SENATE HEARING SLIP

(Please Print Plainly)

DATE: 9/23/99

BILL NO. SB 22
or
SUBJECT

MICHAEL R. VAUGHAN
(NAME)
P.O. BOX 2038
(Street Address or Route Number)
MADISON, WI 53701
(City and Zip Code)
R.J. REYNOLDS TOBACCO COMPANY
(Representing)

Speaking in Favor: ☐
Speaking Against: ☐
Registering in Favor: but not speaking: ☐
Registering Against: but not speaking: ☒
Speaking for information only; Neither for nor against: ☐

Please return this slip to a messenger PROMPTLY.
Senate Sergeant-At-Arms
State Capitol - B35 South
P.O.Box 7882
Madison, WI 53707-7882

SENATE HEARING SLIP

(Please Print Plainly)

DATE: 9/23/99

BILL NO. S.B. 22
or
SUBJECT

David Remes ("REEMS")
(NAME) COVINGTON & BURLING
1201 Penn. Ave., N.W.
(Street Address or Route Number)
Washington, D.C. 20004
(City and Zip Code) Philip Morris, R.J. Reynolds, Brown & Williamson, Lorillard (cigarette manufacturers)
(Representing)

Speaking in Favor: ☐
Speaking Against: ☑
Registering in Favor: but not speaking: ☐
Registering Against: but not speaking: ☐
Speaking for information only; Neither for nor against: ☐

Please return this slip to a messenger PROMPTLY.
Senate Sergeant-At-Arms
State Capitol - B35 South
P.O.Box 7882
Madison, WI 53707-7882

SENATE HEARING SLIP

(Please Print Plainly)

DATE: Sept. 23, 1999

BILL NO. Senate Bill 22
or
SUBJECT

Pat Osborne
(NAME)
10 E. Doty Suite 500
(Street Address or Route Number)
Madison, WI 53703
(City and Zip Code)
Smokeless Tobacco Council
(Representing)

Speaking in Favor: ☐
Speaking Against: ☐
Registering in Favor: but not speaking: ☐
Registering Against: but not speaking: ☒
Speaking for information only; Neither for nor against: ☐

Please return this slip to a messenger PROMPTLY.
Senate Sergeant-At-Arms
State Capitol - B35 South
P.O.Box 7882
Madison, WI 53707-7882

SENATE HEARING SLIP

(Please Print Plainly)

DATE: 9/23/99

BILL NO. SB 22
or
SUBJECT

Tom Moore
(NAME)
1 S. Pinckney st
(Street Address or Route Number)
Madison
(City and Zip Code)
Cigar Association of America
(Representing)

Speaking in Favor: ☐
Speaking Against: ☐
Registering in Favor: but not speaking: ☐
Registering Against: but not speaking: ☒
Speaking for information only; Neither for nor against: ☐

Please return this slip to a messenger PROMPTLY.
Senate Sergeant-At-Arms
State Capitol - B35 South
P.O.Box 7882
Madison, WI 53707-7882

SENATE HEARING SLIP

(Please Print Plainly)

DATE: 9/23/99

BILL NO. SB 22
or
SUBJECT

Gareth R. Johnson
(NAME)
948 Starr School Rd
(Street Address or Route Number)
Stoughton WI 53589
(City and Zip Code)
Tobacco-Free Wis. Coalition
(Representing)

Speaking in Favor: ☑
Speaking Against: ☐
Registering in Favor: but not speaking: ☐
Registering Against: but not speaking: ☐
Speaking for information only; Neither for nor against: ☐

Please return this slip to a messenger PROMPTLY.
Senate Sergeant-At-Arms
State Capitol - B35 South
P.O.Box 7882
Madison, WI 53707-7882

SENATE HEARING SLIP

(Please Print Plainly)

DATE: 9-23-99

BILL NO. SB22
or
SUBJECT

John Stevenson, M.D.
(NAME)
4380 CTH M
(Street Address or Route Number)
Sturgeon Bay, WI 54235
(City and Zip Code)
Amer. Lung Assn. - WI
(Representing)

Speaking in Favor: ☒
Speaking Against: ☐
Registering in Favor: but not speaking: ☐
Registering Against: but not speaking: ☐
Speaking for information only; Neither for nor against: ☐

Please return this slip to a messenger PROMPTLY.
Senate Sergeant-At-Arms
State Capitol - B35 South
P.O.Box 7882
Madison, WI 53707-7882

SENATE HEARING SLIP

(Please Print Plainly)

DATE: 23 September 1999

BILL NO. Senate Bill 22

or

SUBJECT

Sen. Fred Risser

(Name)

220 South, Capitol

(Street Address or Route Number)

(City and Zip Code)

(Representing)

Speaking in Favor: ☒

Speaking Against: ☐

Registering in Favor: ☐

Registering Against: ☐

Speaking for information only; Neither for nor against: ☐

Please return this slip to a messenger PROMPTLY.

Senate Sergeant at Arms
Room 204-S
State Capitol
Madison, Wisconsin 53702

SENATE HEARING SLIP

(Please Print Plainly)

DATE: 9/24/99

BILL NO. SB22

or

SUBJECT Tobacco Ingredient disclosure

Ira Shareow

(NAME)

4817 Sheboygan Ave

(Street Address or Route Number)

Madison, 53705

(City and Zip Code)

Self

(Representing)

Speaking in Favor: ☒

Speaking Against: ☐

Registering in Favor: but not speaking: ☐

Registering Against: but not speaking: ☐

Speaking for information only; Neither for nor against: ☐

Please return this slip to a messenger PROMPTLY.
Senate Sergeant-At-Arms
State Capitol - B35 South
P.O.Box 7882
Madison, WI 53707-7882

SENATE HEARING SLIP

(Please Print Plainly)

DATE: 9/23/99

BILL NO. SB-22

or

SUBJECT

Laura Leitch

(NAME)

1 E. Main #300

(Street Address or Route Number)

Madison WI 53702

(City and Zip Code)

WI Academy of Family Physicians

(Representing)

Speaking in Favor: ☐

Speaking Against: ☐

Registering in Favor: but not speaking: ☒

Registering Against: but not speaking: ☐

Speaking for information only; Neither for nor against: ☐

Please return this slip to a messenger PROMPTLY.
Senate Sergeant-At-Arms
State Capitol - B35 South
P.O.Box 7882
Madison, WI 53707-7882

SENATE HEARING SLIP

(Please Print Plainly)

DATE: 9/23/99

BILL NO. SB22
or
SUBJECT

Kathy Andersen
(NAME)

330 E Lakeside St
(Street Address or Route Number)

Madison 53715
(City and Zip Code)

State Medical Society
(Representing)

Speaking in Favor: ☐

Speaking Against: ☐

Registering in Favor:
but not speaking: ☒

Registering Against:
but not speaking: ☐

Speaking for information only; Neither for nor against: ☐

Please return this slip to a messenger PROMPTLY.

Senate Sergeant-At-Arms
State Capitol - B35 South
P.O.Box 7882
Madison, WI 53707-7882

SENATE HEARING SLIP

(Please Print Plainly)

DATE: 9/23/99

BILL NO. SB22
or
SUBJECT

Jack O'Meara
(NAME)

106 E. Doty Street
(Street Address or Route Number)

Madison, WI 53703
(City and Zip Code)

Wisconsin Association of School Nurses
(Representing)

Speaking in Favor: ☐

Speaking Against: ☐

Registering in Favor:
but not speaking: ☑

Registering Against:
but not speaking: ☐

Speaking for information only; Neither for nor against: ☐

Please return this slip to a messenger PROMPTLY.

Senate Sergeant-At-Arms
State Capitol - B35 South
P.O.Box 7882
Madison, WI 53707-7882

SENATE HEARING SLIP

(Please Print Plainly)

DATE: 9/23/99

BILL NO. SB22
or
SUBJECT cig ingredients

Maureen Cassidy
(NAME)

4703 Monona Dr.
(Street Address or Route Number)

Madison 53716
(City and Zip Code)

American Heart Assn.
(Representing)

Speaking in Favor: ☐

Speaking Against: ☐

Registering in Favor:
but not speaking: ☒

Registering Against:
but not speaking: ☐

Speaking for information only; Neither for nor against: ☐

Please return this slip to a messenger PROMPTLY.

Senate Sergeant-At-Arms
State Capitol - B35 South
P.O.Box 7882
Madison, WI 53707-7882

SENATE HEARING SLIP

(Please Print Plainly)

DATE: 9/23/99

BILL NO. SB22
or
SUBJECT ~~to~~ cig. ingredients

Jeff Ravlous
(NAME)
A19 W24350 Riverwood Dr.
(Street Address or Route Number)
Pewaukee WI 53072
(City and Zip Code)
American Canar Society
(Representing)

Speaking in Favor: ☐

Speaking Against: ☐

Registering in Favor: ☒
but not speaking:

Registering Against: ☐
but not speaking:

Speaking for information only; Neither for nor against: ☐

Please return this slip to a messenger PROMPTLY.
Senate Sergeant-At-Arms
State Capitol - B35 South
P.O.Box 7882
Madison, WI 53707-7882

SENATE HEARING SLIP

(Please Print Plainly)

DATE: 9/23/99

BILL NO. SB22
or
SUBJECT Tobacco Org
Development

Dona Wininsky
(NAME)
150 S. Sunny Slope #105
(Street Address or Route Number)
Brookfield, WI 53005
(City and Zip Code)
ALA/WI
(Representing)

Speaking in Favor: ☐

Speaking Against: ☐

Registering in Favor: ☒
but not speaking:

Registering Against: ☐
but not speaking:

Speaking for information only; Neither for nor against: ☐

Please return this slip to a messenger PROMPTLY.
Senate Sergeant-At-Arms
State Capitol - B35 South
P.O.Box 7882
Madison, WI 53707-7882

SENATE HEARING SLIP

(Please Print Plainly)

DATE:

BILL NO. 22
or
SUBJECT Ingredients

David Ahrens
(NAME)
1930 Monroe St.
(Street Address or Route Number)
Madison
(City and Zip Code)
Tobacco Free Wisconsin
(Representing)

Speaking in Favor: ☐

Speaking Against: ☐

Registering in Favor: ☐
but not speaking:

Registering Against: ☐
but not speaking:

Speaking for information only; Neither for nor against: ☑

Please return this slip to a messenger PROMPTLY.
Senate Sergeant-At-Arms
State Capitol - B35 South
P.O.Box 7882
Madison, WI 53707-7882

Judith B. Robson
Wisconsin State Senator

September 27, 1999

Mr. Ira Sharenow
4817 Sheboygan Ave., #617
Madison, WI 53705

Dear Mr. Sharenow:

Enclosed please find the following material that you requested regarding the meeting of the Senate Committee on Human Services and Aging:

1. Hearing slips for SB 22;
2. Written materials submitted by David Remes, a representative of the tobacco companies, who testified against SB 22;
3. Hearing slips for SB 144;
4. Written testimony regarding SB 144 from persons registering as representatives of Wisconsin State Employees Local 1;
5. Two simple amendments to SB 115; and
6. A substitute amendment to SB 122.

Regarding your other requests:

The document referred to in SB 115 (Clinical Practice Guideline, No. 18, Smoking Cessation, published by the U.S. Department of Health and Family Services) is more than 125 pages. If you would like to inspect this document in our office, please make an appointment to do so.

You asked whether a number of treatments such as herb teas, natural medicine, massage, etc. would be included under SB 115. These treatments are not specified in SB 115, so it is my understanding that coverage for these treatments would not be required.

You also asked how much money coverage might cost and asked for an itemized list of costs for doctors' fees, medicine, lab tests and other costs. You also asked for averages, medians and a standard range that covers 99% of the cases in which a person chooses a method that requires payment of a fee.

15 South, State Capitol, Post Office Box 7882, Madison, WI 53707-7882 • Telephone (608) 266-2253
District Address: 2411 East Ridge Road, Beloit, WI 53511
Toll-free 1-800-334-1468 • E-Mail: sen.robson@legis.state.wi.us

FEB 2 9 2000

FRED A. RISSER
President
Wisconsin State Senate

February 29, 2000

Senator Judy Robson
Chair, Senate Committee on Human Services and Aging
15 South, State Capitol
Madison, WI 53702
HAND DELIVERED

Dear ~~Senator~~ Judy Robson,

I am writing to urge the Senate Committee on Human Services and Aging to take Executive Action on Senate Bill 22. This bill will require manufacturers of cigarettes and other tobacco products to submit an annual report to the Department of Health and Family Services that specifies the ingredients in all cigarettes and tobacco products sold in our state.

Under the provisions of Senate Bill 22, tobacco manufacturers must include in their reports a list that specifies- in descending order by weight, measure, or numerical count- all of the ingredients in each cigarette and tobacco product that is sold or distributed in Wisconsin. In their report, tobacco manufacturers would not have to include tobacco, water, and any ingredient that the FDA has approved as safe when burned and inhaled alone and in combination with other ingredients. Finally, DHFS may not release the tobacco ingredients if it is found that the information is excepted from public disclosure as a trade secret under state or federal law.

Tobacco ingredient disclosure is necessary in protecting the health of the thousands of Wisconsinites that smoke and are suffering from tobacco related illnesses. The FDA requires in-depth analysis and ingredient disclosure on every item that is sold for consumption by humans. Yet, the tobacco industry keeps slipping through the cracks. This bill is an effort to tell tobacco companies that they are not above the Department of Health and Family Services.

Senate Bill 22 is a basic consumer protection bill. This bill will require that the information be presented to the state in a fair, non- biased manner in an effort to provide the most comprehensive information to the consumer. It does not require package labeling. It does not require the disclosure of "trade secrets". Senate Bill 22 just asks the tobacco industry to stand behind the ingredients in their products, rather than being afraid to confront the truth that tobacco use is a serious health risk.

Thank you for your consideration of my request. If you should have any questions about Senate Bill 22, please do not hesitate to contact me.

Most Sincerely,

FRED A. RISSER
President
Wisconsin State Senate

FAR:skb

P.O. Box 7882, Madison, WI 53707-7882 • (608) 266-1627 • E-Mail: Sen.Risser@legis.state.wi.us • Fax: (608) 266-1629

AMERICAN CANCER SOCIETY

Hope. Progress. Answers.

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH
1997 CIGARETTE NICOTINE DISCLOSURE REPORT

AS REQUIRED BY MASSACHUSETTS GENERAL LAWS CHAPTER 307A, CMR 650.000

JANUARY 16, 1998

TABLE OF CONTENTS

AMERICAN CANCER SOCIETY

Tobacco Information

Hope. Progress. Answers.

NICOTINE YIELD RATINGS

Why Publish Nicotine Ranges?

*Massachusetts is publishing the **range of nicotine** which a cigarette delivers under average smoking conditions--whether high, moderate, low, or nicotine free. These ranges will allow smokers to compare nicotine levels among brands of cigarettes, without misleading them about the actual amount of nicotine delivered through their own smoking patterns.*

- The Federal Trade Commission (FTC) publishes for each cigarette brand a nicotine yield number as a result of testing performed by a smoking machine. Although the FTC developed this test to measure relative nicotine yields, many consumers believe that the classifications of cigarette brands based on the numbers published by the FTC accurately reflect the amount of nicotine or tar which they will receive from a given brand.

- Because of the differences in individual smoking patterns, no number is truly representative of the amount of nicotine any smoker will receive from a cigarette. Therefore, Massachusetts has developed ranges which classify levels of nicotine relative to each other. These ranges are high (>1.2 mg), moderate (>0.2-1.2), low (.01-.2) or nicotine free (<.01).

What Do the Classifications Show?

85% of those cigarettes tested in 1997 fell into the highest nicotine range. Of 85 cigarette brands tested, 72 were rated as high, including many of the 'light' cigarettes tested, and even some of the 'ultra-light' cigarettes tested.

- **The remaining 13 brands (15% of cigarettes tested) were rated moderate by MDPH standards.** *This suggests that virtually all cigarettes on the marketplace today deliver moderate to high doses of nicotine sufficient to cause and maintain heavy dependence.*

- **Thirty-eight (38)**-- *more than half*-- of the brands rated as *high* were 'ultra-light,' 'light,' or 'medium.'

