

PATENTS DISCLOSING ASBESTOS IN FEMININE HYGIENE PRODUCTS

Stephen Berger
spitkov@pacbell.net

Among the thousands of products that asbestos has been used in, questions and concern have been raised about feminine hygiene products. There has been no confirmation to date that asbestos was ever used in plants manufacturing feminine hygiene products for the public. However, it is known that asbestos has been named even in recent years as an ingredient in US patents for feminine hygiene products. Word-searching US patents since 1976 and looking up earlier patents referenced in these, it was possible to identify a number in which asbestos was named as a possible ingredient of products described as tampons and sanitary napkins. The existence of patents by consumer product and chemical companies does not establish that the products and processes patented were ever actually commercially applied. Only the companies and perhaps the workers in the plants that made the products (or their unions) would actually know whether such products were made with asbestos and when. The patents, along with the suggested uses of asbestos in them, are summarized below. Further information may be requested from the companies holding these patents.

United States Patent 2,896,626

US Patent Year: 1959

Company: Kimberly-Clark Corporation
Neenah, Wisconsin

Uses: Column 1, lines 23-24
Diaper or sanitary napkin

Mention of asbestos: Column 2, lines 42-44

Purpose of asbestos: Forms part of the protective backing sheet

Alternatives listed: Cellulose, asbestos or glass

United States Patent 3,959,569

US Patent Year: 1976

Equivalent Patent: United Kingdom Patent GB1354406

Company: Dow Chemical Company
Midland, Michigan

Uses: Column 3, line 51 to column 4, line 2
Diaper, bandage, tampon or compress

Mention of asbestos: Column 1, lines 58-61

Purpose of asbestos: To make wadding as a fibrous support

Alternatives listed: Cellulose, asbestos or similar material

United States Patent 4,018,646

US Patent Year: 1977

Company: Johnson & Johnson
New Brunswick, New Jersey

Uses: Column 10, lines 30-38
Covering for sanitary napkin

Mention of asbestos: Column 10, lines 39-41

Purpose of asbestos: To form composite nonwoven web

Alternatives listed: Wood pulp fibers from various types of woods, cotton linters,
asbestos fibers, glass fibers and the like

United States Patent 4,088,132

US Patent Year: 1978

Company: W. R. Grace & Co.
New York, New York

Uses: Column 1, lines 9-12
Tampon

Mention of asbestos: Column 3, lines 51-54

Purpose of asbestos: To support the absorbent foam

Alternatives listed: Talc, silica, alumina, clay, aluminosilicate, mica, soapstone,
asbestos, magnesia, carbon black and baryte

United States Patent 4,298,668

US Patent Year: 1981

Company: Kimberly-Clark Corporation
Neenah, Wisconsin

Uses: Column 1, lines 9-12
Tampon

Mention of asbestos: Column 3, lines 51-54

Purpose of asbestos: To support the absorbent foam

Alternatives listed: Talc, silica, alumina, clay, aluminosilicate, mica, soapstone, asbestos, magnesia, carbon black and baryte

United States Patent 4,496,583 US Patent Year: 1985

Japanese Patent Applications Jul 7, 1980 55-91663
Jul 11, 1980 55-93900
Nov 11, 1980 55-157628
Nov 12, 1980 55-158149

Equivalent Patent: European Patent EP0043555

Company: Teijin Limited
11, 1-Chome, Minamihonmachi Higashi-ku, Osaka-shi Osaka

Uses: Column 4, lines 62-68
Including cover sheet for diaper or sanitary napkin

Mention of asbestos: Column 3, lines 26-31
Claims 12 and 13

Purpose of asbestos: Adds strength to the polyester fibers

Alternatives listed: Water-insoluble polyvinylalcohol fibers, polyamide fibers, polyolefin fibers, rayon fibers, wood pulp, glass fiber, asbestos fibers.

