Governments and the Commission contend that those matters are irrelevant and that the concept of waste does not depend on the treatment applied to the object or the substance. The Commission further states that the reference to what is commonly regarded as waste is

inappropriate: if that was the test the concept of waste could vary from one Member State to another.

61 The German Government maintains that a by-product obtained by means of a production process which is not primarily or incidentally intended to produce that substance does not come within the concept of waste where it can be used in an environmentally friendly manner without further treatment. The fact that the substance has a positive market value means that its production was at least a secondary intention and that the manufacturer does not wish to discard it in the legal sense employed in regard to waste.

62 The United Kingdom Government maintains that a substance which can be used as fuel to produce energy in a particular process in the same way as any other fuel of non-waste origin, without any special measures being taken to protect public health or the environment, is not waste solely because it follows from the specific categories of waste listed in Annex I to the directive, taken in conjunction with Decision 94/3, that that substance has characteristics typical of waste.

63 The Netherlands Government contends that whether a substance used in an industrial production process is waste within the meaning of the Community legislation or a secondary raw material depends on the individual circumstances. It is necessary to consider, in particular, the method of use of the substance, its origin and its nature or composition.

64 As the Court has already pointed out, the method of treatment or use of a substance does not determine conclusively whether or not it is to be classified as waste. What subsequently happens to an object or a substance does not affect its nature as waste, which, in accordance with Article 1(a) of the directive, is defined in terms of the holder discarding it or intending or being required to discard it.

65 Just as the concept of waste is not to be understood as excluding substances and objects which are capable of economic reutilisation (see Vessoso and Zanetti, cited above, paragraph 9), it is not to be understood as excluding substances and objects which are capable of being recovered as fuel in an environmentally responsible manner and without substantial treatment.

66 The environmental impact of the processing of that substance has no effect on its classification as waste. An ordinary fuel may be burnt without regard to environmental standards without thereby becoming waste, whereas

substances which are discarded may be recovered as fuel in an environmentally responsible manner and without substantial treatment yet still be classified as waste.

67 As the Court observed in paragraph 30 of the Inter-Environnement Wallonie judgment, cited above, moreover, there is nothing in the directive to indicate that it does not apply to disposal or recovery operations forming part of an industrial process where they do not appear to constitute a danger to human health or the environment.

68 The fact that substances may be recovered as fuel in an environmentally responsible manner and without substantial treatment is, indeed, material to the question whether the use of that substance as fuel should be authorised or encouraged or to the decision as to the degree of control to be exercised.

69 Likewise, although the method of treating a substance has no impact on its nature as waste, it may serve to indicate the existence of waste. If the use of a substance as fuel is a common method of recovering waste, that use may be evidence that the holder has discarded or intends or is required to discard that substance within the meaning of Article 1(a) of the directive.

70 In the absence of specific Community provisions on proof of the existence of waste, it is for the national court to apply the provisions of its own legal system in that regard, while taking care that the objective and effectiveness of the directive are not undermined.

71 As to what is commonly regarded as waste, that element, too, is irrelevant in view of the express definition of waste in Article 1(a) of the directive, but it may also serve to indicate the existence of waste.

72 It follows that the answer to parts (a) and (b) of the second question in Case C-418/97 and parts (b) and (c) of the second question in Case C-419/97 must be that for the purpose of determining whether the use of a substance such as LUWA-bottoms or wood chips as a fuel is to be regarded as constituting discarding, it is irrelevant that those substances may be recovered in an environmentally responsible manner for use as fuel without substantial treatment.

73 The fact that that use as fuel is a common method of recovering waste and the fact that those substances are commonly regarded as waste may be taken as evidence that the holder has discarded those substances or intends or is required to discard them within the meaning of Article 1(a) of

the directive. However, whether they are in fact waste within the meaning of the directive must be determined in the light of all the circumstances, regard being had to the aim of the directive and the need to ensure that its effectiveness is not undermined.

Part (c) of the second question in Case C-418/97

74 By part (c) of the second question in Case C-418/97 the national court asks essentially whether, in order to determine whether the use of LUWA-bottoms as fuel is to be regarded as constituting discarding, it is necessary to consider whether that use relates to a main product or a by-product (a residue).

75 ARCO and Epon maintain that the use of a substance as fuel cannot be regarded as constituting discarding purely on the ground of its origin. Epon further states that if secondary raw materials can form part of a production process the same as or analogous to that undergone by primary raw materials, they cannot be regarded as waste.

76 The Danish Government submits that the prior production process is not decisive for the purpose of determining whether or not a material constitutes waste. A main product will not normally be waste, but might be waste in certain circumstances, if, for example, it did not satisfy the undertaking's internal quality requirements and it was deemed preferable to discard it.