NO BRANDS TESTED FELL INTO THE LOW OR NICOTINE FREE CLASSIFICATION.

The results of testing performed in accordance with MDPH regulations demonstrates the highly addictive potential of nearly all brands of cigarettes-- whether, full flavor, 'light,' or 'ultra-light.' Brands rated according to the FTC method as low in nicotine are shown to have significantly greater levels of nicotine and to be potentially more addictive than the FTC ratings would suggest.

Table 4 - Nicotine Yield Ratings

HIGH (>1.2 MG)					
Doral	Full Flavor	Marlboro	King Size (SP)	Newport	Slim Lights Menthol 100's
Doral	Full Flavor 100's	Marlboro	Lights 100 (Box)	Winston	100's
Doral	Full Flavor Box	Marlboro	Lights 100 (SP)	Winston	85's Hard Pack
Doral	Full Flavor Box 100's	Marlboro	Lights King Size (25/pack)	Winston	85's Soft Pack
Doral	Full Flavor Menthol	Marlboro	Lights King Size (Box)	Winston	Lights 100's
Doral	Full Flavor Menthol 100's	Marlboro	Lights King Size (SP)	Winston	Lights 100's Box
Doral	Full Flavor Menthol Box	Marlboro	Lights Menthol 100 (Box)	Winston	Lights 85's
Doral	Lights 100's	Marlboro	Lights Menthol 100 (SP)	Winston	Lights 85's Box
Doral	Lights Box 100's	Marlboro	Lights Menthol King Size (Box)	Winston	Ultra 100's
Doral	Lights Menthol 100's	Marlboro	Lights Menthol King Size (SP)	Winston	Ultra 100's Box
Doral	Non-Filter 85's	Marlboro	Medium 100 (Box)	Winston Select	Full Flavor
GPC	Full Flavor 100's	Marlboro	Medium 100 (SP)	Winston Select	Full flavor 100
GPC	Full Flavor Box 100's	Marlboro	Medium King Size (Box)	Winston Select	Full flavor Box King
GPC	Full Flavor Box Kings	Marlboro	Medium King Size (SP)	Winston Select	Light
GPC	Full Flavor Kings	Marlboro	Menthol King Size (Box)	Winston Select	Light 100
GPC	Full Flavor Menthol 100's	Marlboro	Menthol King Size (SP)	Winston Select	Light Box
GPC	Full Flavor Menthol Kings	Newport	Full Stripes 100's	Winston	Lights 100's Box
GPC	Lights 100's	Newport	Menthol Box	Winston	Lights 85's
GPC	Lights Box 100's	Newport	Menthol 100's	Winston	Lights 85's Box

SB 22

Total Yearly Chemical Emissions from Sidestream Cigarette Smoke[1] Canada 1996

Every cigarette smoked discharges hundreds of toxic and carcinogenic chemicals into the air we breathe. By multiplying the emission data of one cigarette by the number of cigarettes smoked per year, sidestream smoke emerges as a major source of chemical pollution.

The values presented in this table do not include every hazardous chemical released in sidestream smoke, only those which have thus far been tested.[1]

Chemical	Annual Environmental Toxic Load
Carbon Monoxide	2249.51 tonnes
Tar	1255.35 tonnes
Nicotine	272.18 tonnes
Ammonia	259.21 tonnes
Acetaldehyde	83.24 tonnes
Nitric Oxide	76.21 tonnes
Isoprene	60.39 tonnes
Acetone	48.61 tonnes
Toluene	26.46 tonnes
Formaldehyde	21.61 tonnes
Phenol	17.47 tonnes
Acrolein	16.22 tonnes
Benzene	14.42 tonnes
Pyridine	13.29 tonnes
1,3-Butadiene	10.12 tonnes
Hydroquinone	9.73 tonnes
Methyl Ethyl Ketone	9.30 tonnes
Catechol	8.74 tonnes
Propionaldehyde	6.80 tonnes
Hydrogen Cyanide	5.62 tonnes
Styrene	5.27 tonnes
Butyraldehyde	4.67 tonnes
Acrylonitrile	4.57 tonnes
Crotonaldehyde	4.29 tonnes
m + p-Cresol	4.24 tonnes
o-Cresol	1.64 tonnes
Quinoline	534.44 kg
Resorcinol	49.62 kg
Cadmium	39.01 kg
Benzo [a] pyrene	7.48 kg
1-Aminonapthaline	3.43 kg
Chromium	2.88 kg
Lead	2.41 kg
2-Aminonaphthalene	2.09 kg
Nickel	1.67 kg
3-Aminobiphenyl	0.99 kg
4-Aminobiphenyl	0.54 kg

$5500
10.0
not rated

Sen. Roessler

(1) State Department of Hygiene do tests on Top 5-10 brands and measure CO, Tar, nicotine, Ammonia, Formaldehyde, Benzene, Hydrogen Cyanide Toxic (1b) have a room

(2) Sen. Moore Labeling is probably preempted by Fed. Legislation Fed Cig Labeling Act

(6) Druid Remes

(7) nonsmokers

[1] Excludes exhaled and mainstream smoke. Based on average ISO sidestream emissions (BC Ministry of Health) and Total Domestic Cigarette/Fine Cut Sales 1996 (Health Canada, Office of Tobacco Control)

(3) A Canadian Site listed some of the ingredients in tobacco and paper

(4) WINSTON

(5) Standard pro- argument on how much when in fact there is no safe level

(6) Did not acknowledge that nicotine is a drug or that it is addictive

Chemicals from Second-Hand Smoke:
What a typical restaurant employee would inhale

Below is a list of the amount of selected chemicals, emitted in sidestream smoke, that a restaurant employee, weighing approximately 65 kg (140 lbs), would ***directly*** inhale (not the total exposure amount) over an 8-hour shift in a $300m^2$ area.

All chemicals marked with an asterix (*) are carcinogens (they cause cancer). All of the chemicals below cause adverse health effects.

These calculations assume 10 smokers per $300m^2$ each smoking 2 cigarettes per hour,[1] totaling 160 cigarettes over the 8-hour time period, and take into account standard ventilation rates.[2]

Further information about these calculations can be found at: www.smoke-free.ca/eng_issues/etschems2.htm

Table 1: Amount of Chemicals Inhaled by A Restaurant Employee

CHEMICAL	amount (ug)	CHEMICAL	amount (ug)	CHEMICAL	amount (ng)
carbon monoxide	5606	***1,3-butadiene**	**25**	resorcinol	123
tar	3128	Hydroquinone	24	***benzo[a]pyrene**	**18**
nicotine	678	methyl ethyl ketone	23	***cadmium**	**9.7**
***acetaldehyde**	**207**	Catechol	22	1-aminonaphthalene	8.5
Nitric oxide	190	Propionaldehyde	17	***chromium**	**7.1**
Isoprene	151	Cresols	15	***lead**	**6.0**
Acetone	121	Hydrogen cyanide	14	***2-aminonaphtalene**	**5.2**
Toluene	66	Styrene	13	***nickel**	**4.2**
***formaldehyde**	**54**	Butyraldehyde	12	3-aminobiphenyl	2.4
Phenol	44	***acrylonitrile**	**11**	***4-aminobiphenyl**	**1.4**
Acrolein	40	***crotonaldehyde**	**10**		
***benzene**	**36**	***quinoline**	**1.3**		
pyridine	33				

[1] Americans for Nonsmokers' Rights: Questions and Answers Regarding Eliminating Smoking in Restaurants. February 5, 1992.

[2] ASHRAE Standard (62-1981) office ventilation rate of 10L/second per person (assuming 7 persons per 100 meters squared floor space). According to American's for Nonsmoker's Rights: Protecting Nonsmokers from Secondhand Smoke (fact sheet), these ventilation rates would need to be improved 270 times, at enormous cost, in order to reduce the carcinogenic risk from tobacco smoke to federal (US) accepted levels. This would "create a virtual windstorm indoors".

Carcinogenic compounds identified either by U.S. Environmental Protection Agency or International Agency for Research on Cancer.

Comparison of Sidestream Cigarette Smoke[1] and Air Pollution from Industry[2], Canada, 1996

Each year in Canada, sidestream smoke from burning cigarettes deposits tonnes of toxic and carcinogenic chemicals into the air. The **52 billion cigarettes** smoked each year deliver almost **5000 tonnes of pollutants** into the atmosphere.

There are three measurable parts to cigarette smoke: sidestream, mainstream (inhaled), and exhaled smoke.

- Sidestream smoke consists of particles and gases released from the lit end of a cigarette only;
- Mainstream smoke is inhaled by the smoker, and
- Exhaled smoke is breathed out by the smoker, and contains the chemicals not absorbed by his or her body.

The tables below show only sidestream smoke values. The actual amount of air pollution caused by burning cigarettes is much higher.

To compare cigarette smoke pollution to industrial sources, these tables draw on the National Pollutant Release Inventory (NPRI) of chemicals discharged by major industrial sectors. This inventory is produced yearly by Environment Canada.

Chemical emissions from cigarettes were found to be comparable to pollutants released from industry. In fact, emissions of certain chemicals from cigarettes are higher than those from industries normally considered to be major polluters, such as the petroleum or mining industry!

The following tables show emission levels ranked according to NPRI data for 1996. A list of fewer than 9 industrial sources results from the minimum values used by Environment Canada for the NPRI list.

* Designated toxic/carcinogenic under CEPA.

ACETALDEHYDE

		tonnes
1	Chemical Products	96.34
2	Paper & Allied Products	95.72
3	**Cigarettes**	**83.24**
4	Primary Textile	39.00
5	Food	30.70

ACETONE

		tonnes
1	Chemical Products	2240.10
2	Transportation Equipment	764.35
3	Plastic Products	318.23
4	Mining	284.00
5	Paper & Allied Products	79.11
6	Wood	74.32
7	**Cigarettes**	**48.61**
8	Fabricated Metal	42.57
9	Printing, Publishing & Allied	34.07
10	Primary Metal	33.34
11	Refined Petroleum & Coal	25.00

ACRYLONITRILE*

		tonnes
1	**Cigarettes**	**4.57**
2	Plastic Products	1.84

AMMONIA

		tonnes
1	Chemical Products	14395.84
2	Mining	955.53
3	Primary Metal	727.57
4	Crude Petroleum & Natural Gas	496.24
5	Paper & Allied Products	467.71
6	Other Utility	342.31
7	**Cigarettes**	**259.21**
8	Refined Petroleum & Coal	236.22
9	Non-Metallic Mineral Products	231.92
10	Food Industry	135.34

Comparison of Sidestream Cigarette Smoke and Air Pollution from Industry (continued)

BENZENE*		tonnes
1	Primary Metal	904.25
2	Refined Petroleum & Coal	399.41
3	Chemical Products	291.04
4	Crude Petroleum & Natural Gas	271.48
5	Rubber Products	195.54
6	Paper & Allied Products	104.41
7	Wood	24.96
8	**Cigarettes**	**14.42**

1,3-BUTADIENE*		tonnes
1	Chemical Products	101.64
2	Refined Petroleum & Coal	22.57
3	**Cigarettes**	**10.12**
4	Crude Petroleum & Natural Gas	3.88
5	Plastic Products	0.11

CRESOL (ALL ISOMERS)		tonnes
1	**Cigarettes**	**5.89**
2	Electrical & Electronic	2.05
3	Transportation Equipment	0.10
4	Chemical Products	0.10

FORMALDEHYDE*		tonnes
1	Wood	827.88
2	Chemical Products	133.13
3	Non-Metallic Mineral Products	106.30
4	**Cigarettes**	**21.61**
5	Electrical & Electronic	21.18
6	Transportation Equipment	14.20
7	Paper & Allied Products	6.46
8	Wholesale	5.18
9	Plastic Products	1.66

HYDROGEN CYANIDE		tonnes
1	Mining	96.63
2	**Cigarettes**	**5.62**

STYRENE		tonnes
1	Plastic Products	340.24
2	Transportation Equipment	262.24
3	Chemical Products	107.02
4	Wood	12.15
5	**Cigarettes**	**5.27**
6	Refined Petroleum & Coal	4.92
7	Primary Metal	1.34
8	Service Industries Incidental To Mineral Extraction	0.81

* Designated toxic/carcinogenic under the *Canadian Environmental Protection Act*.

1. Excludes exhaled and mainstream smoke. Based on average sidestream emissions (BC Ministry of Health, December 1998) and Total Domestic Cigarette/Fine-Cut Sales 1996 (Health Canada, Office of Tobacco Control)

2. Environment Canada. Supplementary Table 4: NPRI Pollutants Released by Industrial Sector in 1996.

Health Issues

Adult Health Issues

What's in Smoke

Second Hand Smoke

Second Hand Smoke & Children

Check it out!!!! What am I inhaling? An interactive Web Experience.

What's in Cigarette Smoke?

Tobacco smoke contains more than 4,000 substances, of which more than 40 are known to cause cancer.

These carcinogens include:

arsenic. nickel, chromium, cadmium, lead, polonium-210, vinyl chloride, formaldehyde, benz(a)anthracene, benzo[b]fouoranthene, benzo[j]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, chrysene, dibenz[a,h]anthracene, dibenzo[a,l]pyrene, dibenzo[a,l]pyrene, indeno [1,2,3-c,d] pyrene, 5-methylchrysene, quinoline, dibenz[a,h]acridine, dibenz[a,j] acridine, 7H-dibenzo[c,g]carbazole, N-nitrosodimethylamine, N-nitrosoethylmethylamine, N-nitrosodiethylamine, N-snitrosopyrrolidine, N-nitrosodimethylamine, N'-nitrosonornicotine, 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone, N'-nitrosoanabasine, N-nitrosomorpholine, 2-toluidine, 2-naphthylamine, 4-aminobiphenyl, acetaldehyde, crotonaldehyde, benzene, acrylonitrile, 1,1-dimethylhydrazine, 2-nitropropane, ethylcarbamate, hydrazine.

Click here for information on how some of the chemicals in cigarette smoke affect human health.

For information on the specific quantities of some of these chemicals, look at the British Columbia report on toxic constituents

Or look at our fact-sheets on smoke chemicals:

- **Total yearly chemical emissions from sidestream cigarette smoke**
  The pollution levels of 37 selected chemicals caused by sidestream smoke
  (PDF file)

- **Comparison of sidestream cigarette smoke and air pollution from industry**
  Pollution from sidestream cigarette smoke is compared with Canada's major industrial groups (for emission levels in 1996)
  (PDF file)

- **Chemicals from Second Hand Smoke: What a typical restaurant employee would inhale**
  Pollution from sidestream cigarette smoke is compared with Canada's major industrial groups (for emission levels in 1996)
  (PDF file)

- **Tobacco smoke components**
  A brief description of the chemical properties and health consequences of selected chemicals found in cigarette smoke:
  - Carcinogens (PDF file)
  - Carbonyls (PDF file)
    Acetaldehyde, Acetone, Acrolein, Butyraldehyde, Crotonaldehyde, Formaldehyde, Methyl Ethyl Ketone, Propionaldehyde
  - Phenolics (PDF file)
    Catechol, Cresol, Hydroquinone, Phenol, Resorcinol

- **Threshold limit values (TLVs) for chemicals found in tobacco smoke**
  The limits established by the American Conference of Governmental Industrial Hygienists (ACGIH) for selected chemicals found in tobacco smoke.
  (PDF file)

Home
Lobbying in Wisconsin
Organizations employing lobbyists
Lobbyists

1999-2000 legislative session

Legislative bills and resolutions

Senate Bill 22

To learn which organizations have tried to influence a legislative proposal, use the drop-down box to select a bill or resolution.

Senate Bill 22 text
Senate Bill 22 history

Relating to: disclosure of ingredients in cigarettes and other tobacco products and granting rule-making authority. (FE)

These organizations have reported lobbying on this proposal:

American Lung Association of Wisconsin Inc
Brown & Williamson Tobacco Corporation
Lorillard Tobacco Company
Philip Morris Incorporated by Philip Morris Mgmt. Corp.
R.J. Reynolds Tobacco Company
Smokeless Tobacco Council Inc
State Medical Society of Wisconsin
UST Public Affairs Inc
Wisconsin Grocers Association
Wisconsin Merchants Federation

Home
Lobbying in Wisconsin
Organizations employing lobbyists
Lobbyists

1999-2000 legislative session

Legislative bills and resolutions

Senate Bill 144

To learn which organizations have tried to influence a legislative proposal, use the drop-down box to select a bill or resolution.

