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DOCUMENT 344/77

## Report

drawn up on behalf of the Committee on the Environment, Public Health and  
Consumer Protection

on health hazards of Asbestos

Rapporteur: Mr John EVANS

PE 49.839/fin.



By letter of 30 June 1976 the Committee on the Environment, Public Health and Consumer Protection requested authorization to draw up a report on the health hazards of asbestos.

Authorization was given by the President of the European Parliament in his letter of 14 July 1976.

On 27 September 1976 the Committee appointed Mr. John Evans rapporteur.

A first exchange of views was held on 24 November 1976.

The Committee considered a working document at its meetings of 15 February and 30 March 1977.

It considered the draft report at its meetings of 26 September 1977 and 19/20 October 1977.

At its meeting of 20 October 1977 the committee unanimously adopted the motion for a resolution and explanatory statement.

Present: Mr Baas, acting chairman, Mr Evans, rapporteur; Mr Alber, Mr Andersen, Mr Didier, Mr Dondelinger (deputizing for Mr Brégégère), Mrs Dunwoody (deputizing for Mr Ajello), Mr Edwards, Lady Fisher of Rednal, Mr Guerlin, Mr Ligios (deputizing for Mr Vernaschi), Mr Mitchell (deputizing for Mr Willi Müller), Mr Noè, Mr Plebe, Lord St. Oswald, Mr Schwabe, Mr Schyns, Mr Seefeld (deputizing for Mr Brown), and Mrs Squarcialupi.

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The Committee on the Environment, Public Health and Consumer Protection hereby submits to the European Parliament the following motion for a resolution together with explanatory statement:

MOTION FOR A RESOLUTION

on

the health hazards of Asbestos

The European Parliament,

- having regard to the report of the Committee on the Environment, Public Health and Consumer Protection (Doc. 344/77);
  - whereas the right to safety in the workplace is an inalienable right and should be recognized as such;
  - whereas workers in the asbestos industry, just as workers in all other industries, must enjoy this right;
  - whereas the Commission of the European Communities has classed asbestos as a first category pollutant in the Programme of Action of the European Communities<sup>1</sup>;
  - whereas reform is needed in the area of safety regulations for those working with asbestos and for the general population;
1. Welcomes the effort being made by the Commission in the field of study and research into the effects of asbestos on human health;
  2. Considers, however, that sufficient evidence has accumulated to show that asbestos presents a danger both to workers in the asbestos industry and to those exposed in other situations and that it is time to draw conclusions from this evidence;
  3. Stresses that asbestos is a carcinogen;
  4. Emphasizes that all varieties of asbestos in use in the Community can present a danger to human health;
  5. Endorses the view that further research into dose/effect relationships is necessary; since as yet no agreement can be found as to whether a 'safe level of exposure' exists;
  6. Calls for the setting, at Community level, of temporary limits based on the evaluation of the carcinogenic risk. Such limits must be regularly reviewed by the competent authorities;

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<sup>1</sup>OJ No. C 112, 30.12.1973

7. Calls for a ban on crocidilite in all Member States;
8. Calls for a ban on the spraying of asbestos in all Member States;
9. Invites the Commission to review, with a view to harmonization, the provisions of the Member States with regard to compensation for asbestos related diseases;
10. Invites the Commission to make a similar review of current legislation relating to safety in the asbestos industry also with a view to harmonization;
11. Hopes that the proposal for a directive on misleading advertising promised by the Commission will contain provisions to protect the public from the type of irresponsible advertising campaign that has been launched concerning asbestos in some Member States;
12. Insists on the right of all members of the population to unbiased information, particularly in areas such as public health;
13. Calls for a Community-wide information campaign to be initiated to inform the public in a rational manner of the advantages and disadvantages connected with the use of asbestos;
14. Calls upon the Commission to include asbestos in Annex I of the Council Directive of 27 June 1967<sup>1</sup> concerning the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances;
15. Calls upon the Commission to include asbestos in the Annex of Council Directive 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>2</sup>;
16. Considers that every effort should be made to develop safe substitutes for asbestos and that, as these substitutes become available, the use of asbestos should be gradually phased out; where safe substitutes already exist, the use of asbestos should be forbidden;
17. Urges the Commission to sponsor research into the development of safe and practical substitutes for asbestos, priority being given to substitutes for asbestos applications presently involving high exposure risk to asbestos fibres;
18. Invites the Commission to include the siting of asbestos factories and waste dumps among the projects for which environmental impact assessment could be used.