77 According to the German Government, there is an intention to discard a substance where the substance is obtained by means of a production process which does not have as its primary or incidental purpose to produce that substance. Under the German legislation, the manufacturer's opinion and accepted practice in that regard are to be taken into account. As the Government stated in connection with the previous question, however, it is also appropriate to take into consideration the question whether a by-product may be used in an environmentally friendly manner without further treatment.

78 The United Kingdom Government further states that production residues, which may constitute useful by-products, and may be used as a raw material without further processing, in the same way as any other raw material of non-waste origin, comprise part of the commercial cycle and do not constitute waste.

79 The Netherlands Government submits that the origin of the substance or object is one of the various elements to be taken

into consideration for the purpose of determining whether it constitutes waste.

80 The Austrian Government also submits that the fact that a substance is produced by a company which does not intend to produce that substance is among the matters that must be taken into consideration. It points out that LUWA-bottoms are neither a main product nor a by-product but waste obtained from the treatment of a flow of particles.

81 Finally, the Commission maintains that the fact that a substance is a by-product (a residue) of a production process whose purpose is to obtain a different product is an indication that that substance may constitute waste within the meaning of the directive.

82 As the Court has already stated in paragraph 51 of this judgment, it may not be inferred from the fact that a substance undergoes an operation referred to in Annex IIB to the directive, such as use as fuel, that that substance has been discarded so as to enable it to be regarded as waste for the purposes of the directive.

83 On the other hand, certain circumstances may constitute evidence that the holder has discarded the substance or intends or is required to discard it within the meaning of Article 1(a) of the directive.

84 That will be the case, in particular, where the substance used is a production residue, that is to say a product not in itself sought for use as fuel.

85 The use of a substance such as LUWA-bottoms as fuel, instead and in place of a normal fuel, is a factor which may give the impression that its user is discarding it, either because he wishes or because he is required to do so.

86 The fact that the substance is a residue for which no use other than disposal can be envisaged may also be regarded as evidence of discarding. That fact gives the impression that the holder of the substance acquired it for the sole purpose of discarding it, either because he wishes to or because he is required to, for example under an agreement concluded with the producer of the substance or with another holder.

87 The same will apply where the substance is a residue whose composition is not suitable for the use made of it or where special precautions must be taken when it is used owing to the environmentally hazardous nature of its composition.

88 It follows that the answer to part (c) of the second question in Case C-418/97 must be that the fact that a substance used

as fuel is the residue of the manufacturing process of another substance, that no use for that substance other than disposal can be envisaged, that the composition of the substance is not suitable for the use made of it or that special environmental precautions must be taken when it is used may be regarded as evidence that the holder has discarded that substance or intends or is required to discard it within the meaning of Article 1(a) of the directive. However, whether it is in fact waste within the meaning of the directive must be determined in the light of all the circumstances, regard being had to the aim of the directive and the need to ensure that its effectiveness is not undermined.

Part (a) of the second question in Case C-419/97

89 By part (a) of the second question in Case C-419/97 the national court asks whether, in order to determine whether the use of wood chips as fuel is to be regarded as constituting discarding, it is necessary to consider whether the waste from the construction and demolition sector from which the chips were made has already undergone, prior to burning, operations which are to be regarded as a discarding of the waste, namely operations (recycling operations) to render the waste suitable for re-use as a fuel, and if so, whether that operation may be regarded as an operation for recovery of waste only if it is expressly mentioned in Annex IIB to the directive or whether it may also be so regarded if it is analogous to an operation mentioned in that annex.

90 The appellants in the main proceedings maintain that the wood used as fuel by Epon is impregnated with very toxic substances and should be treated as hazardous waste. The fact that the wood is transformed into chips and the chips reduced to powder does not in any way alter the nature or the composition of the substance, which retains the toxic agents.

91 Epon contends that a substance which has undergone a recycling operation must not be regarded as waste where it was used in an environmentally responsible manner, that is to say where its use was no more hazardous to human health or to the environment than the use of a primary raw material.

92 As regards the second part of the question, Epon points out that the list in Annex IIB to the directive is not exhaustive and that it must be possible to take new recycling methods into consideration. It states, however, that waste from the construction and demolition sector has already been subject to a recycling operation referred to in category R2 of Annex IIB to

the directive, namely Recycling/reclamation of organic substances which are not used as solvents.

93 The Governments which have submitted observations and the Commission argue essentially that the fact that the waste at issue in the main proceedings has undergone prior operations when it was sorted and transformed into chips is not sufficient for it to lose the character of waste. Such operations do not constitute a recovery operation for the purposes of Annex IIB to the directive but a simple pre-treatment of the waste. A substance ceases to be waste only when it has undergone a complete recovery operation within the meaning of Annex IIB to the directive, that is to say when it can be processed in the same way as a raw material or, as in this case, when the material or energy potential of the waste has been used during burning.