Senate Bill 144 text
Senate Bill 144 history

Relating to: prohibiting smoking in the state capitol building and on the state capitol grounds and providing a penalty. (FE)

These organizations have reported lobbying on this proposal:

American Lung Association of Wisconsin Inc
Lorillard Tobacco Company
R.J. Reynolds Tobacco Company
State Medical Society of Wisconsin
Wisconsin Grocers Association
Wisconsin Merchants Federation

PM?

Home
Lobbying in Wisconsin
Lobbyists

1999-2000 legislative session

Organizations employing lobbyists in 1999-2000

Wisconsin Grocers Association

Use the drop-down box to select an organization about which you would like information.

Wisconsin Grocers Association

Business or interest: Statewide grocery industry including retail, wholesale, manufacturers, suppliers and brokers of food and grocery items.

Lobbying interests: Inspection, lottery, fees, taxes, employee/employer compensation, benefits, training, food safety, liquor and tobacco regulations, transportation, welfare benefit programs, education, utilities.

Contact: Brandon Scholz, President
2601 Crossroads Dr Ste 185
Madison, WI 53704-7923

Phone: (608) 244-7150

Fax: (608) 244-9030

E-mail: bscholz@execpc.com

Lobbyist(s)	Date authorized to lobby	Date authorization withdrawn
Kussow, Michelle	1/15/99	
Leitch, Laura J	3/8/99	
Scholz, Brandon	1/15/99	

Home
Lobbying in Wisconsin
Organizations employing lobbyists

1999-2000 legislative session

Lobbyists licensed in 1999-2000

Leitch, Laura J

Use the drop-down box to select a lobbyist about whom you would like information.

Leitch, Laura J

Whyte Hirschboeck Dudek SC
1 E Main St Ste 300 PO Box 2996
Madison, WI 53703-3300

Phone: (608) 255-4440 Fax: (608) 258-7138 E-mail: LJL@madison.whdlaw.com

Organization(s) represented:	Date authorized to lobby	Date authorization withdrawn
Columbia-St. Marys, Inc.	6/3/99	
Froedtert Memorial Lutheran Hospital	2/16/99	
Medical College of Wisconsin	1/4/99	
Wisconsin Academy of Family Physicians	1/1/99	
Wisconsin Academy of Ophthalmology	1/4/99	
Wisconsin Association of Local Health Departments and Boards	3/9/99	
Wisconsin Chapter of the American College of Emergency Physicians	2/19/99	
Wisconsin Grocers Association	3/8/99	
Wisconsin Public Health Association	4/8/99	
Wisconsin School Food Service Association	5/3/99	

Home
Lobbying in Wisconsin
Organizations employing lobbyists
Lobbyists

1999-2000 legislative session

Bills and rules lobbied (by organization)

Wisconsin Public Health Association

To learn which bills and rules an organization tried to influence, use the drop-down box to select a name.

Wisconsin Public Health Association

Madison, WI

Click bill for text **1999-2000 Session:**

Senate Bill 109 Relating to: requirements for a state health officer. (FE)
Budget topic Health and Family Services: Health
Budget topic Health and Family Services: Medical Assistance

Home
Lobbying in Wisconsin
Organizations employing lobbyists
Lobbyists

1999-2000 legislative session

Bills and rules lobbied (by organization)

Wisconsin Association of Local Health Departments and Boards

To learn which bills and rules an organization tried to influence, use the drop-down box to select a name.

Wisconsin Association of Local Health Departments and Boards

Kenosha, WI

Budget topic Health and Family Services: Health
Budget topic Health and Family Services: Medical Assistance
Budget topic Insurance

4TH CASE of Level 1 printed in FULL format.

PHILIP MORRIS INC.; R.J. REYNOLDS TOBACCO CO.; BROWN & WILLIAMSON TOBACCO CORP.; and LORILLARD TOBACCO CO., Plaintiffs vs. L. SCOTT HARSHBARGER, Attorney General, Commonwealth of Massachusetts; and HOWARD K. KOH, M.D., Massachusetts Commissioner of Public Health, Defendants; UNITED STATES TOBACCO COMPANY; BROWN & WILLIAMSON TOBACCO CORPORATION; CONWOOD COMPANY, L.P.; NATIONAL TOBACCO COMPANY; and SWISHER INTERNATIONAL, INC. vs. L. SCOTT HARSHBARGER, Attorney General, Commonwealth of Massachusetts; and HOWARD K. KOH, M.D., Massachusetts Commissioner of Public Health, Defendants

CIVIL ACTION NO. 96-11599-GAO, CIVIL ACTION NO. 96-11619-GAO

UNITED STATES DISTRICT COURT FOR THE DISTRICT OF MASSACHUSETTS

1997 U.S. Dist. LEXIS 21012

December 10, 1997, Decided

DISPOSITION: [*1] Plaintiffs' motion for a preliminary injunction GRANTED in part.

COUNSEL: For PHILIP MORRIS INCORPORATED, Plaintiff: Thomas J. Griffin, Jr., Goodwin, Procter & Hoar, Boston, MA USA.

For R.J. REYNOLDS TOBACCO COMPANY, Plaintiff: John H. Henn, Foley, Hoag & Eliot, Boston, MA. Donald J. Wood, Connarton, Wood & Callahan, Boston, MA.

For BROWN & WILLIAMSON TOBACCO CORPORATION, Plaintiff: John A. Henn, Foley, Hoag & Eliot, Boston, MA.

For LORILLARD TOBACCO COMPANY, Plaintiff: John A. Henn, Foley, Hoag & Eliot, Boston, MA. Gael Mahony, Richard M. Zielinski, Clate D Sanders, Hill & Barlow, Boston, MA USA.

For L. SCOTT HARSHBARGER, Attorney General of the Commonwealth of Massachusetts, DAVID A. MULLIGAN, Massachusetts Commissioner of Public Health, Defendants: Thomas A. Barnico, Rebecca P. McIntyre, Rosalyn Garbose, Attorney General's Office, Boston, MA.

JUDGES: George A. O'Toole, Jr., DISTRICT JUDGE.

OPINIONBY: George A. O'Toole, Jr.

OPINION: MEMORANDUM AND ORDER

December 10, 1997

O'TOOLE, D.J.

The plaintiffs in these companion cases are manufacturers of cigarettes and smokeless tobacco products. Under a recently enacted Massachusetts statute, they will be required to furnish to [*2] the Commonwealth's Department of Public Health (the "Department") a list of any ingredients added to tobacco products sold in Massachusetts. The required lists must rank the added constituents "in descending order according to weight, measure, or numerical count" for each product brand. Mass. Gen. L. ch. 94, § 307B(a) ("Section 307B"). The ingredient lists submitted will be classified as "public records," and thus available for inspection and copying under the Massachusetts public records law, Mass. Gen. L. ch. 66, § 10, if the Department determines that "there is a reasonable scientific basis for concluding that the availability of such information could reduce risks to public health" and if the Attorney General "advises that such disclosure would not constitute an unconstitutional taking" of the plaintiffs' property. Section 307B(b).

The plaintiffs claim that the public disclosure of such ingredient lists, by brand and in the detail contemplated by the statute, would reveal to competitors the secret flavor recipes for the plaintiffs' products, thus effectively destroying valuable trade secrets. They have brought these actions for declaratory and injunctive relief contending [*3] that the defendants' enforcement of the statute would violate the United States Constitution in multiple respects. n1 First, the plaintiffs assert that the public disclosure of their trade secrets in the manner authorized by the statute would amount to a "taking"

of their property without just compensation, in violation of the final clause of the Fifth Amendment, U.S. Const. amend. V, made applicable to the States by the Fourteenth Amendment, id., amend. XIV, § 1. They further assert that the Massachusetts statute imposes an unjustified burden upon interstate commerce, offending the Commerce Clause, id., art. I, § 8. They also argue that the statute denies them procedural due process in violation of the guaranty contained in the Fourteenth Amendment. Id., amend. XIV, § 1.

n1 A claim that Section 307B was preempted by federal law was earlier rejected by this Court, and that ruling was affirmed on appeal. *Philip Morris, Inc. v. Harshbarger, 122 F.3d 58 (1st Cir. 1997).*

The plaintiffs have [*4] moved for a preliminary injunction pursuant to Fed. R. Civ. P. 65, restraining the defendants from enforcing the questioned statute until their constitutional claims can be adjudicated. They urge that if no injunction is granted, they will have to choose between alternatives that are equally, albeit differently, harmful. The first alternative would be for them to comply with the statute and deliver to the Department their valuable trade secrets, with the high likelihood that the Department will act to make the information public, destroying the economic value of the secrets. Once the information becomes public, it can never again be secret, and the resulting competitive injury will be permanent, even if the plaintiffs' constitutional objections should later be sustained. The second alternative would be for them to decline to comply with the statutory directive and refuse to furnish the information to the Department. That course would almost certainly lead to enforcement proceedings, with the prospect of the imposition of significant penalties for the contumacy.

The suggested dilemma is not a new one. Early in this century, the Supreme Court considered a similar dilemma and decided [*5] that the appropriate federal judicial response in such a case should be to enjoin the enforcement of the statute until a full adjudication on the merits could be had. *Ex parte Young, 209 U.S. 123, 145-48, 52 L. Ed. 714, 28 S. Ct. 441 (1908).* In Young, a railroad had challenged the constitutionality of certain provisions of Minnesota law regulating rates. The Court held that the railroad was entitled to an injunction against the enforcement of the rate regulations pending adjudication because there was no other acceptable way to challenge their validity. If the railroad were to comply with the rates during the time it would take to get an adjudication, "several years might elapse before there was a final determination of the question, and, if it should be determined that the law was invalid, the property of the company would have been taken during that time without due process of law, and there would be no possibility of its recovery." *Id. at 163.* n2

n2 Although the Court referred to property being "taken," its analysis was based on the Due Process Clause of the Fourteenth Amendment, not the Takings Clause of the Fifth Amendment.

[*6]

On the other hand, if the railroad were to disobey the act, the company and its employees would be exposed to substantial criminal penalties. Because the company's officers and employees "could not be expected to disobey any of the provisions of the acts" at the risk of such substantial penalties should their challenge to the law be rejected, the practical effect would be to deny the company a realistic opportunity for judicial review of the statute. *Id. at 146.* "To impose upon a party interested the burden of obtaining a judicial decision of such a question . . . only upon the condition that, if unsuccessful, he must suffer imprisonment and pay fines, as provided in these acts, is, in effect, to close up all approaches to the courts, and thus prevent any hearing upon the question . . . ." *Id. at 148.* The Court held that both alternatives were unacceptable, and the company was thus without an adequate remedy at law, justifying injunctive relief against the enforcement of the challenged acts until the merits of the claim could be determined. *Id. at 165.*

The potential sanctions that would have been risked in Young were criminal penalties. That is not the case in the [*7] present controversy, but the difference is not important. First, the penalties that might be imposed upon a finding of contempt for disobedience of an order of compliance, even if strictly civil, could be very like criminal penalties in effect. Substantial fines, and even physical incarceration, are remedies for civil contempt commonly imposed in order to compel compliance with court orders. Moreover, the Supreme Court has not limited the principle of Young to cases involving criminal penalties. In *Morales v. Trans World Airlines, Inc., 504 U.S. 374, 380-81, 119 L. Ed. 2d 157, 112 S. Ct. 2031 (1992),* the Court invoked Ex parte Young and approved the entry of an injunction against the enforcement of regulations promulgated by various state Attorneys General, including the Attorney General of Massachusetts, where the prospective penalties were civil.

In this Circuit, whether to grant an injunction in a particular case depends on an evaluation of four criteria. "The Court must find: (1) that plaintiff will suffer

irreparable injury if the injunction is not granted; (2) that such injury outweighs any harm which granting injunctive relief would inflict on the defendant; (3) [*8] that plaintiff has exhibited a likelihood of success on the merits; and (4) that the public interest will not be adversely affected by the granting of the injunction." *Planned Parenthood League of Mass. v. Bellotti, 641 F.2d 1006, 1009 (1st Cir. 1981)* (citation and internal quotation marks omitted).

The first criterion is established by application of Young's holding that the unavailability of an adequate opportunity to challenge the law before being subjected to it amounts to irreparable harm. Indeed, one of the most common reasons for the issuance of a preliminary injunction is to preserve the status quo pending a full adjudication of the controversy. *CMM Cable Rep., Inc. v. Ocean Coast Properties, Inc., 48 F.3d 618, 620 (1st Cir. 1995)* ("The purpose of a preliminary injunction is to preserve the status quo, freezing an existing situation so as to permit the trial court, upon full adjudication of the case's merits, more effectively to remedy discerned wrongs."). See also *Narragansett Indian Tribe v. Guilbert, 934 F.2d 4, 5 (1st Cir. 1991).*

Planned Parenthood itself Illustrates the point in a strikingly similar context. The plaintiffs in that case, like the plaintiffs [*9] here, sued the Massachusetts Attorney General and the Commissioner of the Department of Public Health, among others, seeking declaratory and injunctive relief against the enforcement of what they asserted was an unconstitutional statute. The District Court declined to grant the injunction, and the plaintiffs appealed. The Court of Appeals stayed the enforcement of the statute pending its consideration of the appeal and ultimately reversed the denial of the requested preliminary injunction as to certain aspects of the statute. *Planned Parenthood, 641 F.2d at 1023.* The focus of the Court's analysis was on the merits of the constitutional claims. It concluded that a showing of a likelihood of success on the merits itself warranted the conclusion that irreparable harm was also likely. Id.

The evaluation of that critical criterion - likelihood of success on the merits - is customarily a difficult one because it is essentially a forecast. It is usually made on the basis of a record substantially less detailed and nuanced than the record that could be expected to be developed after a full trial. However, on a motion for a preliminary injunction, only a preliminary or provisional [*10] assessment need be made. It is not necessary to the judgment whether to grant a preliminary injunction that the court be able to "predict the eventual outcome on the merits with absolute assurance." *Ross-Simons of Warwick, Inc. v. Baccarat, Inc., 102 F.3d 12, 16 (1st Cir. 1996).*

The assessment is made the more difficult in these cases because the factual circumstances are, compared with the available caselaw, unusual. There is no case "directly in point." The parties differ vigorously about what the most analogous precedents are and what they mean when applied in the present context. Moreover, the plaintiffs' principal arguments -- based on the theories of "regulatory takings" and the "dormant Commerce Clause" -- involve constitutional doctrines that are expressed in subtle distinctions and relative estimations of degree.

On balance, this Court concludes that the plaintiffs have shown a sufficient likelihood of success for their claim that the statute, as it is written, authorizes an unconstitutional taking without just compensation that a preliminary injunction effectuating the Ex parte Young policy is justified.

The principles that guide the analysis are these: A State [*11] may not take private property for public use without paying "just compensation" to the person deprived of the property. U.S. Const. amend. V, made applicable to the States through amendment XIV. See *Dolan v. City of Tigard, 512 U.S. 374, 383-84, 129 L. Ed. 2d 304, 114 S. Ct. 2309 (1994).* The Takings Clause of the Fifth Amendment "conditions the otherwise unrestrained power of the sovereign to expropriate, without compensation, whatever it needs." *United States v. General Motors Corp., 323 U.S. 373, 377, 89 L. Ed. 311, 65 S. Ct. 357 (1945).* Condemnation of land by the power of eminent domain is the commonest example of the State's "taking" of private property to accomplish a public good. See generally Mass. Gen. L. ch. 79.

The "taking" of property means more than the transfer of ownership to the State. In an appropriate case, it can mean the destruction of a private property interest for a public good. The Supreme Court has said:

"In its primary meaning, the term 'taken' would seem to signify something more than destruction, for it might well be claimed that one does not take what he destroys. But the construction of the phrase has not been so narrow. The courts have [*12] held that the deprivation of the former owner rather than the accretion of a right or interest to the sovereign constitutes the taking. Governmental action short of acquisition of title or occupancy has been held, if its effects are so complete as to deprive the owner of all or most of his interest in the subject matter, to amount to a taking."