<sup>1</sup>OJ No. 196, 16.8.1967

<sup>2</sup>OJ No. L262 27.9.1976, p.201

19. Recommends that the Commission make full use of the work being done by the European Foundation for the Improvement of Living and Working Conditions particularly concerning safety in the workplace;
20. Instructs its President to forward this resolution and the report of its committee to the Council and Commission of the European Communities, and for information, to the Economic and Social Committee.

EXPLANATORY STATEMENTI. Introduction

1. The Committee on the Environment, Public Health and Consumer Protection has been concerned to note widespread unrest in Member States on the question of asbestos. Numerous articles and reports have appeared in the national press and a large amount of erroneous material has been published. Semi-official committees have been set up both in the industry and among the general population and enormous sums of money have been spent on advertising. Your committee feels that it is time to put the whole question into perspective, to examine conflicting theories and to propose measures, both short-term and long-term, that should be taken to protect those exposed to asbestos, both occupationally and para-occupationally.

2. Your committee considers that the existing legislation in Member States concerning the handling of asbestos is inadequate in some cases, and that the Commission should take the initiative in making suitable legislative proposals. This should not present numerous problems for the Commission as other countries, such as Sweden, Canada and the USA already have progressive legislation in force which could serve as an example.

3. The Committee is aware that work is being done within the Commission on asbestos. Asbestos is identified in the Communities' Action Programme for the Environment as a first category pollutant. It is not therefore our intention to criticize the Commission, accusing it of not concerning itself with this problem. Rather, your committee wishes to call on the Commission to draw up a programme which will provide for the progressive, compulsory substitution of asbestos applications in the long term.

In the short term, provision must be made for the substitution of all asbestos products which involve a risk of exposure to asbestos dust and for which safe and practicable substitutes already exist. Provision must also be made in the short term for the protection of workers who, because of the lack of suitable substitutes must continue to be exposed.

Your committee recommends that as a strictly temporary measure permissible limits for asbestos-related diseases be set now at Community level. However, it must be stressed that asbestos is a carcinogen and that in our view the setting of permissible limits is both impracticable and irrelevant as a long term measure. No agreement can be found among medical experts as to whether one can speak of a 'safe level of exposure' to a carcinogen, and even if agreement could be found, a limit would have



to be set which might very well become obsolete within a short period. A further difficulty lies in the measurement of concentrations of dust in the air in order to enforce such limits.

## II. Types of Asbestos

### Definition:

4. The International Labour Office<sup>1</sup> defines asbestos as follows: "Asbestos is a broad term applied to a number of substances falling into two chief varieties, chrysotile and amphiboles. These substances are naturally-occurring iron, sodium, calcium and magnesium hydrated silicates; they have a fibrous structure and are incombustible. Chrysotile asbestos (white asbestos) is a hydrated magnesium silicate found in serpentine rock. It is widely distributed in nature and accounts for some 93 per cent of the world's asbestos production. Amphibole asbestos varieties include amosite, crocidolite, anthophyllite, tremolite and actinolite. The last two substances have few industrial applications but are sometimes found as impurities in talc."

5. Generally speaking the best known asbestos varieties are chrysotile asbestos (white asbestos) and crocidolite asbestos (blue asbestos). The most important physical property of asbestos fibres is their tensile strength and it is used in many products - in building construction, engineering and shipbuilding industries. Within the EEC the usage of asbestos fibres in asbestos-cement products is largest. (Annex IV)

6. Asbestos is also known for its chemical quality of heat resistance and thus asbestos fibres are used in insulation materials.

