

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549



Form S-8
REGISTRATION STATEMENT
under
THE SECURITIES ACT OF 1933

THE DOW CHEMICAL COMPANY
(a Delaware corporation)
Executive Offices -- 2030 Dow Center
Midland, Michigan 48674

*(Name, state of incorporation and address of principal
executive office of issuer)*

I.R.S. Employer Identification No. 38-1285128

The Dow Chemical Company
2003-2013 Employees' Stock Purchase Plan
(Full title of the plan)

CHARLES J. KALIL
Corporate Vice President and General Counsel
THE DOW CHEMICAL COMPANY
2030 Dow Center
Midland, Michigan 48674

(Name and address of agent for service)
Telephone: (989) 636-1000

CALCULATION OF REGISTRATION FEE

Title of securities to be registered	Amount to be registered	Proposed maximum offering price per share	Proposed maximum aggregate offering price	Amount of registration fee
Common Stock, par value \$2.50 per share, of The Dow Chemical Company	6,000,000 shares	\$43.25	\$259,500,000	\$30,543.15

PART II

Item 3. INCORPORATION OF DOCUMENTS BY REFERENCE.

The following documents heretofore filed by The Dow Chemical Company ("Dow") with the Securities and Exchange Commission (the "Commission") are incorporated herein by this reference:

(a) Dow's Annual Report on Form 10-K for the year ended December 31, 2004. (The consolidated financial statements and the related financial statement schedule, and management's report on the effectiveness of internal control over financial reporting, incorporated by reference from Dow's Annual Report on Form 10-K have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their reports, which are incorporated herein by reference.)

(b) Dow's Current Reports on Form 8-K dated January 5, 2005, January 27, 2005, April 19, 2005, April 19, 2005 and April 28, 2005; and Dow's Quarterly Report on Form 10-Q for the quarter ended March 31, 2005.

(c) The description of Dow's Common Stock, par value \$2.50 per share, contained in a registration statement filed pursuant to Section 12 of the Securities Exchange Act of 1934 (the "Act") and any amendments or reports filed for the purpose of updating that description.

All documents subsequently filed by Dow pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Act prior to the filing of a post-effective amendment which indicates that all the securities offered hereby have been sold or which

deregisters all such securities then remaining unsold, shall be deemed to be incorporated by reference herein and to be a part hereof from the date of filing of such documents.

Item 5. INTERESTS OF NAMED EXPERTS AND COUNSEL.

The validity of the issuance of Dow's Common Stock offered hereby has been passed on by Kenneth D. Isley, Senior Managing Counsel - Corporate, Financial and Securities Law for Dow. As of May 3, 2005, Mr. Isley beneficially owned 4,580 deferred stock units, 760 shares of Dow common stock pursuant to various employee stock plans and held options to purchase 9,427 shares of Dow common stock, of which options to purchase 916 shares of Dow common stock were exercisable.

Item 6. IDEMNIFICATION OF DIRECTORS AND OFFICERS.

Under Article VI of the Restated Certificate of Incorporation, as amended, Dow may indemnify its Directors, officers, employees and agents to such extent as is permitted by the laws of the State of Delaware and as Dow's Bylaws may from time to time provide. Section 145 of the General Corporation Law of the State of Delaware empowers Dow to indemnify, subject to the standards and limitations therein prescribed, any person in connection with any action, suit or proceeding brought or threatened by reason of the fact that such person is or was a Director, officer, employee or agent of Dow or is or was serving as such with respect to another corporation or other enterprise at the request of Dow. Under Section VI of the Bylaws of Dow, Dow is required to indemnify its Directors, officers and employees to the fullest extent permitted by Delaware law whenever such a person is a defendant in any legal proceeding. Section VI also gives the Company discretion to indemnify Directors, officers, employees and agents in other legal proceedings to which they are made a party. Any indemnification of a Director, officer, employee or agent of the Company must be approved by the Board of Directors. Dow maintains a Directors' and officers' liability insurance policy that indemnifies Dow's Directors and officers against certain losses in connection with claims made against them for certain wrongful acts.

Item 8. EXHIBITS.

Exhibit No.	Description of Exhibit
4 (a)	Restated Certificate of Incorporation of The Dow Chemical Company, filed as Exhibit 3(i) to Dow's Quarterly Report on Form 10-Q for the quarter ended June 30, 2004, incorporated herein by this reference.
4 (b)	Bylaws of The Dow Chemical Company, filed as Exhibit 3(ii) to Dow's Quarterly Report on Form 10-Q for the quarter ended March 31, 2003, incorporated herein by this reference.
5	Opinion of Counsel
23 (a)	Consent of Independent Registered Public Accounting Firm.
23 (b)	ARPC's Consent.
23 (c)	Consent of Kenneth D. Isley, included in the opinion filed as Exhibit 5.
24	Power of Attorney.

Item 9. UNDERTAKINGS.

(a) The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

Provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the registration statement is on Form S-3 or Form S-8, and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to Directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a Director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such Director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

SIGNATURES

The Registrant. Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Midland, State of Michigan, on May 3, 2005.

THE DOW CHEMICAL COMPANY
(Registrant)

By: /S/ FRANK H. BROD
Frank H. Brod
Corporate Vice President
and Controller

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the date indicated.