General Motors, 323 U.S. at 378.

Beyond the most elementary cases, the question

whether a particular governmental action amounts to a "taking" within the scope of the Fifth Amendment's "just compensation" clause "has proved to be a problem of considerable difficulty." *Penn Central Trans. Co. v. New York, 438 U.S. 104, 123, 57 L. Ed. 2d 631, 98 S. Ct. 2646 (1978)*. The problem is more acute where the "taking" is said to have occurred as a result of governmental regulation under the police power. See *Lucas v. South Carolina Coastal Council, 505 U.S. 1003, 1014-15, 120 L. Ed. 2d 798, 112 S. Ct. 2886 (1992)*. The Supreme Court has acknowledged that it "has been unable to develop any 'set formula' for determining when 'justice and fairness' require that economic injuries caused by public action be compensated by the government, [*13] rather than remain disproportionately concentrated on a few persons." *Penn Central, 438 U.S. at 124*. Answering the question requires an "essentially ad hoc, factual inquiry." Id.

The taking of real property, whether directly by physical invasion or expropriation or indirectly by the effect of regulation, may be the paradigm, but it is clear that the State's taking of personal property, including intangible personal property, is also within the scope of the Takings Clause. Specifically, the intangible personal property interest in business trade secrets is protected by the "just compensation" requirement of the Fifth Amendment. *Ruckelshaus v. Monsanto Co., 467 U.S. 986, 1003-04, 81 L. Ed. 2d 815, 104 S. Ct. 2862 (1984)*.

Nevertheless, it is indisputable that the State has broad power to regulate the conduct of business in the public interest, and not every regulation that diminishes the economic value of a particular property right entitles the owner to compensation. As Justice Holmes observed, "Government hardly could go on if to some extent values incident to property could not be diminished without paying for every such change in the general law." Pennsylvania Coal [*14] *Co. v. Mahon, 260 U.S. 393, 413, 67 L. Ed. 322, 43 S. Ct. 158 (1922)*. For example, land use regulations may often reduce the market value of property or defeat the owner's expectations of a profitable use. Even so, such a regulation "does not effect a taking if it 'substantially advance[s] legitimate state interests' and does not 'deny an owner economically viable use of his land.'" *Dolan, 512 U.S. at 385* (quoting *Agins v. Tiburon, 447 U.S. 255, 260, 65 L. Ed. 2d 106, 100 S. Ct. 2138 (1980)*).

However, at least in the case of real property, a taking does occur if a governmental regulation "eliminate[s] all economically valuable use" of the land. *Lucas, 505 U.S. at 1028*. This is not necessarily true in the case of personal property, because of "the State's traditionally high degree of control over commercial dealings." Id. For example, the Government may forbid the sale of certain items of personal property without being liable to pay compensation for the loss of economic value to the owners. *Andrus v. Allard, 444 U.S. 51, 66-67, 62 L. Ed. 2d 210, 100 S. Ct. 318 (1979)* (upholding regulations that prohibited the sale of eagle feathers). On the other hand, [*15] it cannot be said categorically that a regulation that eliminated all economic value in intangible personal property could never amount to a taking requiring compensation. For example, the Government has been held to have made a compensable taking when it caused the extinguishment of valid mechanics' liens. *Armstrong v. United States, 364 U.S. 40, 48, 4 L. Ed. 2d 1554, 80 S. Ct. 1563 (1960)* ("The total destruction by the Government of all value of these liens, which constitute compensable property, has every possible element of a Fifth Amendment 'taking' and is not a mere 'consequential incidence' of a valid regulatory measure.").

A trade secret is destroyed if it is disclosed. Whether the compelled disclosure amounts to a "taking" depends on several factors, including the "character of the governmental action, its economic impact, and its interference with reasonable investment-backed expectations." *Monsanto, 467 U.S. at 1005* (internal quotation marks omitted). In the present cases, these factors do not all point in the same direction. The character of the governmental action here is the exercise of the police power in the interest of the public health and welfare. That is [*16] a traditionally broad power, and economic actors must always accept that their interests may be required to yield, even totally, to the appropriate exercise of that power. Broad as it is, however, the State's authority to exercise the police power without payment of compensation is not limitless. Again, Justice Holmes crystallized the point: "While property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking." *Pennsylvania Coal, 260 U.S. at 415*. See also *Lucas, 505 U.S. at 1015*. There must, for example, be a sufficiently rational connection between the means through which the police power is exercised and the legitimate end sought to be achieved. *Dolan, 512 U.S. at 386; Nollan v. California Coastal Comm'n, 483 U.S. 825, 837, 97 L. Ed. 2d 677, 107 S. Ct. 3141 (1987)*. In addition, the harm caused to private interests by the state regulation must be roughly proportionate to the public interest sought to be achieved. *Dolan, 512 U.S. at 391*. In this case, there is a substantial question whether the destruction of the plaintiffs' secrets may be a harm disproportionate to the marginal benefit in increased public awareness [*17] of the dangers of tobacco use that could be anticipated from the publication of the ingredient lists.

The other considerations identified by Monsanto - the economic impact of the regulation and its interference with investment-backed expectations - point in the plaintiffs' favor. The record before the Court supports their claims to have made substantial investments in the development and protection of the "flavor recipes" which they say are their secrets. See Houghton Aff. P 12; Oelschlager Aff. P 12. The record also supports the claim that there would be a substantial loss of competitive advantage if the secrets were revealed. See Houghton Aff. P 6; Ingram Aff. P 6-7. Where those factors exist, Monsanto instructs that the trade secrets may not be taken - that is, destroyed - without compensation. *Monsanto, 467 U.S. at 1010-13.* n3

n3 Section § 307B makes no provision for the payment of compensation for the disclosure of the plaintiffs' secrets. Thus, any "taking" would amount to an uncompensated one. The disputed question is whether the statute effects a "taking."

[*18]

The defendants argue that even if the statute permits a taking of the plaintiffs' secrets, it is presently uncertain whether such a taking will actually occur, so there is no imminent harm threatened that warrants an injunction. The argument has two strands. First, the defendants point out that the lists of ingredients become "public records" only it the Department determines that there is a "reasonable scientific basis for concluding" that their disclosure "could reduce risks to public health" and if the Attorney General is of the opinion that the disclosure "would not constitute an unconstitutional taking." Section 307B(b). The threshold for the former determination seems so low that there is a legitimate question whether it sets a real standard at all. It would be hard to quarrel with the general hypothetical proposition that informing consumers about what is in the tobacco products they ingest or inhale "could" reduce the risk to their, and consequently the public, health. The condition that the Attorney General give his advice about whether the disclosure would be an unconstitutional taking is equally evanescent. The Attorney General has forcefully argued in this litigation [*19] that the statute does not effect an unconstitutional taking. That is more than just a hint about what he might opine in response to an official inquiry from the Department.

Abstract constructions aside, the record indicates that those in the Department responsible for the administration of the statute have announced their intention to disclose the ingredient lists as broadly as possible. See, e.g., Remes Aff. Exs. A, B, C. The Court of Appeals has noticed this intention. *Philip Morris, Inc. v. Harshbarger, 122 F.3d 58, 62 (1st Cir. 1997)* ("Despite the apparent limitations on the public health department's ability to disclose reported information, the record evidence strongly indicates that Massachusetts officials intend to publicize the information. . . . For the purposes of this case, we assume that the department will make the information publicly available at the first legal and practical opportunity."). In this circumstance, the prerequisites to disclosure appear only formal. See *Regional Rail Reorganization Act Cases, 419 U.S. 102, 143-45, 42 L. Ed. 2d 320, 95 S. Ct. 335 (1974).* The plaintiffs have good reason to expect to prove, as the Court of Appeals assumed, that [*20] the disclosure of the ingredient lists is a practical inevitability.

There is a second aspect to the defendants' argument that harm to the plaintiffs is uncertain. Officials in the Department have recently offered interpretations of the statute, and the regulations that have formally been adopted to implement it, that would offer the plaintiffs the opportunity to "pull back" their ingredient lists in the event that the Department should make a preliminary determination to disclose them. That opportunity, it is suggested, would avoid the Ex parte Young dilemma because, by the time events had played out, the merits of the case would probably have been resolved. The argument might be persuasive if the protections the defendants describe were written into the statute or the formally promulgated regulations. Without assurance that the lately offered "interpretations" are authoritative and binding, however, they must be disregarded for present purposes. The question is not simply what the Department's current view or policy might be. Moreover, Massachusetts law liberally provides citizens the right to inspect "public records," and the state courts can be called upon to determine whether [*21] any given matter fits that definition so that it must be disclosed, the agency's view to the contrary notwithstanding. See, e.g., *Globe Newspaper Co. v. Police Comm'r of Boston, 419 Mass. 852, 648 N.E.2d 419, 424 (Mass. 1995).*

The defendants also argue that the plaintiffs can protect their secrets fully simply by going away. The statute requires them to file ingredient reports only if they sell their products in Massachusetts. If they cease to sell their products here, they have no obligation to file the reports and their ingredients will stay secret. While the suggestion is certainly accurate as a practical observation, it is unsatisfactory as a principle of constitutional law.

It is true, of course, that when a company undertakes to do business in a given State, it implicitly accepts the general right of the State to impose reasonable regula-

tions on the conduct of that business, and if the company should object to the regulation as burdensome, it can choose to avoid the burden by deciding not to do business there. The defendants' argument is somewhat different, however, because they seek to employ that general proposition -- granting generous leeway to the State's police power [*22] -- to insulate this statute from effective review. Their argument is this: A person faced with an unconstitutional taking of personal property can withdraw the threatened property from the State's jurisdiction No taking will then occur. Thus, regardless of the character or validity of the State's action, no claim of a constitutional violation can be pressed.

Rather than a reason for denying relief, this argument actually illustrates why the doctrine of Ex parte Young calls for an injunction here. The defendants' suggestion is simply a third unacceptable alternative, in the Young analysis, to up-front, pre-harm adjudication of the constitutional claims. As the plaintiffs put it, the defendants' argument simply transforms the Young "dilemma" into a "trilemma." See Plfs' Resp. to Defs' Supplem. Filing at 2. If the plaintiffs were to follow the defendants' suggestion and withdraw from the opportunity to do business in Massachusetts, they would likely lose their standing, but for Young, to challenge the statute's constitutionality. Accepting the defendants' argument, then, would mean that a State could attempt to coerce businesses - at least out-of-state businesses [*23] - to succumb without protest to unconstitutional regulations unless they were willing to forego doing business in the State entirely, because any challenge could always be disposed of by the invitation to "love it or leave it." They need not now be explored, but there are apparent implications for the Commerce Clause analysis in this effect.

In sum, this Court concludes that the plaintiffs have shown a sufficient likelihood of success on at least one of their constitutional claims, and that having done so, they nave satisfied the other criteria or the grant of a preliminary injunction. *Planned Parenthood, 641 F.2d at 1023.*

The plaintiffs' challenge to the statute is limited to the requirement that they supply ingredient information in such form and detail as to risk the disclosure of trade secrets. The statute also requires reports to be filed supplying "nicotine yield ratings." The two requirements are easily separable, and there appears no reason why the plaintiffs should not comply with that part of the statute.

Accordingly, the plaintiffs' motion for a preliminary injunction is GRANTED in part, and an order shall enter restraining the defendants, and their agents, attorneys, [*24] and employees, from taking any steps to enforce the ingredient-reporting requirements of Mass. Gen. L. ch. 94, § 307B, tending a trial on the merits of this action or further Order of the Court.

December 10, 1997
DATE

George A. O'Toole, Jr.

DISTRICT JUDGE

1ST CASE of Level 1 printed in FULL format.

PHILIP MORRIS, INCORPORATED, ET AL., Plaintiffs, Appellees, v. SCOTT HARSHBARGER, ATTORNEY GENERAL OF MASSACHUSETTS, ET AL., Defendants, Appellants. UNITED STATES TOBACCO COMPANY, ET AL., Plaintiffs, Appellees, v. L. SCOTT HARSHBARGER, ATTORNEY GENERAL OF MASSACHUSETTS, ET AL., Defendants, Appellants.

No. 98-1199, No. 98-1200

UNITED STATES COURT OF APPEALS FOR THE FIRST CIRCUIT

159 F.3d 670; 1998 U.S. App. LEXIS 29362

November 6, 1998, Decided

SUBSEQUENT HISTORY: As Corrected November 25, 1998.

PRIOR HISTORY: [**1] APPEALS FROM THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF MASSACHUSETTS. Hon. George A. O'Toole, Jr., U.S. District Judge.

DISPOSITION: Affirmed.

CORE TERMS: tobacco, ingredient, disclosure, trade secrets, manufacturer, preliminary injunction, pesticide, brand, cigarette, pre-1972, investment-backed, injunction, regulation, takings claim, post-1978, landowner, formula, trade secret, ingredient-reporting, compulsion, nondisclosure, smokeless, likelihood of success, environmental, registration, furnish, police power, compensate, flavor, Trade Secrets Act

COUNSEL: William W. Porter, Assistant Attorney General, with whom Scott Harshbarger, Attorney General, and Thomas A. Barnico, Assistant Attorney General, were on brief, for appellants.

Henry C. Dinger, with whom Henry C. Dinger, P.C., Thomas J. Griffin, Jr., Cerise Lim-Epstein, Goodwin, Procter & Hoar, LLP, Verne W. Vance, Jr., John H. Henn, Foley, Hoag & Eliot LLP, Donald J. Wood, Connarton, Wood & Callahan, Richard M. Zielinski, Hill & Barlow, Herbert Dym, Clausen Ely, Jr., Patricia A. Barald, David H. Remes, and Covington & Burling were on brief, for appellees in No. 98-1199.

George J. Skelly, with whom Thomas J. Dougherty, Skadden, Arps, Slate, Meagher & Flom LLP, A. Hugh Scott, Robert A. Kole, Choate, Hall & Stewart, John L. Oberdorfer, G. Kendrick Macdowell, and Patton Boggs, L.L.P. were on brief, for appellees in No. 98-1200.

JUDGES: Before Selya, Circuit Judge, Wellford, * Senior Circuit Judge, and Lipez, Circuit Judge.

* Of the Sixth Circuit, sitting by designation.

OPINIONBY: SELYA

OPINION: [*671] SELYA, Circuit Judge [**2] . The plaintiffs in this case, manufacturers of cigarettes and smokeless tobacco products, n1 mounted a constitutional challenge to the novel ingredient-reporting requirements of Mass. Gen. L. ch. 94, § 307B (Section 307B). The district court granted the plaintiffs' motion for a preliminary injunction restraining two state officials (collectively, the Commonwealth) from enforcing these requirements. In this venue, the Commonwealth [*672] invites us to vacate or modify the injunction. We decline the invitation.

n1 The cigarette companies include Philip Morris, Inc., Lorillard Tobacco Co., and R.J. Reynolds Tobacco Co. The smokeless tobacco companies include United States Tobacco Co., Conwood Co., National Tobacco Co., Pinkerton Tobacco Co., and Swisher International, Inc. Another plaintiff, Brown and Williamson Tobacco Corp., manufactures and sells both cigarettes and smokeless tobacco products.

I.

Background

A.

The Statute

Regulation is not a stranger to the tobacco industry.

The Federal Cigarette Labeling [**3] and Advertising Act, *15 U.S.C. § 1335a* (1994) (the Labeling Act), mandates that "each person who manufactures, packages, or imports cigarettes shall annually provide the Secretary [of Health and Human Services] with a list of the ingredients added to tobacco in the manufacture of cigarettes," but this list need not "identify the company which uses the ingredients or the brand of cigarettes which contain the ingredients," and those required to furnish lists may designate proxies to do so on their behalf. Cigarette manufacturers typically comply with the Labeling Act's strictures through an internuncio; they submit information to a law firm which acts as a clearinghouse for the industry. The law firm then furnishes an annual list of all ingredients used by any of the companies to the Secretary. The law firm maintains the secrecy of the ingredients used in a particular brand from both the government and the brand's competitors. n2 In short, though the Labeling Act obligates the Secretary to report to Congress health risks from tobacco products discerned directly or indirectly through the lists, it assures confidentiality for trade secrets.

n2 The Comprehensive Smokeless Tobacco Health and Education Act, *15 U.S.C. § 4403* (1994), constrains smokeless tobacco purveyors to furnish similar composite ingredient information. These companies use a different law firm as a clearinghouse under a similar arrangement.