## III. Types of exposure

### Occupational exposure:

7. The first population group affected are those engaged in mining. Asbestos is generally mined in Canada, USSR, Southern Rhodesia and in the Republic of South Africa. It is also mined in Italy. (Annex II)

Secondly, workers are exposed to asbestos when engaged in the processing and manufacture of asbestos containing materials (e.g. asbestos-cement) and where asbestos containing materials have to be handled. Workers are often ignorant of the fact that they are exposed to asbestos. It is imperative that these workers be properly informed of the dangers involved. This can be done, for example, by labelling such substances and by issuing workers with information sheets.

<sup>1</sup>Asbestos: Health Risks and their Prevention; International Labour Office, Geneva (1974) p.5

Para-occupational exposure:

8. Para-occupational exposure can take two forms. The first concerns domestic exposure where members of a household can be exposed as a result of handling clothing worn by the worker in the factory. The second can arise from the cutting or working of asbestos containing products as part of "do it yourself" leisure time activity and second jobs.

The former type of domestic exposure can be avoided if the employer provides changing rooms on the business premises from which protective clothing is taken directly to specialized laundries for cleaning and maintenance. The second type can be made less dangerous by the proper labelling of products that are likely to be used in the home. Such products should be accompanied by leaflets clearly setting out methods of use and the dangers arising from mis-use. These leaflets should be made available at all retail outlets handling asbestos-containing products.

Neighbourhood exposure:

9. A number of cases of mesotheliomas have been observed among people living in the vicinity of asbestos mines, processing factories and dumps<sup>1</sup>. Often this exposure takes place because safety regulations concerning dust suppression and dumping methods have not been observed.

Your committee has been informed that the Commission intends to propose a directive which will cover planning permission for factories processing dangerous substances. It is to be hoped that asbestos processing factories will be included in this directive and that provisions will be made to deal with waste dumps..

IV. Asbestos related diseases

10. Asbestosis is a serious and often fatal lung disease which can only be contracted from the inhalation of asbestos dust. For the moment there is no known treatment for this disease; emphasis must therefore be placed on prevention.

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<sup>1</sup> IARC Monographs on the Evaluation of Carcinogenic Risk of Chemicals to Man. Asbestos. Vol. 14 pp69-70. Lyon 1977

Lung Cancer: All types of asbestos (chrysotile, amosite, crocidolite and anthophyllite) have been shown to cause excess risk of lung cancer in asbestos workers.

There is evidence to suggest that exposure to asbestos combined with cigarette smoking greatly increases the incidence of this type of cancer.

Mesothelioma: This is a form of cancer which occurs in the pleura and the peritoneum and whose latent period may be between 15 and 50 years. It has been claimed, notably by industry, that there is no evidence that asbestos alone produces mesothelioma. This is untrue. Indeed, as a result of extensive research, asbestos has been identified in most of the cases diagnosed to date. Both pleural mesothelioma and peritoneal mesothelioma are fatal diseases and there is no known cure. Unlike asbestosis, mesothelioma can be found in people living in the vicinity of asbestos industries. An argument frequently put forward by industry is that only those actually working with asbestos fibres and exposed for a considerable length of time are at a risk of contracting disease. Again research has shown this to be untrue<sup>1</sup>.

In the case of mesothelioma the exposure may be short and probably of lower concentration than that required to produce asbestosis or lung cancer. In asbestos workers, estimates suggest that for some groups 8 - 11% will die of mesotheliomas.<sup>2</sup>

Gastro-intestinal cancer: An excess risk has been determined in groups exposed occupationally to amosite, crocidolite and chrysotile.

11. All these diseases can take many years to manifest themselves and diagnosis can be extremely difficult. Current disease statistics are the result of exposure to asbestos many years ago. Disease statistics arising from present levels of exposure cannot yet be assessed. It can, however, be stated with certainty that exposure by inhalation to asbestos fibres could and does cause serious disease.