94 In that regard, it should first be noted that even where waste has undergone a complete recovery operation which has the consequence that the substance in question has acquired the same properties and characteristics as a raw material, that substance may none the less be regarded as waste if, in accordance with the definition in Article 1(a) of the directive, its holder discards it or intends or is required to discard it.

95 The fact that the substance is the result of a complete recovery operation for the purposes of Annex IIB to the directive is only one of the factors to be taken into consideration for the purpose of determining whether the substance constitutes waste and does not as such permit a definitive conclusion to be drawn in that regard.

96 If a complete recovery operation does not necessarily deprive an object of its classification as waste, that applies a fortiori to an operation during which the objects concerned are merely sorted or pre-treated, such as when waste in the form of wood impregnated with toxic substances is transformed into chips or those chips are reduced to wood powder, and which, since it does not purge the wood of the toxic substances which impregnate it, does not have the effect of transforming those objects into a product analogous to a raw material, with the same characteristics as that raw material and capable of being used in the same conditions of environmental protection.

97 The answer to part (a) of the second question in Case C-419/97 must therefore be that the fact that a substance is the result of a recovery operation within the meaning of Annex IIB to the directive is only one of the factors which must be taken into consideration for the purpose of determining

whether that substance is still waste, and does not as such permit a definitive conclusion to be drawn in that regard. Whether it is waste must be determined in the light of all the circumstances, by comparison with the definition set out in Article 1(a) of the directive, that is to say the discarding of the substance in question or the intention or requirement to discard it, regard being had to the aim of the directive and the need to ensure that its effectiveness is not undermined.

Decision on costs

Costs

98 The costs incurred by the Netherlands, Danish, German, Austrian and United Kingdom Governments and by the Commission, which have submitted observations to the Court, are not recoverable. Since these proceedings are, for the parties to the main proceedings, a step in the action pending before the national court, the decision on costs is a matter for that court.

Operative part

On those grounds,

THE COURT (Fifth Chamber),

in answer to the questions referred to it by the Nederlandse Raad van State by orders of 25 November 1997, hereby rules:

Case C-418/97

1. It may not be inferred from the mere fact that a substance such as LUWA-bottoms undergoes an operation listed in Annex IIB to Council Directive 75/442/EEC of 15 July 1975 on waste, as amended by Council Directive 91/156/EEC of 18 March 1991, that that substance has been discarded so as to enable it to be regarded as waste for the purposes of that directive.

2. For the purpose of determining whether the use of a substance such as LUWA-bottoms as a fuel is to be regarded as constituting discarding, it is irrelevant that that substance may be recovered in an environmentally responsible manner for use as fuel without substantial treatment.

The fact that that use as fuel is a common method of recovering waste and the fact that that substance is commonly regarded as waste may be taken as evidence that the holder has discarded that substance or intends or is required to discard it within the meaning of Article 1(a) of Directive 75/442, as amended by Directive 91/156. However, whether it is in fact waste within the meaning of the directive must be determined in the light of all the circumstances, regard being had to the aim of the directive and the need to ensure that its effectiveness is not undermined.

The fact that a substance used as fuel is the residue of the manufacturing process of another substance, that no use for that substance other than disposal can be envisaged, that the composition of the substance is not suitable for the use made of it or that special environmental precautions must be taken when it is used may be regarded as evidence that the holder has discarded that substance or intends or is required to discard it within the meaning of Article 1(a) of that directive. However, whether it is in fact waste within the meaning of the directive must be determined in the light of all the circumstances, regard being had to the aim of the directive and the need to ensure that its effectiveness is not undermined.

Case C-419/97

3. It may not be inferred from the mere fact that a substance such as wood chips undergoes an operation listed in Annex IIB to Directive 75/442, as amended by Directive 91/156, that that substance has been discarded so as to enable it to be regarded as waste for the purposes of the directive.

4. The fact that a substance is the result of a recovery operation within the meaning of Annex IIB to that directive is only one of the factors which must be taken into consideration for the purpose of determining whether that substance is still waste, and does not as such permit a definitive conclusion to be drawn in that regard. Whether it is waste must be determined in the light of all the circumstances, by comparison with the definition set out in Article 1(a) of Directive 75/442, as amended by Directive 91/156, that is to say the discarding of the substance in question or the intention or requirement to discard it, regard being had to the aim of the directive and the need to ensure that its effectiveness is not undermined.

For the purpose of determining whether the use of a substance such as wood chips as a fuel is to be regarded as constituting discarding, it is irrelevant that that substance may be

recovered in an environmentally responsible manner for use as fuel without substantial treatment.

The fact that that use as fuel is a common method of recovering waste and the fact that that substance is commonly regarded as waste may be taken as evidence that the holder has discarded that substance or intends or is required to discard it within the meaning of Article 1(a) of Directive 75/442, as amended by Directive 91/156. However, whether it is in fact waste within the meaning of that directive must be determined in the light of all the circumstances, regard being had to the aim of the directive and the need to ensure that its effectiveness is not undermined.