[**4]

Existing state law is not much more intrusive. Apart from Massachusetts, only Minnesota and Texas have required any reporting of tobacco ingredients. The Minnesota statute, Minn. Stat. § 461.17 (Supp. 1997), compels tobacco manufacturers to report the use of any of several targeted additives in their products. The Texas law, Tex. Health & Safety Code Ann., §§ 161.251-255 (West Supp. 1998), bears certain similarities to Section 307B, but provides protection for information submitted that "would be excepted from public disclosure as a trade secret under state or federal law." Id. § 161.254(c).

Massachusetts has gone further. When Section 307B was enacted as a means of regulating the tobacco industry, proponents billed it as an innovative regulatory effort which, incidentally, would protect public health. See Press Release Distributed by the Commonwealth upon Signing of Section 307B, August 2, 1996 (quoting then-Governor William F. Weld's description of Section 307B as "a common sense, pro-consumer bill that will give people all the information they need to make educated decisions about what they put in their bodies"). The statute significantly expands the reach of existing [**5] positive law. Its ingredient-reporting provisions are novel both because they demand brand-by-brand reporting of additives and because they permit public disclosure of this ingredient information.

Specifically, Section 307B stipulates that each manufacturer of tobacco products must report annually to the Massachusetts Department of Public Health (DPH) "the identity of any added constituent other than tobacco, water or reconstituted tobacco sheet made wholly from tobacco, to be listed in descending order according to weight, measure, or numerical count" for each brand sold within the state. Any such information that DPH reasonably concludes "could reduce risks to public health, shall be public records," as long as the attorney general advises DPH that such disclosure would not work an unconstitutional taking. n3 The historical archives clearly indicate the legislature's intent. For instance, in a letter urging colleagues to support the bill that eventually became Section [*673] 307B, a proponent explained that brand-specific reporting and disclosure are necessary because "if you smoke Merits you want to know what is in Merits, not what may be in every brand of cigarettes on the market." Letter [**6] from Senator Warren E. Tolman to Colleagues 2 (June 14, 1996).

n3 Section 307B also requires manufacturers of tobacco products to report the nicotine yield ratings of each of their brands to DPH, subject to possible public disclosure along lines similar to those stipulated for the disclosure of ingredient information. The plaintiffs do not challenge the nicotine-yield portion of the statute in this case and, unless otherwise indicated, our ensuing discussion of Section 307B refers only to its ingredient-reporting provisions.

B.

The Marlboro Man's Secret

Because consumers choose brands based on flavor, taste, and aroma, and tend to remain loyal to those brands, small fortunes are spent creating the flavor formulas for tobacco products. The information needed to copy these formulas is, in turn, worth many millions of dollars. See, e.g., Kurt Badenausen, Blind Faith, Financial World, July 8, 1996, at 50-65 (describing Philip Morris's Marlboro brand as worth over $ 44,000,000,000 and rating it [**7] the most valuable of 364 brand names surveyed). It is no secret that tobacco companies, like other manufacturers of brand name products, employ elaborate procedures to safe-

guard their ingredient information. For example, suppliers sign confidentiality agreements and furnish their wares in coded packaging, devoid of proprietary names, to keep ingredient information under wraps. Even in house, copies of flavor formulas are retained under lock and key, and ingredient information is made available only on a "need to know" basis.

The tobacco companies claim that the operation of Section 307B threatens to destroy these enormously valuable trade secrets. The industry submits aggregate lists of all ingredients included in tobacco products sold in the United States in compliance with federal law. However, at the current state of technology, these lists cannot feasibly be used to copy a tobacco product's taste or aroma. Divulging brand-specific lists of ingredients in descending order of volume, as required by Section 307B, is quite a different story; the plaintiffs aver -- and the Commonwealth, for purposes of this proceeding, does not contradict -- that such lists, when and as disclosed, [**8] will allow pirates to "reverse engineer" products possessing flavors and aromas indistinguishable from popular brands, with substantially reduced research and development costs. The threat of this increased ease of entry into, and competition within, the tobacco industry fuels the plaintiffs' challenge to Section 307B.

C.

Proceedings Below

The cigarette and smokeless tobacco companies brought separate suits attacking Section 307B. Their complaints claimed that the statute was preempted by federal law and that it ran afoul of various constitutional impediments, including the Takings Clause, the Commerce Clause, and the Due Process Clause. The district court consolidated the cases. Early on, it resolved the preemption question in favor of the Commonwealth, and we affirmed that determination. See *Philip Morris, Inc. v. Harshbarger, 122 F.3d 58, 87 (1st Cir. 1997)*.

The plaintiffs had greater success when they moved for a preliminary injunction to prevent the enforcement of Section 307B's ingredient-reporting requirements. Finding that the plaintiffs were likely to succeed on the merits of their takings claim and that they faced irreparable harm in the absence of interim [**9] relief, the district court restrained the enforcement of the ingredient-reporting provisions pendente lite. This interlocutory appeal ensued. We have jurisdiction under *28 U.S.C. § 1292*(a)(1).

II.

Analysis

A.

The Preliminary Injunction Standard

In considering a request for a preliminary injunction, a trial court must weigh several factors: (1) the likelihood of success on the merits, (2) the potential for irreparable harm to the movant, (3) the balance of the movant's hardship if relief is denied versus the nonmovant's hardship if relief is granted, and (4) the effect of the decision on the public interest. See *Ross-Simons of Warwick, Inc. v. Baccarat, Inc., 102 F.3d 12, 15 (1st Cir. 1996); Narragansett Indian Tribe v. Guilbert, 934 F.2d 4, 5 (1st Cir. 1991)*. [*674] Likelihood of success is the touchstone of the preliminary injunction inquiry. See *Ross-Simons, 102 F.3d at 16; Weaver v. Henderson, 984 F.2d 11, 12 (1st Cir. 1993)*. Mindful of this reality, the Commonwealth confines its challenge here to this element.

We review the trial court's grant or denial of a preliminary injunction only for abuse of discretion or mistake of law. See *EEOC v. Astra [**10] USA, Inc., 94 F.3d 738, 743 (1st Cir. 1996)*. This standard requires "a party who appeals from the issuance of a preliminary injunction [to] bear[] the considerable burden of demonstrating that the trial court mishandled the four-part framework." *Ross-Simons, 102 F.3d at 16*. Our analysis proceeds accordingly.

B.

Takings Analysis: An Overview

The Takings Clause of the Fifth Amendment is incorporated in, and applies to the states by virtue of, the Fourteenth Amendment. See *Chicago, Burlington & Quincy R.R. Co. v. Chicago, 166 U.S. 226, 239, 41 L. Ed. 979, 17 S. Ct. 581 (1897); Culebras Enters. Corp. v. Rivera Rios, 813 F.2d 506, 515 (1st Cir. 1987)*. Case law under the Takings Clause has developed along two parallel lines, one addressing physical invasions (sometimes called per se takings) and the other addressing regulatory takings. See *Lucas v. South Carolina Coastal Comm'n, 505 U.S. 1003, 1015, 120 L. Ed. 2d 798, 112 S. Ct. 2886 (1992)*. Here, the plaintiffs' principal claim is that Section 307B works a regulatory taking. n4 The thrust of their argument is that the Commonwealth's action in requiring disclosure and permitting the subsequent publication [**11] of brand-specific ingredient information is not everyday regulation, the inconveniences of which individuals in a civilized society must bear, but, rather, goes so far that it impermissibly takes their property for public use without just compensation, in violation of the Takings Clause. See *Pennsylvania Coal Co. v. Mahon, 260 U.S. 393, 415, 67 L. Ed. 322, 43 S. Ct. 158 (1922)*.

n4 The tobacco manufacturers also advance a per se takings argument. That claim presents a difficult question as to the circumstances under which a trade secret may be subject to such a taking. Since our decision comfortably may rest on the regulatory takings theory alone, we do not grapple with this alternative claim.

To evaluate the propriety of a preliminary injunction on a regulatory takings claim, an inquiring court must sort through a takings analysis in addition to the multi-factored preliminary injunction determination. This takings analysis should include consideration of "the character of the governmental action, its economic [**12] impact, and its interference with reasonable, investment-backed expectations." *PruneYard Shopping Ctr. v. Robins, 447 U.S. 74, 83, 64 L. Ed. 2d 741, 100 S. Ct. 2035 (1980)*. Although the articulation of these factors makes the takings inquiry seem much like any other multi-pronged test, the Supreme Court has stated in no uncertain terms that a regulatory takings analysis should not be governed by a "set formula," but must be determined by an "essentially ad hoc, factual inquiry." *Penn Cent. Transp. Co. v. New York City, 438 U.S. 104, 124, 57 L. Ed. 2d 631, 98 S. Ct. 2646 (1978)*. Thus, the three elements enumerated in PruneYard operate primarily as lenses through which a court can view and process the facts of a given case rather than as a checklist of items that can be ticked off as fulfilled or unfulfilled.

In the case at hand, the lower court determined that the plaintiffs enjoyed a likelihood of success on their regulatory takings claim. The Commonwealth disputes this determination on two main grounds. First, it faults the lower court's conclusion that the plaintiffs' reasonable, investment-backed expectations of nondisclosure of ingredient information sufficed to legitimate [**13] the finding of a taking. Second, it challenges the court's characterization of the governmental action, asseverating that the application of Section 307B's ingredient-reporting provisions to the plaintiffs lacks legal compulsion sufficient to create an actionable taking. After a brief detour, we will consider these contentions sequentially.

Before proceeding to address the Commonwealth's claims, we think it is useful to clarify what the Commonwealth does not [*675] claim in this proceeding. For one thing, it does not now dispute that information provided to DPH under Section 307B will be disclosed to the public. For another thing, it concedes for purposes of these appeals that such information will include valuable trade secrets, susceptible to destruction if exposed. Finally, because the statute was enacted as a regulatory measure, it is perforce grounded in the state's police power over matters of public health. Although the Commonwealth suggests with scant elaboration that the police power alone offers a sufficient justification for the statute, the parties primarily have briefed and argued the issue of whether the Takings Clause may invalidate the statute. We have therefore focused [**14] our likelihood of success analysis on this Takings Clause issue. At this stage of the proceedings, the Commonwealth has not developed any independent "police power" rationale to justify its position and, accordingly, we have before us insufficient "police power" rationale to reach a decision on that issue.

C.

The Plaintiffs' Expectations

In debating whether the plaintiffs possess the requisite expectations to support a takings claim, both sides embrace the Supreme Court's decision in *Ruckelshaus v. Monsanto Co., 467 U.S. 986, 81 L. Ed. 2d 815, 104 S. Ct. 2862 (1984)*. Monsanto is a complex case based on intricate facts and it ultimately propounds several holdings. Despite the palpable difficulty of doing so, we believe it is necessary to explicate the factual scenario that confronted the Monsanto Court in order to assess the conflicting claims asserted here.

Monsanto involved sequential amendments to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), *7 U.S.C. § 136* et seq., the first set of amendments occurring in 1972 and the second set in 1978. See *Monsanto, 467 U.S. at 990-97*. The timing of these amendments created three [**15] distinct FIFRA regimes. From 1947 (when Congress first enacted FIFRA) until the effective date of the 1972 amendments, FIFRA operated primarily as a licensing and labeling statute; its terms required all pesticides sold in interstate or foreign commerce for use within the United States to be registered with the Secretary of Agriculture and appropriately labeled. See *id. at 991*. In addition, FIFRA empowered the Secretary to require applicants for registration to produce testing data (including pesticide formulas) and to substantiate claims asserted on product labels. See id. The statute forbade the Secretary to disclose formula information, but made no mention of what protection, if any, attended the submission of other testing data. See id.

In 1970, Congress shifted the responsibility for administering FIFRA from the Department of Agriculture to the Environmental Protection Agency (EPA). See Reorganization Plan No. 3 of 1970, 3 C.F.R. 1074 (1966-1970), reprinted in 5 U.S.C. app. at 1552

(1994). Shortly thereafter, the 1972 amendments metamorphosed FIFRA into a comprehensive regulatory scheme for pesticides. This scheme, in effect from 1972 to 1978, required disclosure [**16] to the EPA and the public of environmental, health, and safety data -- but it provided specific protections for that data so as to avoid the revelation of trade secrets. See *Monsanto, 467 U.S. at 992*. During this period, FIFRA allowed applicants to designate submitted information as "trade secrets or commercial or financial information," and simultaneously prohibited the EPA from publishing such information. Id. (quoting applicable statutory provision). If the EPA and an applicant disagreed as to the status of submitted information and the EPA proposed to make such information public, FIFRA authorized the applicant to bring a declaratory judgment action in a federal district court prior to publication. See id. The 1972 amendments also allowed the EPA to use information provided by one applicant in its consideration of another applicant's request for registration of a similar chemical, provided that the latter agreed to compensate the former. See id. It must be noted, however, that this information-sharing requirement only applied to data designated as "trade secrets or commercial or [*676] financial information" if the initial applicant consented to such use. Id.

When [**17] Congress amended FIFRA again in 1978, it altered the safeguards against disclosure with respect not only to data thereafter submitted, but also with respect to data that had been supplied during earlier periods. See *id. at 994-95*. Under the 1978 iteration of the statutory scheme, applicants who submitted health, safety, or environmental information to EPA for pesticides registered after September 30, 1978, received a ten-year period of exclusive use for any such data that related to new active ingredients. See *id. at 994*. Any other data that had been tendered after December 31, 1969 were to be made available for citation and consideration in support of other applications for fifteen years after the original submission date, provided that the later applicant agreed to compensate the original submitter. See id. The 1978 amendments also allowed all health, safety, and environmental data to be divulged upon request, notwithstanding the prohibition on disclosing trade secrets, but did not authorize revelation of manufacturing or quality control processes without a determination by the EPA that such disclosure was "necessary to protect against an unreasonable risk of injury to health [**18] or the environment." *Id. at 995-96* (quoting applicable statutory provision).

The Monsanto plaintiff, a pesticide manufacturer, argued that use or disclosure of the trade secrets that it had submitted to the federal sovereign during any of the three periods would constitute a regulatory taking. The Court decided as a threshold matter that the data constituted "property" under state law and thus enjoyed protection under the Takings Clause. See *id. at 1003-04*. The Court then addressed each of the three statutory intervals. Apropos of the 1972-78 period, the Court held that uncompensated (or undercompensated) use or disclosure of trade secret data submitted during that time frame would constitute a taking. See *id. at 1010-14*. In contrast, the Court ruled that there could be no taking for either the pre-1972 or the post-1978 periods because the pesticide manufacturer had no reasonable, investment-backed expectation of governmental nondisclosure during those periods. See *id. at 1006-07, 1009-10*. Speaking of this last period, the Court explained: "As long as [a pesticide manufacturer] is aware of the conditions under which the data are submitted, and the conditions [**19] are rationally related to a legitimate government interest, a voluntary submission of data by an applicant in exchange for the economic advantages of registration can hardly be called a taking." *Id. at 1007*.

The Commonwealth uses the statement we have just quoted to support its claim that, after the effective date of Section 307B, divulgement of submitted ingredient lists cannot work a taking because the statute's enactment vitiates any reasonable investment-backed expectation of nondisclosure on the tobacco companies' part. We think that it is unfair to read Monsanto for this proposition because the part of the Court's trifurcated holding to which the Commonwealth clings depended on the existence of a voluntary exchange. See *Nollan v. California Coastal Comm'n, 483 U.S. 825, 833-34 n.2, 97 L. Ed. 2d 677, 107 S. Ct. 3141 (1987)* (drawing this distinction). Under the post-1978 FIFRA scheme, submitters of environmental, health, and safety data received significant benefits in return for the disclosure of their data, including rights of exclusive use for a term of years and rights to compensation from later applicants who wished to utilize submitted data. Since this exchange [**20] afforded tangible compensation to pesticide manufacturers, the post-1978 version of FIFRA did not work an uncompensated taking (and, hence, did not work an unconstitutional taking). Section 307B effects no comparable bargain.