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<sup>1</sup>Rapport final du Comité d'étude sur la salubrité dans l'industrie de l'amiante, Vol. I pp.99-100. L'Editeur officiel du Québec, October 1976

<sup>2</sup>Newhouse, M.L. & Berry, G. (1976) Predictions of mortality from mesothelial tumours in asbestos factory workers. British Journal of Industrial Medicine, 33, pp.147-151

12. It is commonly believed that "blue" asbestos (crocidolite) is more dangerous than other types. Present evidence suggests that other types of asbestos may also give rise to disease and, therefore, it would be wrong to suggest that "white" asbestos (chrysotile) is "safer".

The International Agency for Research on Cancer summarizes the situation as follows:

"In humans, occupational exposure to chrysotile, amosite, anthophyllite and mixed fibres containing crocidolite has resulted in a high incidence of lung cancer; a predominantly tremolitic material mixed with anthophyllite and small amounts of chrysotile has also caused an increased incidence of lung cancer. Many pleural and peritoneal mesotheliomas have been observed after occupational exposure to crocidolite, amosite and chrysotile. An excess risk of gastrointestinal tract cancers has been demonstrated in groups exposed occupationally to amosite, chrysotile or mixed fibres containing crocidolite. An excess of cancers of the larynx was also observed in exposed workers. Mesotheliomas also occur in individuals living in the neighbourhood of asbestos factories and crocidolite mines and in household contacts of asbestos workers."<sup>1</sup>

V. Present situation in EEC Member States

13. As there are few official statistics available it is difficult to estimate the asbestos fibre consumption and the breakdown of fibre usage in EEC countries. As for asbestos containing products, it is impossible even to estimate their usage as so many of these products are imported and exported. Some of the major uses of asbestos fibre in the EEC are for making the following products:

asbestos-cement building products; asbestos-cement pressure; sewage and draining pipes; fire resistant insulation boards; insulation products; friction materials; floor tiles and sheets; fillers and reinforcements and products made from them (felts, mill board, paper, filter pads for wines, and beers and adhesives, etc.). (Annex III)

It has been estimated that asbestos in one form or another is used in over 3,000 products<sup>2</sup> (see Annex I).

14. It is difficult also to estimate the number of asbestos related diseases occurring in the Member States. It has been estimated that in the United States (population 213,000,000 approximately) four million people are exposed in one way or another to asbestos fibres of which

<sup>1</sup>TARC Monographs on the Evaluation of Carcinogenic Risk of Chemicals to Man. Asbestos, Vol. 14, p.80

<sup>2</sup>Rosato, D.V. (1959) Asbestos - Its Industrial Applications, New York, Reinhold.

about one million work or have worked regularly with asbestos. If the estimates referred to in paragraph 11 are correct, 80,000 can be expected to die of mesothelioma. One could reasonably expect the same incidence of the disease in Europe.

15. With regard to asbestosis permissible limits for the exposure of workers and the general public to asbestos fibres have either been proposed or enforced in different Member States. These limits are set out in Annex V. In general, lower limits have been set for crocidolite.

16. Legislation in the Member States concerning safety regulations in factories (for example, supply of protective clothing to workers) differs widely from country to country and in some countries it does not exist at all.

17. Provisions for the medical supervision for all those working with asbestos and for the compensation of workers who have contracted asbestos related diseases differ widely. For example, asbestosis is recognised as an industrial disease for which compensation is paid in all Member States but mesothelioma is not.

#### VI. Action needed at Community level

##### Research:

18. Asbestos is already considered as a first category pollutant in the Programme of Action of the European Communities on the Environment<sup>1</sup>. Under this programme the Commission has been asked to undertake certain tasks. Some studies have already been carried out notably on the evaluation of the public health risks from exposure to asbestos and the standardization of the diagnosis of mesothelial tumours. Further research is required on dose/effect relationships. As already stressed above, this type of research is aimed at finding a short-term solution.

Your committee emphasizes the need for research in a number of other areas:

- (i) research into the carcinogenicity of all types of fibre substitutes in order to discover the possible cancerous effects of fibre substitutes for asbestos;
- (ii) research into the development of safe and practical substitutes for all asbestos products and processes; priority should be given to development of substitutes for those asbestos applications involving high exposure risk to asbestos dust;

<sup>1</sup> OJ No. C112, 30.12.1973

- (iii) research into the development of techniques to ensure that the manufacture and use of asbestos products for which no safe substitute can yet be found can be safely continued.