United States Patent 4,761,322 US Patent Year: 1988

Company: Kimberly-Clark Corporation
Neenah, Wisconsin

Uses: Column 1, lines 9-12
Diaper, sanitary napkin or incontinence garment

Mention of asbestos: Column 8, lines 1-7

Purpose of asbestos: Absorbent fibrous layer

Alternatives listed: Cotton, wood pulp, jute, asbestos, wool, silk, glass, fiberglass, carbon, natural fibers generally, as well as rayon, polyester, nylon, Nomex, Kevlar, acrylics, polypropylene, polyethylene, aluminum silicate and the like

Alternatives listed: Moreover, if required by an application, paper-making materials such kraft pulp for paper-making, sulfite-pulp, soluble pulp for synthetic fiber and other such vegetable fibers, polyamide, polyester and other such synthetic fibers, glass fiber, asbestos and other inorganic fibers may be mixed in as required up to a proportion which does not impede dispersion and dissolution in water.

United States Patent 4,915,897

US Patent Year: 1990

Company: Chicopee
New Brunswick, New Jersey

Uses: Column 13, lines 33-35
Diaper or sanitary napkin

Mention of asbestos: Column 7, lines 48-50

Purpose of asbestos: To form composite nonwoven web

Alternatives listed: Wood pulp fibers from various types of wood, cotton linters, asbestos fibers, glass fibers, and the like

United States Patent 4,921,659

US Patent Year: 1990

Company: Chicopee
New Brunswick, New Jersey

Uses: Column 19, lines 56-59
Tampon

Mention of asbestos: Column 7, lines 56-58

Purpose of asbestos: To form composite nonwoven web

Alternatives listed: Wood pulp fibers from various types of wood, cotton linters, asbestos fibers, glass fibers, and the like

United States Patent 4,927,685

US Patent Year: 1990

**Equivalent Patents: European Patent EP0307967 (Johnson & Johnson)
Japanese Patent 1104870**

Company: Chicopee
New Brunswick, New Jersey

Equivalent Patent: European Patent EP0307116

Companies: Mitsubishi Kasei Vinyl Company
Mitsubishi Kasei Corporation
5-2 Marunouchi 2-chome, Chiyoda-ku Tokyo 100

Uses: Column 1, lines 8-21
Disposable diapers and sanitary napkins

Mention of asbestos: Column 3, lines 52-61
Claim 10

Purpose of asbestos: The invention is a porous film comprising of polyolefin resin, a filler and an ester of dipentaerythritol having 0 to 70% residual OH groups. The asbestos acts as a filler.

Alternatives listed: As a filler, an inorganic filler or an organic filler is used. As inorganic fillers that may be used in the present invention, calcium carbonate, talc, clay, kaolin, silica, diatomaceous earth, magnesium carbonate, calcium sulfate, aluminum hydroxide, zinc oxide, magnesium hydroxide, calcium oxide, magnesium oxide, titanium oxide, alumina, mica, asbestos powder, glass powder, shirasu ballon, zeolite and silicate clay may be exemplified. Calcium carbonate, talc, clay, silica, diatomaceous earth and barium sulfate are preferable.

United States Patent 5,578,598 US Patent Year: 1996

Japanese Patent Applications	Nov 29, 1990	2-325405
	Nov 29, 1990	2-325406
	Oct 26, 1991	3-306857
	Oct 26, 1991	3-306858

Company: Iatron Laboratories, Inc.
Tokyo

Uses: Column 20, lines 35-38
Including menstrual tampons

Mention of asbestos: Column 19, lines 50-57

Purpose of asbestos: The invention relates to an antibacterial material characterized by carrying the above-mentioned polyelectrolyte complex on a carrier. The asbestos acts as a carrier.

Alternatives listed: As the carrier, there may also be used inorganic materials, for example, glass, minerals (for example, asbestos), enamel, cement, ceramics, artificial stone, and metals (for example, iron, steel, non-ferrous metals, alloys).

United States Patent 5,658,915 US Patent Year: 1997

Same Disclosure as US Patent 5,578,598

Japanese Patent Applications	Nov 29, 1990	2-325405
	Nov 29, 1990	2-325406
	Oct 26, 1991	3-306857
	Oct 26, 1991	3-306858

Company: Iatron Laboratories, Inc.
Tokyo

Uses: Column 20, lines 32-35
Including menstrual tampons

Mention of asbestos: Column 19, lines 47-50

Purpose of asbestos: The invention relates to an antibacterial material characterized by carrying the above-mentioned polyelectrolyte complex on a carrier. The asbestos acts as a carrier.