The Commonwealth demurs. The exchange, it says, consists of permitting the tobacco companies to continue doing business in Massachusetts in return for the companies' compliance with Section 307B. This construct will not wash. A Monsanto-type exchange requires that the government grant a benefit of real value to compensate a property owner for a taking. In constructing this balance, not all benefits bestowed by the sovereign will possess sufficient substance [*677] to ameliorate the tak-

ing -- and the state's self-interested characterization of a right as a benefit cannot change the underlying calculus. Permitting a company to continue conducting business within a state, while a benefit of sorts, lacks sufficient substance to create a Monsanto-type exchange.

Nollan illustrates this point. There, a governmental entity required a landowner to dedicate a public easement across his beachfront property in order to obtain a building permit to improve the existing [**21] structure. See *id. at 828.* To counter the landowner's assertion that the compelled easement comprised a taking, the dissent called the permit a benefit and claimed that its conferral triggered an exchange akin to that in Monsanto. See *id. at 860 n.10* (Brennan, J., dissenting). The majority disagreed, stating that "the announcement that the application for (or granting of) the permit would entail the yielding of a property interest cannot be regarded as establishing the voluntary 'exchange' that we found to have occurred in Monsanto." *Nollan, 483 U.S. at 834 n.2* (citations omitted). The Nollan Court explained that the ability to improve one's own property, though subject to some regulation, is incomparable to the type of government benefit proffered in exchange for use and disclosure of trade secret information in Monsanto. See id. Thus, Nollan teaches that the mere granting of permission to engage in routine activities, incident to existing property rights, does not afford compensation sufficient to support a Monsanto-type exchange.

Applying Nollan's rationale here, it is pellucid that the Commonwealth's unilateral announcement that the [**22] privilege of continuing to do business in Massachusetts henceforth will entail the yielding of a tobacco company's trade secrets cannot, in itself, establish a benefit sufficient to support a voluntary exchange within the Monsanto paradigm. The ability to conduct (and, more especially, to continue to conduct) a lawful business in Massachusetts, though subject to some governmental requirements, simply is not analogous, either in kind or in degree, to the benefit that effected the exchange and extinguished the takings claim in Monsanto. In context, then, the Monsanto Court's discussion of FIFRA's post-1978 regime offers the Commonwealth cold comfort.

The Commonwealth finds somewhat sturdier support for its position in the Monsanto Court's resolution of the takings issue for the pre-1972 period. Even though the earliest versions of FIFRA included no conditions explicitly permitting public disclosure of submitted data, and the Trade Secrets Act, *18 U.S.C. § 1905,* effectively barred disclosure of trade secrets by government agencies and employees, the Court held that when Monsanto submitted data during the pre-1972 period it "could not have had a 'reasonable investment-backed [**23] expectation' that EPA would maintain those data in strictest confidence and would use them exclusively for the purpose of considering the Monsanto application in connection with which the data were submitted." *Monsanto, 467 U.S. at 1010.* Consequently, the Court found no unconstitutional taking for that period. n5

> n5 Justice O'Connor dissented from this portion of the opinion, arguing that the Trade Secrets Act, along with the pre-1972 agency practice of not disclosing submitted data without the permission of the submitter, together furnished an adequate basis for Monsanto's reasonable, investment-backed expectation of nondisclosure in respect to data submitted prior to the 1972 amendments. See *Monsanto, 467 U.S. at 1021-23* (O'Connor, J., concurring in part and dissenting in part).

The analogy between Monsanto's pre-1972 period and Section 307B cannot be brushed aside lightly. Historically, Massachusetts has granted protection to trade secrets both statutorily, see Mass. Gen. Laws, ch. 93 §§ 42, [**24] 42A (1997), and under state common law, see, e.g., *Peggy Lawton Kitchens, Inc. v. Hogan, 18 Mass. App. Ct. 937, 466 N.E.2d 138, 139-40 (Mass. App. Ct. 1984).* The Commonwealth makes a plausible argument that these protections together comprise a general, external source of protection comparable to the Trade Secrets Act. Under the Monsanto Court's reasoning regarding submissions during the pre-1972 period, this argument holds, the tobacco companies would have no founded expectation of nondisclosure in respect to information submitted [*678] pursuant to the strictures of Section 307B. In the last analysis, however, Monsanto itself neutralizes this argument.

The Monsanto Court's holding that no uncompensated taking occurred during the pre-1972 and post-1978 periods is neither the be-all nor the end-all of its opinion. The Justices also held that Monsanto had reasonable, investment-backed expectations sufficient to support a regulatory takings claim for data submitted during the intermediate 1972-78 period. See *Monsanto, 467 U.S. at 1011.* This undermines the Commonwealth's argument because the 1972-78 period presents the closest, most persuasive analogy to the situation [**25] created by Section 307B. The FIFRA scheme then in effect provided specific protections for trade secret information -- and the Court determined that pesticide registrants might reasonably rely on these protections. See *id. at 1010-11.* The statutory and common law protections for trade secret information in place in the Commonwealth create

a very similar prophylaxis and thus form the basis for a reasonable expectation of continued confidentiality.

Because this matter is before us on appeal from the grant of a preliminary injunction, we need not rule definitively on the point. Likelihood-of-success determinations in such a context require only that courts formulate statements of probable outcomes. See *Cohen v. Brown Univ., 991 F.2d 888, 902 (1st Cir. 1993); Narragansett Indian Tribe, 934 F.2d at 6.* While we cannot entirely dismiss the Commonwealth's argument, we are comfortable in concluding that it probably will bear no fruit.

This is especially so because other signposts point in a direction favoring the tobacco companies' position. Most notably, recent Supreme Court cases share a greater affinity with the Nollan Court's distinction of Monsanto -- a distinction [**26] that did not explicitly differentiate among the case's three holdings -- than with the Commonwealth's isthmian focus on Monsanto's treatment of the pre-1972 period. See, e.g., *Dolan v. City of Tigard, 512 U.S. 374, 391, 129 L. Ed. 2d 304, 114 S. Ct. 2309 (1994)* (holding that burdens of municipal exactions required in exchange for building permits must achieve a "rough proportionality" with benefits received by the landowner to avoid municipal liability for a taking); *Lucas, 505 U.S. at 1031-32* (requiring South Carolina to prove that a landowner's intended residential use of his land would create a common law nuisance in order to avoid a finding of a taking without just compensation). These authorities show the Court's increasing concerns in this area and counsel persuasively that the Court will demand substantial, rather than nominal, compensation to legitimize governmental takings. In light of this guidance, we cannot accept the Commonwealth's claim that mere leave to continue one's business activities in a state will duly compensate a taking of valuable private property rights.

D.

Legal Compulsion

The Commonwealth's remaining theory posits that Section [**27] 307B cannot work a taking as a matter of law because it lacks "legal compulsion" -- in other words, the law works no taking because it does not force the tobacco companies to sell their products in Massachusetts (and, thus, they can avoid any need to grapple with it merely by limiting their business activities to more hospitable climes). In pressing this theory, the Commonwealth relies chiefly upon *Hinesburg Sand & Gravel Co. v. Chittenden Solid Waste Dist., 959 F. Supp. 652 (D. Vt. 1997).* In that case, a landowner sued a municipal authority to recover legal costs incurred in defending against the attempted condemnation of his property, alleging that there had been a taking. See *id. at 656-57.* The court ruled that no taking had occurred because the landowner was not legally compelled to spend funds defending his property. See *id. at 657-58.*

Hinesburg is small solace to the Commonwealth. The court's legal reasoning is suspect and, in all events, the case is plainly inapposite. n6 Here, unlike in Hinesburg, a [*679] state statute forces a party to make a Hobson's choice: either submit ingredient lists containing valuable trade secrets without adequate safeguards or cease [**28] doing business in an important market. This is the essence of legal compulsion.

n6 If correctly decided -- a matter on which we do not opine -- Hinesburg would be apposite here only if the tobacco companies, after prevailing on a takings theory, subsequently sued the Commonwealth to recover the costs of prosecuting the original action.

The other authorities cited by the Commonwealth are no more convincing. See, e.g., *Bowles v. Willingham, 321 U.S. 503, 517, 88 L. Ed. 892, 64 S. Ct. 641 (1944)* (holding that wartime rent control did not work a taking and noting that "there is no requirement that the apartments in question be used for purposes which bring them under the Act"); *Meriden Trust & Safe Deposit Co. v. FDIC, 62 F.3d 449, 455 (2d Cir. 1995)* (concluding that FDIC cross-guarantee provisions did not unconstitutionally take private property because they presented financial institutions with a choice between insuring and not insuring); *Garelick v. Sullivan, 987 F.2d 913, 916 (2d Cir. [**29] 1993)* (rejecting an anesthesiologists's claim that Medicare fee-for-service regulations constituted a taking and noting that doctors are "under no legal duty to provide services to the public and to submit to price regulations"). Underlying these cases, and others like them, is the reality that a governmental entity which creates a market's supply or sets its prices may be expected to alter property rights in the course of modifying its regulations. Thus, when an individual voluntarily participates in such a price-regulated program or market, the Takings Clause does not protect him from changes in his property rights due to changes in applicable regulations.

The situation created by Section 307B is entirely different. The plaintiffs historically have participated in a lawful, non-price-regulated market, in which state government hitherto has not been directly involved. They now face the potential loss of their valuable trade secrets merely to remain in business in Massachusetts. The Commonwealth cannot by some mysterious alchemy

transform this situation into one akin to that which existed in the regulated-market cases. Were the law otherwise, any government entity could avoid the [**30] due operation of the Takings Clause by the simple expedient of stating its intentions in advance.

The Commonwealth derives its final support for its "legal compulsion" argument from a footnote to the Monsanto Court's discussion of why use and disclosure of data submitted after 1978 would not constitute a taking. In this note, the Justices explained that a pesticide manufacturer could choose to forgo registration in the United States and sell its pesticides solely in foreign markets. See *Monsanto, 467 U.S. at 1007 n.11* (dictum). Using footnote 11 as a springboard, the Commonwealth maintains that the tobacco companies suffer no taking under Section 307B because they may refrain from selling their products in Massachusetts and thereby thwart disclosure.

This argument wrenches footnote 11 loose from its contextual moorings. The Supreme Court appended the footnote to its discussion of the voluntary exchange component of Monsanto's post-1978 regime. Voluntary exchange is a far cry from the situation at hand, in which the only benefit offered by the government in return for releasing the tobacco companies' trade secrets is the right to continue doing business in the Commonwealth. [**31] As we already have explained, see supra at 17-18, permission to continue operating a lawful business is not the type of government benefit on which a Monsanto-type exchange validly may be predicated.

In sum, the fact that the tobacco companies may cease doing business in Massachusetts if they do not wish to submit ingredient information to the DPH is true as far as it goes, but, as a principle of constitutional law, it does not go very far.

E.

The Scope of The Injunction

At a last gasp, the Commonwealth insists that the lower court swept too broadly in fashioning the preliminary injunction and, therefore, abused its discretion. In the Commonwealth's view, the district court could have met the plaintiffs' legitimate needs by allowing the ingredient information to be furnished to DPH, as required by Section 307B, [*680] and enjoining only public disclosure of the data.

We agree that, in the exercise of the district court's discretion, a narrower order might have been appropriate. Still, there is a rub: the Commonwealth never tendered this suggestion in the district court. Having pursued the advantages of an all-or-nothing strategy in arguing against the injunction, the [**32] Commonwealth may not belatedly obtain the benefits of the more moderate approach that, in the light of its defeat, now looks more attractive.

There is no reason to tarry. As a general rule, a disappointed litigant cannot surface an objection to a preliminary injunction for the first time in an appellate venue. See *United States v. Zenon, 711 F.2d 476, 478 (1st Cir. 1983)* (explaining that parties are required to "state their objections to the injunction to the district court, so that the district court can consider them and correct the injunction if necessary, without the need for appeal"). Having failed to comply with this basic rule, the Commonwealth has forfeited the opportunity to obtain consideration of whether the preliminary injunction, as framed, is overbroad.

IV.

Conclusion

We need go no further. The short of it is that neither the Commonwealth's "absence of reasonable, investment-backed expectations" argument nor its "legal compulsion" construct satisfies its weighty burden of demonstrating that the district court committed a clear error of law or an abuse of discretion. The Commonwealth's effort to fault the breadth of the district court's decree is similarly [**33] unavailing. Consequently, we are unable to conclude, at the preliminary injunction stage, that the district court erred in finding that the plaintiffs had demonstrated a likelihood of success on the merits.

Affirmed. Costs in favor of appellees.

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

1998 CIGARETTE NICOTINE DISCLOSURE REPORT

AS REQUIRED BY MASSACHUSETTS GENERAL LAWS

CHAPTER 307B, CMR 660.000

FEBRUARY 23, 1999

TABLE OF CONTENTS

What Were the Results of Massachusetts Nicotine Yield Testing?

- By adjusting parameters to more accurately reflect average smoking conditions, 1998 Massachusetts testing for nicotine yield produced numbers **about twice as high** as those found by the Federal Trade Commission. *The average smoker receives much greater levels of nicotine than is suggested by FTC ratings.*

- The degree of difference between Massachusetts and FTC testing *was greatest for 'ultra-light' cigarettes*, and greater for 'light' cigarettes than for full flavor cigarette. Nicotine yield for 'ultra-light' cigarettes was nearly three times greater in Massachusetts testing.

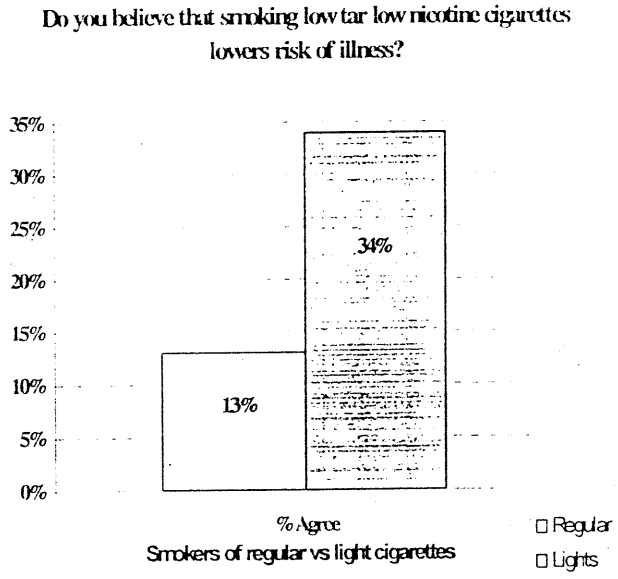
Table 1

Type	MA Nicotine Yield	FTC Nicotine Yield	%Difference
Full (Regular)	2.04	1.1	91%
Light	1.55	0.75	107%
Ultra-light	1.11	0.40	178%

- *Compensation techniques used by smokers alter levels of nicotine received from 'light' or 'ultra-light' cigarettes to a much greater degree than with regular cigarettes.* This is because cigarettes classified by FTC testing as 'low yield' depend more heavily on design factors such as filter ventilation which are not accounted for by the current FTC testing method.

- **For the average smoker, 'low yield' cigarettes deliver moderate to high doses of nicotine sufficient to cause and maintain heavy dependence.** Only one brand tested produced nicotine yields of fewer than .85 mg per cigarette when smoked under average smoking conditions.

- Many smokers believe that they are smoking safer cigarettes when they use 'light' or 'ultra-light' cigarettes. Yet almost all 'light' and 'ultra-light' cigarettes fall well over the recognized threshold for addiction.[6]



NICOTINE CONTENT OF WHOLE TOBACCO

What Is Nicotine Content?

- The *nicotine content* of a cigarette is an important element in its design. Nicotine content is the amount of nicotine contained in the tobacco *before* it is burned and inhaled. A smoker extracts the nicotine contained within the tobacco by inhaling nicotine which is released into the smoke when the tobacco is burned.

- A cigarette with a higher nicotine content has a greater amount of nicotine which may potentially be extracted by the smoker and inhaled during smoking.

- *Consumers may believe that 'light' and 'ultra-light' cigarettes contain less nicotine than full flavor cigarettes. However, such classifications do not reflect the amount of nicotine in the cigarette*-- they are based solely on FTC ratings of nicotine yield.