A timetable could be drawn up for the planned progressive substitution for all uses of asbestos over, say, the next ten years.

#### Information

19. Your committee would like to see a Community-wide information campaign started to inform the public in a rational manner of the advantages and disadvantages of asbestos. It is imperative that this be done immediately as in some Member States, unofficial bodies have already taken the initiative in this field<sup>1</sup>.

On 27 June 1967 the Council adopted a directive on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances<sup>2</sup>.

Annex I to this directive gives the list of dangerous substances covered by the directive. Your committee calls on the Commission to include asbestos in this list and to make adequate provisions for the labelling of all substances or objects containing asbestos.

20. Your committee also calls on the Commission to submit its proposal on misleading advertising as soon as possible, so that the type of advertising referred to above can be strictly controlled. It is unacceptable that certain organisations should try to mislead the public into believing that little or no risk exists. The Commission has a clear responsibility here.

#### Harmonization of safety provisions

21. Legislation in Member States relating to safety provisions differs greatly. This is surely one area where harmonization would be of the greatest benefit. Your committee refers the Commission to an authoritative report drawn up in 1976 on safety in the Canadian asbestos industry<sup>3</sup>. The proposals made in the report are based on examination of all the latest medical evidence. There is no reason why in Europe the same effort should not be made. (See also Annex VI for Swedish directions)

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<sup>1</sup> Sec Oral Question with debate No. 114/76, Debates of the European Parliament, 11.3.1977

<sup>2</sup> OJ No. 196, 16.8.1967, p.2

<sup>3</sup> Comité d'Etude sur la salubrité dans l'industrie de l'amiante, Rapport final

22. The proposals referred to above do not, however, cover all situations where occupational exposure can take place. Demolition workers, for example, may be particularly at risk and yet this is an area often ignored. Special measures must be introduced for the protection of this category of worker

23. As regards protective clothing, this should be provided by the employer. The countries in the EEC in which provision is made for the supply of protective clothing and equipment to workers are: Belgium, France, Germany, Italy and the United Kingdom. All such protective clothing should be cleaned and maintained in specially equipped laundries where the workers are also protected. On no account should workers be permitted to take their working clothes home. Special changing rooms should be provided on the business premises.

24. Provision should be made for medical supervision of all those working with asbestos. Regular medical examinations should be carried out and records should be kept. Appropriate information should be made available to safety and health representatives. Workers should be informed in no uncertain terms of the dangers involved in working with asbestos. Symptoms and signs of asbestos related diseases should be clearly set out so that workers will know when best to consult their doctor.

Given that cigarette smoking greatly increases the chances of asbestos workers contracting disease, workers should be encouraged not to smoke.

#### Siting of asbestos factories and waste dumps

25. Environmental impact assessment forms part of the general action to protect and improve the environment considered necessary by the Commission. The Action Programme of November 1973<sup>1</sup> states 'Effects on the environment of all the technical planning and decision-making processes should be taken into account at the earliest possible stage.'

The Commission is at present studying how appropriate environmental impact assessment procedures might be introduced. Your committee urges the Commission to include the siting of asbestos factories and waste dumps among the projects for which this procedure could be used.

Since it is now agreed that those living in the vicinity of an asbestos factory are at risk, it would seem desirable to lay down certain norms to be respected in the area of the granting of planning permission.

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<sup>1</sup>OJ No. C112, 30.12.1973

## Compensation

26. A review is required of the provisions of the Member States with regard to compensation for asbestos related diseases so that harmonization can be carried out.

## General

27. Your committee calls on the Commission to include asbestos in the Annex to Council Directive 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. This will ensure greater protection of the public.

## VII. Conclusions

28. The population group most at risk is that involved in mining, manufacturing and processing asbestos. Action must primarily be directed towards protecting these workers. However, action must also be taken to protect the general public.