Alternatives listed: As the carrier, there may also be used inorganic materials, for example, glass, minerals (for example, asbestos), enamel, cement, ceramics, artificial stone, and metals (for example, iron, steel, non-ferrous metals, alloys).

United States Patent 5,763,333 US Patent Year: 1998

Japanese Patent Applications Mar 19, 1996 8-063055

Equivalent Patent: United Kingdom Patent GB2311249

Companies: Kao Corporation
14-10 Nihonbashi Kayaba-cho 1-chome, Chuo-ku Tokyo 103

Uses: Column 11, lines 11-16
Including disposable diapers and sanitary napkins

Mention of asbestos: Column 4, lines 7-17

Purpose of asbestos: The invention provides an absorbent article comprising a liquid permeable topsheet, a liquid impermeable back sheet and an

absorbent member interposed between the topsheet and the back sheet, wherein the back sheet comprises the above-mentioned composite sheet. The permeable sheet is obtained by compounding a polyolefin with a filler. The asbestos acts as a filler.

Alternatives listed: The fillers include organic or inorganic fillers. Suitable inorganic fillers include calcium carbonate, gypsum, talc, carbon black, clay, kaolin, silica, diatomaceous earth, magnesium carbonate, barium carbonate, magnesium sulfate, barium sulfate, calcium sulfate, calcium phosphate, aluminum hydroxide, zinc oxide, magnesium hydroxide, calcium oxide, magnesium oxide, titanium oxide, alumina, mica, asbestos powder, sirasu balloon, zeolite, terra alba, cement, silica fume, and mica powder. Usable organic fillers include woodmeal, coal powder, and pulp powder. These fillers can be used either individually or as a mixture thereof.

The following patent relates to the recognition of an asbestos hazard by Kimberly-Clark:

United States Patent 4,298,668

US Patent Year: 1981

Filed July 3, 1980

Company: Kimberly-Clark Corporation
Neenah, Wisconsin

Use of asbestos: Battery separator

Column 1, lines 46-49: However, recognizing possible environmental risks in using asbestos as a substrate the present inventor saw the need for developing a low cost, high efficient polymeric material to replace the asbestos substrate.

The patents in table form:

US Patent Number	Year	Company	Products	Equivalent Patents
2,896,626	1959	Kimberly-Clark	Diaper or sanitary napkin	
3,959,569	1976	Dow Chemical	Diaper, bandage, tampon or compress	United Kingdom Patent GB1354406
4,018,646	1977	Johnson & Johnson	Sanitary napkin	
4,088,132	1978	W. R. Grace & Co.	Tampon	

4,496,583	1985	Teijin Limited	Diaper or sanitary napkin	European Patent EP0043555
4,761,322	1988	Kimberly-Clark	Diaper, sanitary napkin or incontinence garment	
4,822,350	1989	Kao Corporation	Diaper or sanitary napkin	European Patent EP0192965
4,846,932	1989	Kuromatsu Corporation	Diaper or sanitary napkin	European Patent EP0273075
4,915,897	1990	Chicopee	Diaper or sanitary napkin	
4,921,659	1990	Chicopee	Diaper or sanitary napkin	
4,927,685	1990	Chicopee	Diaper or sanitary napkin	European Patent EP0307967 Japanese Patent 1104870
4,931,357	1990	Chicopee	Tampon	
4,952,128	1990	Chicopee	Tampon	
5,073,316	1991	Mitsubishi Kasei Vinyl Company Mitsubishi Kasei Corporation	Diaper or sanitary napkin	European Patent EP0307116
5,578,598	1996	Iatron Laboratories	Tampon	
5,658,915	1997	Iatron Laboratories	Tampon	
5,763,333	1998	Kao Corporation	Diaper or sanitary napkin	United Kingdom Patent GB2311249