Why Is Nicotine Content Important?

- Nicotine yield ratings-- based on the amount of nicotine 'inhaled' by a smoking machine-- suggest that 'light' cigarettes contain less nicotine than regular cigarettes. In reality, the difference in nicotine content across types is not significant. *'Light' and regular cigarettes offer similar amounts of nicotine to the smoker.*

According to 1998 data, there were no significant differences in the nicotine content of full flavor, 'light,' or 'ultra-light' cigarettes.

Whether a cigarette is classified as full flavor, 'light,' or 'ultra-light,' it is likely to contain similar amounts of nicotine in the unsmoked tobacco.

- Compensation techniques such as vent blocking or taking longer and deeper puffs on a cigarette are used by smokers as means of extracting a greater amount of nicotine. When a cigarette has a high level of nicotine content, the smoker may be able to extract high levels of nicotine even though smoking cigarettes labeled with lower nicotine yields.

- A cigarette classified as 'light' according to the amount of nicotine which a standard smoking machine will extract from it, will contain levels of nicotine similar to that of a regular cigarette.

Smokers who switch to 'lower yield' cigarettes in order to reduce their intake of nicotine, are faced with similar levels of nicotine content in the 'low yield' cigarettes. Rather than reducing their amount of nicotine, they may simply smoke harder and longer on 'light'/'ultra-light' cigarettes in order to achieve the same impact and the same level of nicotine they obtained with 'higher' nicotine yield cigarettes.

Table 3 - Filter Ventilation

Type	Brand	Filter Ventilation
Full Flavor	Basic	1.63%
	Benson & Hedges	13.00%
	Camel	9.11%
	Doral	12.88%
	GPC	2.14%
	Kent	17.00%
	Kool	8.39%
	Lucky Strike	0.00%
	Marlboro	9.63%
	Merit	34.00%
	Misty	10.40%
	Newport	3.83%
	Planet	12.00%
	Salem	12.80%
	Vantage	48.00%
	Virginia Slims	23.00%
	Winston	16.71%
	Full Flavor	*10.03%*
Medium	GPC	17.10%
	Kool	28.43%
	Marlboro	20.00%
	Medium	*22.80%*

Type	Brand	Filter Ventilation
Light	Basic	18.33%
	Benson & Hedges	29.00%
	Camel	30.09%
	Carlton	71.40%
	Doral	26.33%
	GPC	26.29%
	Jumbo	43.00%
	Kent	33.20%
	Kool	40.85%
	Marlboro	28.00%
	More	44.00%
	Newport	27.63%
	Parliament	35.00%
	Planet	24.00%
	Salem	40.00%
	Virginia Slims	41.00%
	Winston	33.50%
	Light	*31.10%*
Ultralight	Basic	47.50%
	Benson & Hedges	54.00%
	Camel	52.67%
	Carlton	94.90%
	Doral	56.00%
	GPC	51.90%
	Kent	49.50%
	Kool	79.30%
	Marlboro	46.00%
	Merit	51.50%
	Misty	62.30%
	Now	72.50%
	Salem	58.00%
	Vantage	57.00%
	Virginia Slims	57.00%
	Winston	52.00%
	Ultralight	*57.09%*

Range of filter ventilation

Full flavor:	0%-51%
Medium:	15%-31%
Light:	13%-74%
Ultralight:	41%-95%

Although ultralight and light cigarettes have a higher percent filter ventilation than full flavor cigarettes, the average smoker blocks at least some of the filter vents, breathing in more of the potentially harmful or addictive substances in smoke.

NICOTINE YIELD RATINGS

Why Publish Nicotine Ranges?

- The Federal Trade Commission (FTC) publishes for each cigarette brand a nicotine yield number based on testing performed by a smoking machine. Although the FTC developed this test to measure *relative* nicotine yields, many consumers believe that the classifications of cigarette brands based on the numbers published by the FTC accurately reflect the amount of nicotine or tar which they will receive from a given brand.[7]

- Because of the differences in individual smoking patterns, no number is truly representative of the amount of nicotine any smoker will receive from a cigarette. Therefore, Massachusetts has developed ranges which classify levels of nicotine relative to each other. These ranges are *high (>1.2 mg)*, *moderate (>0.2-1.2)*, *low (.01-.2)* or *nicotine free (<.01)*.

Massachusetts is publishing the **range of nicotine** which a cigarette delivers under average smoking conditions-- whether *high, moderate, low,* or *nicotine free*. These ranges will allow smokers to compare nicotine levels among brands of cigarettes, without misleading them about the actual amount of nicotine delivered through their own smoking patterns.

What Do the Classifications Show?

84% of those cigarettes tested in 1998 fell into the highest nicotine range. Of 191 cigarette brands tested, 161 were rated as *high*, including many of the 'light' cigarettes tested, and even some of the 'ultra-light' cigarettes tested.

- **Of the remaining 30 brands (16% of cigarettes tested), all but one were rated *moderate* by MDPH standards.** *This suggests that virtually all cigarettes on the marketplace today deliver moderate to high doses of nicotine sufficient to cause and maintain heavy dependence.*

- **Eighty-four (84)**-- *more than half*-- of the brands rated as *high* were classified as 'ultra-light,' 'light,' or 'medium.'

- **Only one brand tested fell into the 'low' classification.**

The results of testing performed in accordance with MDPH regulations demonstrates the highly addictive potential of nearly all brands of cigarettes-- whether, full flavor, 'light,' or 'ultra-light.' Brands rated according to the FTC method as low in nicotine are shown to have significantly greater levels of nicotine and to be potentially more addictive than the FTC ratings would suggest.

Table 4-- Nicotine Yield Ratings

HIGH (>1.2 mg)

Basic	100 F HP	GPC	FF KS	Misty	Slims FF 100's B
Basic	100 F HP LT	GPC	FF KS B	More	120 F SP White Light
Basic	100 F SP	GPC	FF Men 100's	Newport	100's
Basic	100 F SP FF MEN	GPC	FF Men KS	Newport	100's
Basic	100 F SP LT	GPC	LTS Men 100's	Newport	25s 100's
Basic	100 F SP LT MEN	GPC	LTS Men KS	Newport	25s
Basic	KING F HP	GPC	MED 100'S B	Newport	
Basic	KING F HP LT	GPC	Non-Filter KS	Newport	
Basic	KING F HP MEN	Jumbo	King F HP LT Jumbo	Newport	Lights 100's
Basic	KING F SP	Kent	100's 100FSP	Newport	Lights 100s
Basic	KING F SP FF MEN	Kent	Golden Lights 100's	Newport	Lights
Basic	KING F SP LT	Kent	III Ultra Lights 100's	Newport	Lights
Basic	KING F SP LT MEN	Kool	Advance KS	Newport	Slim Lights 100's
Basic	KING NF SP	Kool	KS (Men)	Newport	Slim Lights 120's
Benson & Hedges	100 F HP ULTRA LT DLX	Kool	KS B (Men)	Newport	Slims 120's
Benson & Hedges	100 F SP LT MEN	Kool	LTS 100'S (Men)	Newport	Stripes Lights 100's
Benson & Hedges	100 F SP MEN	Kool	LTS KS (Men)	Newport	Stripes Lights Menthol 100's
Camel	100 F HP	Kool	Mild 100's (Men)	Parliament	KING F HP LT
Camel	100 F HP LT	Kool	Mild 100's B (Men)	Planet	King F HP LT
Camel	100 F HP LT Special	Kool	Mild KS (Men)	Planet	King F HP
Camel	100 F HP Ultra-LT NCP	Kool	Mild KS B (Men)	Salem	100 F HP
Camel	100 F SP	Kool	Natural 100's B	Salem	100 F HP Slim LT
Camel	100 F SP LT	Kool	Natural KS B	Salem	100 F SP LT
Camel	King F HP	Kool	Natural LTS 100'S B	Salem	100 F SP LT Preferred
Camel	King F HP Wides	Kool	Natural LTS KS B	Salem	100 F SP
Camel	King F HP LT	Kool	Non-Filter KS (Men)	Salem	100 F SP Preferred
Camel	King F HP LT Special	Kool	Super Long 100's (Men)	Salem	100 F SP Ultra-LT
Camel	King F HP LT Wides	Kool	Super Longs 100's B (Men)	Salem	King F HP Gold
Camel	King F HP LT Men	Kool	ULT 100'S (Men)	Salem	King F SP LT
Camel	King F HP LT Kamel Menthe	Lucky Strike	Non-Filter KS	Salem	King F SP
Camel	King F HP LT Red Kamel	Marlboro	100 F HP (GOLD PKG)	Vantage	100 F HP Ultra-LT
Camel	King F HP Men Camel	Marlboro	100 F HP LT	Vantage	100 F SP Men
Camel	King F HP Menthe Kamel	Marlboro	100 F HP LT MEN	Vantage	100 F SP
Camel	King F HP Red Kamel	Marlboro	100 F HP MEDIUM	Virginia Slims	100 F HP LT SLIM
Camel	King F SP	Marlboro	100 F HP MEN	Virginia Slims	100 F HP ULTRA LT SLIM
Camel	King F SP LT	Marlboro	100 F HP ULTRA LT	Virginia Slims	100 F SP SLIM
Camel	King F SP LT Special	Marlboro	100 F SP (GOLD PKG)	Winston	100 F HP LT
Camel	NF SP Regulars	Marlboro	100 F SP LT	Winston	100 F HP Slim-LT
Carlton	120'S	Marlboro	100 F SP LT MEN	Winston	100 F HP Ultra-LT
Doral	100 F HP	Marlboro	100 F SP MEDIUM	Winston	100 F HP Select
Doral	100 F HP LT	Marlboro	KING F HP	Winston	100 F SP LT
Doral	100 F SP	Marlboro	KING F HP LT	Winston	100 F SP LT Select
Doral	100 F SP FF Men	Marlboro	KING F HP LT MEN	Winston	100 F SP Ultra-LT
Doral	100 F SP LT	Marlboro	KING F HP MEDIUM	Winston	100 F SP
Doral	100 F SP LT Men	Marlboro	KING F HP MEN	Winston	100 F SP Select
Doral	King F HP	Marlboro	KING F SP	Winston	King F HP LT
Doral	King F HP FF Men	Marlboro	KING F SP (25 PKG)	Winston	King F HP LT Select
Doral	King F SP	Marlboro	KING F SP LT	Winston	King F HP
Doral	King F SP FF Men	Marlboro	KING F SP LT (25 PKG)	Winston	King F HP Select
Doral	King NF SP	Marlboro	KING F SP LT MEN	Winston	King F SP LT
GPC	Advance FF KS	Marlboro	KING F SP MEDIUM	Winston	King F SP LT Select
GPC	Advance LTS KS	Marlboro	KING F SP MEN	Winston	King F SP
GPC	FF 100'S	Merit	100 F SP	Winston	King F SP Select
GPC	FF 100'S B	Merit	100 F SP ULTRA LT		

Table 4-- Nicotine Yield Ratings (cont.)

MODERATE (>.2-1.2)

Basic	100 F SP ULTRA LT
Basic	KING F SP ULTRA LT
Camel	King F HP Ultra-LT
Camel	King F SP Ultra-LT
Carlton	100'S
Doral	100 F SP Ultra-LT
Doral	King F HP LT
Doral	King F SP LT
Doral	King F SP LT Men
Doral	King F SP Ultra-LT
GPC	LTS 100
GPC	LTS 100'S B
GPC	LTS KS
GPC	LTS KS B
GPC	MED KS B
GPC	ULT LTS 100'S
GPC	ULT LTS KS
GPC	ULT LTS Men 100's
GPC	ULT LTS Men KS
Kool	ULT LTS KS (Men)
Marlboro	KING F HP ULTRA LT
Merit	100 F SP ULTIMA
Misty	Slims ULT LTS 100'S B
Now	100 F SP Men Ultra-LT
Now	100 F SP Ultra-LT
Salem	King F SP Ultra-LT
Vantage	100 F SP Ultra-LT
Winston	King F HP Ultra-LT
Winston	King F SP Ultra-LT

LOW (>.01-.2)

Carlton	ULTRA KS B

NICOTINE FREE (<.01)

NONE

The two brands smoked by over 85% of Massachusetts youth smokers deliver HIGH nicotine yield with their regular, 'light,' and 'ultra-light' cigarettes.

[1] Pillsbury, Harold C., Jr. "Review of the Federal Trade Commission Method for Determining Cigarette Tar and Nicotine Yield," *The FTC Cigarette Test for Determining Tar, Nicotine, and Carbon Monoxide Yields of U.S. Cigarettes (Monograph 7)*. Report of the NCI Expert Committee: U.S. Department of Health and Human Services, National Institutes of Health, 9.

[2] Peeler, C. Lee. "Cigarette Testing and the Federal Trade Commission: A Historical Overview," *The FTC Cigarette Test for Determining Tar, Nicotine, and Carbon Monoxide Yields of U.S. Cigarettes (Monograph 7)*. Report of the NCI Expert Committee: U.S. Department of Health and Human Services, National Institutes of Health, 2.

[3] Zacny, James P. and Maxine L. Stitzer. "Human Smoking Patterns," *The FTC Cigarette Test for Determining Tar, Nicotine, and Carbon Monoxide Yields of U.S. Cigarettes (Monograph 7)*. Report of the NCI Expert Committee: U.S. Department of Health and Human Services, National Institutes of Health, 154-55.

[4] Kozlowski, Lynn T. and Janine L. Pillitteri. "Compensation for Nicotine by Smokers of Lower Yield Cigarettes," *The FTC Cigarette Test for Determining Tar, Nicotine, and Carbon Monoxide Yields of U.S. Cigarettes (Monograph 7)*. Report of the NCI Expert Committee: U.S. Department of Health and Human Services, National Institutes of Health, 168.

[5] Freeman, Harold P. *The FTC Cigarette Test for Determining Tar, Nicotine, and Carbon Monoxide Yields of U.S. Cigarettes (Monograph 7)*. Report of the NCI Expert Committee: U.S. Department of Health and Human Services, National Institutes of Health, vi-viii.

[6] cf. Henningfield, Jack E. "Establishing a Nicotine Threshold for Addiction," *New England Journal of Medicine.* 331:123-125.

[7] cf. Giovino, Gary A., *et al.* "Attitudes, Knowledge, and Beliefs About Low-Yield Cigarettes Among Adolescents and Adults," *The FTC Cigarette Test for Determining Tar, Nicotine, and Carbon Monoxide Yields of U.S. Cigarettes (Monograph 7)*. Report of the NCI Expert Committee: U.S. Department of Health and Human Services, National Institutes of Health, 43-5; see also Beiner, Lois and Anthony M. Roman. *Massachusetts Adult Tobacco Survey.* Boston: Center for Survey Research, University of Massachusetts, 1994.