29. It must be emphasized that lung cancer is the most important cancer afflicting asbestos workers. Mesothelioma has attracted considerable attention because of its infrequency in the general population as compared to its relatively high frequency among asbestos workers<sup>1</sup>. Asbestosis and lung cancer represent the greatest danger for the worker exposed occupationally and both these diseases have been associated with all types of asbestos.

30. All the latest studies show that it is impossible to set permissible limits below which there is no risk:

"At present, it is not possible to assess whether there is a level of exposure in humans below which an increased risk of cancer would not occur."<sup>2</sup>

"There is no theoretical evidence for an exposure threshold below which cancers will not occur".<sup>3</sup>

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<sup>1</sup>Comité d'Etude sur la salubrité dans l'industrie de l'amiante, Rapport final, Vol. I, p.94

<sup>2</sup>IARC Monographs on the Evaluation of Carcinogenic Risk of Chemicals to Man. Asbestos. No. 14, p.81

<sup>3</sup>Public Health Risks of Exposure to Asbestos. Commission of the European Communities p.118, Pergamon Press 1977 Luxembourg.



Furthermore, permissible limits presently in force for asbestos fibres excluding crocidilite only aim at preventing asbestosis.

31. Your committee considers that the European Foundation for the Improvement of Living and Working Conditions based in Dublin could usefully assist the Commission in the research outlined below.

32. In summary your committee makes the following proposals

Short-term

- the use of crocidolite should be banned in all Member States;
- where safe substitutes already exist the use of asbestos could be forbidden;
- the spraying of asbestos should be forbidden;
- asbestos should be included in the Annex to the Council Directive of 27 June 1967 concerning the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances;
- asbestos should also be included in the Annex to Council Directive 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;
- a review should be made of the provisions of the Member States with regard to compensation for asbestos related diseases with a view to harmonization
- a similar review should be made of the legislation relating to safety provisions in Member States equally with a view to harmonization;
- permissible limits should be set as a temporary measure as soon as possible. Research should be continued and accelerated in order to ensure that the limits set offer the greatest possible safety margin;
- provisions should be made for regular medical examinations of all asbestos workers and for the keeping of medical records;
- a Community-wide information campaign should be initiated to inform the public of the advantages and disadvantages of asbestos.

Long-term:

- The use of asbestos should be gradually phased out as safe substitutes become available;
- a timetable should be drawn up towards this end;
- research must be carried out in the areas outlined in paragraph 19.

Author's Note: The words 'asbestos dust' have been used throughout the report to facilitate comprehension. Strictly speaking, the words 'asbestos fibres' should be used.

ASBESTOS PRODUCTS AND ASBESTOS CONTENTS

	approx. asbestos content % (wt.)	asbestos fibre type
1. Asbestos-cement building products	10 - 15	C A (Cr)
2. Asbestos-cement pressure, sewage and drainage pipes	12 - 15	C (Cr) A
3. Fire-resistant insulation boards	25 - 40	A C
4. Insulation products including spray	12 - 100	A C (Cr)
5. Jointings and packings	25 - 85	C (Cr)
6. Friction materials	15 - 70	C
7. Textile products not included in (6)	65 - 100	C (Cr)
8. Floor tiles and sheets	5 - 7½	C
9. Moulded plastics and battery boxes	55 - 70	C (Cr)
10. Fillers and reinforcements and products made thereof (felts, millboard, paper, filter pads for wines and beers, underseals, mastics, adhesives, coatings, etc.)	25 - 98	C (Cr)

## Explanation of asbestos fibre types :

A = Amosite

C = Chrysotile

Cr = Crocidolite

(Cr) = not used in all EEC countries

Source: Public Health Risks of Exposure to Asbestos.  
Report of a working group of experts prepared  
for the Commission of the European Communities.  
Pergamon Press. Luxembourg 1977

ANNEX II

ASBESTOS FIBRE PRODUCTION - YEAR 1973 (SHORT TONS)

Canada	1.974.000
U. S. S. R.	2.200.000
South Africa	350.000
China	100.000
Italy	130.000
United States	130.000
Rhodesia	170.000
Brazil	30.000
Swaziland	45.000
Cyprus	28.000
Japan	20.000
India	3.000
Finland	12.000
Yugoslavia	15.000
Other countries	5.000
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	5.212.000
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Source: Public Health Risks of Exposure to Asbestos.  
Report of a working group of experts prepared  
for the Commission of the European Communities.  
Pergamon Press. Luxembourg 1977.

ESTIMATED ASBESTOS FIBRE CONSUMPTION IN EEC-COUNTRIES  
YEAR 1973 (METRIC TONS)

	chryso- tile	amosite	croci- dolite	antho- phyllite	Total
Belgium & Luxembourg	76000	5000	5000	----	86000
Denmark	28200	4800	-----	----	33000
France	150000	2800	3100	100	156000
Italy	130600	2200	6200	----	139000
Ireland	6400	600	----	----	7000
Netherlands	37400	----	600	----	38000
United Kingdom	147700	24000	----	300	172000
West Germany	173300	1900	3300	1700	180200
	749600	41300	18200	2100	811200

Source: Public Health Risks of Exposure to Asbestos.  
 Report of a working group of experts prepared  
 for the Commission of the European Communities.  
 Pergamon Press. Luxembourg 1977.

ESTIMATED BREAKDOWN OF ASBESTOS FIBRE USAGE IN EEC COUNTRIES 1973

ANNEX IV

	<u>Belgium &amp; Luxembourg</u>	<u>Denmark</u>	<u>Ireland</u>	<u>France</u>	<u>Italy</u>	<u>Nether- lands</u>	<u>United Kingdom</u>	<u>West Germany</u>	<u>Total</u>
1. Asbestos-cement building products	46.400	25.800	4.700	62.700	80.000	11.000	55.600	85.000	364.200
2. Asbestos-cement pressure, sewage and drainage pipes	15.000	600	1.700	49.200	38.000	5.000	9.000	35.000	160.500
3. Fire-resistant insulation boards	5.000	3.000	600	1.300	-	-	22.500	400	32.800
4. Insulation products including spray	-	300	-	3.200	800	-	4.000	300	8.600
5. Jointings and packings	100	1.300	-	1.600	2.000	-	11.400	11.000	27.400
6. Friction materials	600	1.500	-	4.300	4.000	-	17.000	15.000	42.400
7. Textile products not included in (6)	800	-	-	4.300	4.000	-	8.300	5.600	23.000
8. Floor tiles and sheets	-	500	-	14.500	1.000	-	16.200	13.000	45.200
9. Moulded plastics and battery boxes	2.000	-	-	1.000	2.000	-	2.800	1.000	8.800
10. Fillers and reinforcements and products made thereof (felts, millboard, paper, filter pads for wines and beers, underseals, mastics, adhesives, coatings, etc.)	16.600	-	-	13.900	7.200	22.000	25.700	13.900	100.300
<b>TOTAL</b>	<b>86.500</b>	<b>33.000</b>	<b>7.000</b>	<b>156.000</b>	<b>139.000</b>	<b>38.000</b>	<b>172.500</b>	<b>180.200</b>	<b>812.200</b>

Source: Public Health Risks of Exposure to Asbestos.  
Report of a working group of experts prepared  
for the Commission of the European Communities.  
Pergamon Press. Luxembourg 1977.

ANNEX V

PERMISSIBLE LIMITS FOR THE EXPOSURE OF WORKERS AND THE GENERAL PUBLIC TO ASBESTOS FIBRES

United Kingdom

Chrysotile, amosite, fibrous anthophyllite: 2.0 fibres/ml averaged over a four hour sampling period; 12 f/ml over a 10 min. sampling period. Crocidolite: 0.2 f/ml averaged over a 10 min. sampling period. Fibres mean particles with length > 5  $\mu$ m, length to breadth ration 3:1, observed by transmitted light by means of a microscope at magnification of appr. 500x.

Federal Republic of Germany

Chrysotile-fine dust 0.15 mg/m<sup>3</sup>; chrysotile containing fine dust 4.0 mg/m<sup>3</sup>, to be regarded as technical guide. These values are under review, especially for chrysotile and for amosite.