Nicotine Information Summary

22-Feb-99

Manufacturer	Brand	Sub-Brand	Nicotine Delivery	Classification	Type	Filter Ventilation (%)	Nicotine Content	pH	# Puffs
Brown and Williamson									
	Carlton								
		100'S	0.74	Moderate	Light	73.50%	10.2		11.6
		120'S	1.48	High	Light	69.30%	11.48		16.1
		ULTRA KS B	0.03	Low	Ultralight	94.90%	9.07		13.4
	GPC								
		Advance FF KS	2.15	High	Full Flavor	17.10%	13.45		11.8
		Advance LTS KS	1.52	High	Light	29.40%	12.28		10.7
		FF 100'S	1.35	High	Full Flavor	0.00%	9.78	4.95	10.6
		FF 100'S B	1.35	High	Full Flavor	0.00%	9.61		10.1
		FF KS	1.43	High	Full Flavor	0.00%	9.04		9.8
		FF KS B	1.6	High	Full Flavor	0.00%	9.69		10.5
		FF Men 100's	1.48	High	Full Flavor	0.00%	10.38		10
		FF Men KS	1.59	High	Full Flavor	0.00%	9.71		9.5
		LTS 100	1.17	Moderate	Light	24.80%	9.8	5.03	12.1
		LTS 100'S B	1.05	Moderate	Light	27.30%	9.77		11.7
		LTS KS	0.94	Moderate	Light	22.90%	7.88		9.2
		LTS KS B	1.02	Moderate	Light	22.20%	8.03		9.2
		LTS Men 100's	1.33	High	Light	36.20%	10.25		11.5
		LTS Men KS	1.21	High	Light	21.20%	8.17		9
		MED 100'S B	1.36	High	Medium	19.30%	10.3		10.4
		MED KS B	1.13	Moderate	Medium	14.90%	7.91		8.5
		Non-Filter KS	1.98	High	Full Flavor	0.00%	11.84		11.4
		ULT LTS 100'S	0.88	Moderate	Ultralight	58.80%	9.48	5.01	13.1
		ULT LTS KS	0.77	Moderate	Ultralight	49.60%	7.63		10.2
		ULT LTS Men 100's	1	Moderate	Ultralight	56.40%	9.88		12.2
		ULT LTS Men KS	0.85	Moderate	Ultralight	42.80%	7.99		9.1
	Kool								
		Advance KS	2.22	High	Full Flavor	19.30%	13.51		11.5
		KS (Men)	2.02	High	Full Flavor	0.00%	11.34		10.3
		KS B (Men)	1.98	High	Full Flavor	0.00%	11.49		10.2
		LTS 100'S (Men)	1.52	High	Light	42.50%	12.53	4.98	13.1
		LTS KS (Men)	1.23	High	Light	46.30%	10.21		10.7
		Mild 100's (Men)	1.64	High	Medium	29.60%	12.64		11.2
		Mild 100's B (Men)	1.62	High	Medium	30.80%	12.39		11.8
		Mild KS (Men)	1.55	High	Medium	24.00%	10.16		9.7
		Mild KS B (Men)	1.67	High	Medium	29.30%	11.26		11.7
		Natural 100's B	2.26	High	Full Flavor	15.30%	15.34		12.2
		Natural KS B	2.01	High	Full Flavor	0.00%	12.93		10.6
		Natural LTS 100'S B	1.56	High	Light	42.90%	15.52		11.4
		Natural LTS KS B	1.23	High	Light	31.70%	11.24		8.9
		Non-Filter KS (Men)	1.98	High	Full Flavor	0.00%	12.49		8.8
		Super Long 100's (Men)	2.25	High	Full Flavor	14.00%	13.6	5.03	12.7
		Super Longs 100's B (Men)	2.12	High	Full Flavor	18.50%	12.58		12
		ULT 100'S (Men)	1.3	High	Ultralight	81.70%	12.92	5	14
		ULT LTS KS (Men)	1.02	Moderate	Ultralight	76.90%	10.05		10.6
	Lucky Strike								

Manufacturer	Brand	Sub-Brand	Nicotine Delivery	Classification	Type	Filter Ventilation (%)	Nicotine Content	pH	# Puffs
		Non-Filter KS	2.37	High	Full Flavor	0.00%	11.83		10
	Misty								
		Slims FF 100's B	1.82	High	Full Flavor	10.40%	10.11		11.2
		Slims ULT LTS 100'S B	1.12	Moderate	Ultralight	62.30%	9.23		12.6
Lorillard									
	Kent								
		100FSP	2.3	High	Full Flavor	17.00%	13.9		13.6
		Golden Lights 100FSP	1.8	High	Light	33.20%	14.4		14
		III Ultra Lights 100FSP	1.5	High	Ultralight	49.50%	14.7		13.9
	Newport								
		100FMHP	2.7	High	Full Flavor	0.00%	14.7	5.92	12.8
		100FMSP	2.8	High	Full Flavor	0.00%	15		13.3
		25s 100FMSP	2.9	High	Full Flavor	0.00%	15		13.3
		25s KFMSP	2.5	High	Full Flavor	0.00%	12.8		11.5
		KFMHP	2.3	High	Full Flavor	0.00%	12.1		10.9
		KFMPSP	2.6	High	Full Flavor	0.00%	13		12
		Lights 100FMHP	2	High	Light	30.90%	15.1	6.42	14
		Lights 100FMSP	2	High	Light	33.80%	15		14.1
		Lights KFMHP	1.4	High	Light	24.80%	11.1		9.7
		Lights KFMSP	1.5	High	Light	27.20%	12.2		10.3
		Slim Lights 100FMHP	1.9	High	Light	23.60%	12.8		13.2
		Slim Lights 120FMHP	2.3	High	Light	34.80%	13.5		16.5
		Slims 120FMHP	2.5	High	Full Flavor	26.80%	14.4		15.7
		Stripes Lights 100FHP	1.8	High	Light	21.40%	14.2		13.9
		Stripes Lights Menthol 100FMHP	1.8	High	Light	24.50%	14.3	6.22	13.3
Philip Morris									
	Basic								
		100 F HP	1.9	High	Full Flavor	1.00%	15.64		11.8
		100 F HP LT	1.4	High	Light	25.00%	15.43		11.7
		100 F SP	1.9	High	Full Flavor	2.00%	15.94		12.2
		100 F SP FF MEN	1.8	High	Full Flavor	1.00%	16.17		11.9
		100 F SP LT	1.5	High	Light	24.00%	15.9		12.3
		100 F SP LT MEN	1.5	High	Light	16.00%	16		11.3
		100 F SP ULTRA LT	1.1	Moderate	Ultralight	49.00%	15.9		13.2
		KING F HP	1.8	High	Full Flavor	2.00%	16.12		10.2
		KING F HP LT	1.5	High	Light	14.00%	16.67		9.7
		KING F HP MEN	1.7	High	Full Flavor	2.00%	16.18		10.1
		KING F SP	1.8	High	Full Flavor	3.00%	16.58		10.3
		KING F SP FF MEN	1.9	High	Full Flavor	2.00%	16		11
		KING F SP LT	1.4	High	Light	18.00%	16.5		9.7
		KING F SP LT MEN	1.4	High	Light	13.00%	16.51		9.7
		KING F SP ULTRA LT	1.1	Moderate	Ultralight	46.00%	17.27		11.1
		KING NF SP	3	High	Full Flavor	0.00%	18.32		13.7
	Benson & Hedges								
		100 F HP ULTRA LT DLX	1.4	High	Ultralight	54.00%	17.51	5.2	13.2
		100 F SP LT MEN	1.7	High	Light	29.00%	17.41	5.2	13.6
		100 F SP MEN	2.1	High	Full Flavor	13.00%	17.23	5	13
	Marlboro								
		100 F HP (GOLD PKG)	2.1	High	Full Flavor	18.00%	16.98		13

Manufacturer	Brand	Sub-Brand	Nicotine Delivery	Classification	Type	Filter Ventilation (%)	Nicotine Content	pH	# Puffs
		100 F HP LT	1.8	High	Light	30.00%	16.86		13.3
		100 F HP LT MEN	1.5	High	Light	34.00%	17.44		12.6
		100 F HP MEDIUM	1.9	High	Medium	17.00%	17.99		12.3
		100 F HP MEN	2	High	Full Flavor	5.00%	16.77		11.9
		100 F HP ULTRA LT	1.4	High	Ultralight	51.00%	17.34		13
		100 F SP (GOLD PKG)	2.1	High	Full Flavor	14.00%	18.14		12.6
		100 F SP LT	1.7	High	Light	30.00%	17.9		13
		100 F SP LT MEN	1.6	High	Light	39.00%	16.98		13.3
		100 F SP MEDIUM	2	High	Medium	26.00%	16.8		13.7
		KING F HP	2	High	Full Flavor	11.00%	17.89		11
		KING F HP LT	1.6	High	Light	24.00%	16.79		10.9
		KING F HP LT MEN	1.5	High	Light	27.00%	17.74		10.1
		KING F HP MEDIUM	1.7	High	Medium	22.00%	16.71		10.5
		KING F HP MEN	1.9	High	Full Flavor	3.00%	17.07		10.6
		KING F HP ULTRA LT	1.1	Moderate	Ultralight	41.00%	18.54		9.5
		KING F SP	2	High	Full Flavor	12.00%	17.62		11.5
		KING F SP (25 PKG)	2	High	Full Flavor	11.00%	17.74		11.3
		KING F SP LT	1.6	High	Light	25.00%	18.15		10.8
		KING F SP LT (25 PKG)	1.5	High	Light	20.00%	18		11
		KING F SP LT MEN	1.5	High	Light	23.00%	18.18		10.5
		KING F SP MEDIUM	1.6	High	Medium	15.00%	17.73		10.6
		KING F SP MEN	1.9	High	Full Flavor	3.00%	18.16		10.6
	Merit								
		100 F SP	1.7	High	Full Flavor	34.00%	17.75	5.2	13.6
		100 F SP ULTIMA	0.9	Moderate	Ultralight	54.00%	23.2	5.2	9.1
		100 F SP ULTRA LT	1.4	High	Ultralight	49.00%	18.73	5.2	12.6
	Parliament								
		KING F HP LT	1.5	High	Light	35.00%	17.94	5.1	9.9
	Virginia Slims								
		100 F HP LT SLIM	1.5	High	Light	41.00%	17.61	5.2	12.3
		100 F HP ULTRA LT SLIM	1.3	High	Ultralight	57.00%	17.39	5.2	12.5
		100 F SP SLIM	2.2	High	Full Flavor	23.00%	17.14	5.2	12.4
RJ Reynolds									
	Camel								
		100 F HP	2.3	High	Full Flavor	12.00%	14.6		12.5
		100 F HP LT	1.8	High	Light	40.00%	15.3		14.2
		100 F HP LT Special	1.8	High	Light	38.00%	14.1		14.4
		100 F HP Ultra-LT NCP	1.3	High	Ultralight	53.00%	12.8		12.2
		100 F SP	2.4	High	Full Flavor	13.00%	15.8		14.1
		100 F SP LT	1.9	High	Light	41.00%	16		15.3
		King F HP	2.2	High	Full Flavor	19.00%	13.7		12.3
		King F HP Kamel Menthe	2.1	High	Full Flavor	0.00%	13.3		10.2
		King F HP LT	1.6	High	Light	24.00%	12.8		11.1
		King F HP LT Kamel Menthe	1.3	High	Light	24.00%	12		9.9
		King F HP LT Men	1.5	High	Light	24.00%	12.4		10.5
		King F HP LT Red Kamel	1.6	High	Light	23.00%	13		11.3
		King F HP LT Special	1.6	High	Light	24.00%	12.4		11.2
		King F HP LT Wides	1.9	High	Light	39.00%	16.4		14.2

Manufacturer	Brand	Sub-Brand	Nicotine Delivery	Classification	Type	Filter Ventilation (%)	Nicotine Content	pH	# Puffs
		King F HP Men	2.1	High	Full Flavor	0.00%	13.3		10.8
		King F HP Red Kamel	2.2	High	Full Flavor	17.00%	13.7		12.4
		King F HP Ultra-LT	1.2	Moderate	Ultralight	50.00%	12		10.2
		King F HP Wides	2.1	High	Full Flavor	0.00%	16.5		13
		King F SP	2.3	High	Full Flavor	21.00%	14.5	6.1	13.1
		King F SP LT	1.7	High	Light	29.00%	13.4	6	12.3
		King F SP LT Special	1.5	High	Light	25.00%	12.2		10.7
		King F SP Ultra-LT	1.1	Moderate	Ultralight	55.00%	11.8	6.1	10.8
		NF SP Regulars	2.9	High	Full Flavor	0.00%	18		10.3
	Doral								
		100 F HP	1.7	High	Full Flavor	16.00%	11.5		11.9
		100 F HP LT	1.6	High	Light	25.00%	11.4		11.7
		100 F SP	1.6	High	Full Flavor	11.00%	12.2	6	11.8
		100 F SP FF Men	1.7	High	Full Flavor	14.00%	12.2		11.8
		100 F SP LT	1.5	High	Light	28.00%	12.5	5.9	12
		100 F SP LT Men	1.5	High	Light	26.00%	11.9		12
		100 F SP Ultra-LT	1.1	Moderate	Ultralight	55.00%	12.5	6.1	13.6
		King F HP	1.6	High	Full Flavor	15.00%	10.9		10.3
		King F HP FF Men	1.5	High	Full Flavor	16.00%	10.3		10.4
		King F HP LT	1.1	Moderate	Light	25.00%	10.3		9.2
		King F SP	1.5	High	Full Flavor	16.00%	11.2		10.6
		King F SP FF Men	1.6	High	Full Flavor	15.00%	11		10.6
		King F SP LT	1.2	Moderate	Light	27.00%	10.7		9.7
		King F SP LT Men	1.1	Moderate	Light	27.00%	9.8		9.5
		King F SP Ultra-LT	0.9	Moderate	Ultralight	57.00%	10.2		10.7
		King NF SP	2.4	High	Full Flavor	0.00%	15		11.6
	Jumbo								
		King F HP LT	1.6	High	Light	43.00%	15.1		13
	More								
		120 F SP White Light	2	High	Light	44.00%	12.1		16.4
	Now								
		100 F SP Men Ultra-LT	0.9	Moderate	Ultralight	74.00%	13.4		11.5
		100 F SP Ultra-LT	1	Moderate	Ultralight	71.00%	13.3		11.1
	Planet								
		King F HP	2	High	Full Flavor	12.00%	12.9		11.6
		King F HP LT	1.5	High	Light	24.00%	11.6		10.4
	Salem								
		100 F HP	2	High	Full Flavor	33.00%	13.6		14.2
		100 F HP Slim LT	1.7	High	Light	39.00%	11.1		12.1
		100 F SP	2.4	High	Full Flavor	14.00%	15.6	5.9	14.1
		100 F SP LT	1.8	High	Light	49.00%	14.7	6.3	15
		100 F SP LTPreferred	1.5	High	Light	50.00%	14.3		14.2
		100 F SP Preferred	2	High	Full Flavor	17.00%	14.1		13.1
		100 F SP Ultra-LT	1.3	High	Ultralight	61.00%	14.3	6.1	14.8
		King F HP Gold	2.1	High	Full Flavor	0.00%	13.2		10.9
		King F SP	2.2	High	Full Flavor	0.00%	14.1		10.5
		King F SP LT	1.6	High	Light	22.00%	13.4		10.6
		King F SP Ultra-LT	1.2	Moderate	Ultralight	55.00%	12.4		12

Manufacturer	Brand	Sub-Brand	Nicotine Delivery	Classification	Type	Filter Ventilation (%)	Nicotine Content	pH	# Puffs
	Vantage								
		100 F HP Ultra-LT	1.3	High	Ultralight	58.00%	13.6		13.7
		100 F SP	1.7	High	Full Flavor	51.00%	14		14.5
		100 F SP Men	1.6	High	Full Flavor	45.00%	14.5		13.3
		100 F SP Ultra-LT	1.2	Moderate	Ultralight	56.00%	14.5		13.6
	Winston								
		100 F HP	2.1	High	Full Flavor	16.00%	14		13.1
		100 F HP LT	1.8	High	Light	33.00%	13.4	6	13
		100 F HP Ultra-LT	1.4	High	Ultralight	50.00%	14	6.2	12.1
		100 F SP	2.4	High	Full Flavor	15.00%	15.9	5.9	14.1
		100 F SP LT	1.8	High	Light	38.00%	14.8		13.9
		100 F SP Ultra-LT	1.3	High	Ultralight	54.00%	13.7		13
		King F HP	2	High	Full Flavor	19.00%	12.7		11.6
		King F HP LT	1.5	High	Light	33.00%	11.9		11.3
		King F HP Ultra-LT	1.1	Moderate	Ultralight	53.00%	11.7		10.7
		King F SP	2	High	Full Flavor	18.00%	12.8		11.3
		King F SP LT	1.6	High	Light	31.00%	11.9		11.4
		King F SP Ultra-LT	1.2	Moderate	Ultralight	51.00%	12.5		10.7
	Winston Select								
		100 F HP Slim-LT	1.7	High	Light	37.00%	12.2		12.3
		100 F SP	2.2	High	Full Flavor	17.00%	14.4		13.5
		100 F SP LT	1.8	High	Light	40.00%	13.5		14.3
		King F HP	2	High	Full Flavor	18.00%	12.7		11.2
		King F HP LT	1.5	High	Light	26.00%	11.8		11.1
		King F SP	2	High	Full Flavor	14.00%	12.4		11
		King F SP LT	1.6	High	Light	30.00%	11.9		11.4