Italy

5 fibres/ml, to be lowered to 2 fibres/ml.

France

- < 2 fibres/cm<sup>3</sup>: acceptable
- > 2 - < 12 fibres/cm<sup>3</sup>: take a 4 hour sample
- if < 2 fibres/cm<sup>3</sup>: acceptable
- if > 2 fibres/cm<sup>3</sup>: exposure should be lowered
- > 12 fibres/cm<sup>3</sup>: take a 10 min. sample; if > 12 fibres/cm<sup>3</sup>: take strict protective measures
- only taken into account fibres > 5  $\mu$ m, with ratio length/diameter > 3.

Denmark

2 fibres/ml; ban on asbestos for insulation work; crocidolite not to be employed without special permission.

Netherlands

Excerpt of proposed legislation on the use of asbestos and asbestos containing materials in the Netherlands.

It is prohibited:

- (a) to have in stock, to manufacture, to machine or to use crocidolite and/or crocidolite containing materials or products.

- (b) to apply or to manufacture asbestos and/or asbestos containing materials or products for thermal insulation and/or for acoustical, preservative or decorative purposes.
- (c) to apply or to manufacture asbestos and/or asbestos containing materials or products for other purposes than those mentioned sub (b) if a concentration of asbestos dust occurs dangerous to health (at present there is a permissible unit of 2 fibres/ml. averaged over a 4 hour sampling period).
- (d) to spray asbestos and/or asbestos containing materials or products.
- (e) exemption from these measures is possible.

Source: Public Health Risks of Exposure to Asbestos.  
Report of a working group of experts prepared  
for the Commission of the European Communities.  
Pergamon Press. Luxembourg 1977.



ANNEX VI

DIRECTIONS ISSUED BY THE NATIONAL BOARD OF OCCUPATIONAL SAFETY AND HEALTH  
SWEDEN IN OCTOBER 1975 CONCERNING THE PREVENTION OF OCCUPATIONAL DISEASES  
RESULTING FROM ASBESTOS DUST DURING WORK ON ASBESTOS OR MATERIAL CONTAINING  
ASBESTOS

- The use of asbestos should be avoided as much as possible.
- In sectors where asbestos has not previously been used it should as a rule be possible to manage without it also in the future. Therefore, before asbestos is used in any new operation, such plans should be reported to the Board.
- Dust-emitting material containing asbestos should where possible be replaced by less hazardous material.
- Crocidolite (blue asbestos), material containing crocidolite or equipment of which crocidolite or material containing crocidolite is a part may not be used in working life.
- Suppliers and importers of asbestos, material containing asbestos or equipment of which asbestos or material containing asbestos is a part should mark shipments to inform the customer of the asbestos content and of the special precautions to be taken when using and handling the goods. Furthermore the importer and supplier should see to it that such packaging material is used that dust leakages are prevented in connection with transportation and handling of the goods.
- Employers should obtain information from the supplier or importer as outlined above and check that the packaging material meets with the requirements.
- Employers should see to it that employees handling asbestos or material containing asbestos are not exposed to health hazards and should notify to the Labour-Inspectorate of work where employees are exposed to asbestos dust.
- The air shall be checked regularly at every working site or plant where employees are handling asbestos and dust-emitting material containing asbestos. Reports on these air-tests shall be submitted to the Labour-Inspectorate.

- Unfabricated asbestos must not be mixed or fabricated at working sites or plants which are not especially equipped to take care of asbestos dust.

Dust-emitting material containing asbestos, e.g. asbestos cement products, must not be sawn, ground or polished except where special precautions have been taken to take care of the dust.

- Spraying with asbestos or material containing asbestos may only occur in completely sealed up apparatus which can absorb the dust created. This direction signifies that spraying must not occur in construction work etc.
- Asbestos and dust-emitting material containing asbestos may not be used for insulations, irrespective of how the insulations are made.
- Special precautions must be taken in connection with demolishing and dismantling work where the handling of asbestos or material containing asbestos is involved. Protective clothing and safety breathing equipment should be used.'