A. A. ALLEMANG*

A. A. Allemang Director

J. K. BARTON*

J. K. Barton Director

F. H. BROD*

F. H. Brod Corporate Vice
President and
Controller (Principal
Accounting Officer)

A. J. CARBONE*

A. J. Carbone Director

J. M. COOK*

J. M. Cook Director

W. D. DAVIS*

W. D. Davis Director

<u>J. M. Fettig</u>	Director
<u>B. H. FRANKLIN*</u> B. H. Franklin	Director
<u>A. N. Liveris</u>	Director, President and Chief Executive Officer
<u>K. R. MCKENNON*</u> K. R. McKennon	Director
<u>J. P. REINHARD*</u> J. P. Reinhard	Director, Executive Vice President and Chief Financial Officer
<u>J. M. RINGLER*</u> J. M. Ringler	Director
<u>H. T. SHAPIRO*</u> H. T. Shapiro	Presiding Director
<u>W. S.</u> <u>STAVROPOULOS*</u> W. S. Stavropoulos	Director and Chairman of the Board
<u>P. G. STERN*</u> P. G. Stern	Director

*By: /S/ FRANK H. BROD
Frank H. Brod
Attorney-in-Fact

May 3, 2005

EXHIBIT INDEX

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EXHIBIT 5

OPINION OF COUNSEL

May 3, 2005

The Dow Chemical Company
2030 Dow Center
Midland, Michigan 48674

Ladies and Gentlemen:

I am Senior Managing Counsel - Corporate, Financial and Securities Law of The Dow Chemical Company, a Delaware corporation (the "Company"). Reference is hereby made to the Registration Statement on Form S-8 filed by the Company on the date hereof with the Securities and Exchange Commission, relating to the registration of 6 million shares of the Company's common stock, par value \$2.50 per share (the "Common Stock"), for The Dow Chemical Company 2003-2013 Employees' Stock Purchase Plan (the "Plan").

In rendering the opinions expressed below, I have supervised the examination of: (a) the Restated Certificate of Incorporation of the Company and all amendments thereto; (b) the Bylaws of the Company and all amendments thereto; (c) the Registration Statement on Form S-8; (d) resolutions of the Board of Directors of the Company; and (e) such other documents, corporate records and instruments as I have deemed necessary or advisable for the purpose of this opinion.

Based on the foregoing, and subject to the qualifications hereinafter set forth, it is my opinion that:

1. The Company is duly organized and existing under the laws of the State of Delaware; and
2. The Common Stock to be issued pursuant to the Plan is duly authorized for issuance and, when issued and delivered, will be legally issued, fully paid and nonassessable.

I do not express any opinion concerning matters under or involving any law other than the law of the State of Michigan, the General Corporation Law of the State of Delaware and applicable federal law of the United States of America. The opinions expressed herein are based upon the laws in effect on the date hereof, and I assume no obligation to revise or supplement this opinion should such laws be changed by legislative action, judicial decision or otherwise.

I hereby consent to the filing of this opinion as an exhibit to the Company's Registration Statement on Form S-8 and to the reference to me under the caption "Interests of Named Experts and Counsel" in the Registration Statement.

Very truly yours,

/S/ KENNETH D. ISLEY

Kenneth D. Isley
Senior Managing Counsel-
Corporate, Financial and Securities Law
The Dow Chemical Company

EXHIBIT 23(a)

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-8 of our reports dated February 9, 2005, relating to the consolidated financial statements and financial statement schedule (which report expresses an unqualified opinion and includes explanatory paragraphs relating to a change in method of accounting for goodwill to conform to Statement of Financial Accounting Standards ("SFAS") Nos. 141 and 142 and a change in the method of accounting for stock-based compensation to conform to SFAS No. 123 for new grants of equity instruments to employees) of The Dow Chemical Company, and relating to management's report on the effectiveness of internal control over financial reporting, appearing in the Annual Report on Form 10-K of The Dow Chemical Company for the year ended December 31, 2004.

We also consent to the reference to us under the heading "Item 3. Incorporation of Documents by Reference" in this Registration Statement.

/s/Deloitte & Touche LLP

Deloitte & Touche LLP

Midland, Michigan

April 29, 2005

Exhibit 23(b)
Analysis, Research & Planning Corporation's Consent

Regarding the Registration Statement on Form S-8 for The Dow Chemical Company 2003-2013 Employees' Stock Purchase Plan (the "Registration Statement"), Analysis, Research & Planning Corporation ("ARPC") hereby consents to the incorporation by reference in the Registration Statement of the use of ARPC's name and the reference to ARPC's reports dated January 9, 2003, January 26, 2004 and January 26, 2005 appearing in the Annual Report on Form 10-K of The Dow Chemical Company for the year ended December 31, 2004 and the Quarterly Report on Form 10-Q for The Dow Chemical Company for the quarter ended March 31, 2005.

/S/ B. THOMAS FLORENCE

B. Thomas Florence

President

Analysis, Research & Planning Corporation

April 29, 2005

Exhibit 24
Power of Attorney

Each person whose signature appears below constitutes and appoints J. Pedro Reinhard, Richard L. Manetta and Frank H. Brod, acting severally, as his or her attorney-in-fact and agent, to sign one or more registration statements on Form S-8 and any or all amendments (including post-effective amendments) to such registration statements in connection with the registration under the Securities Act of 1933 of shares of the common stock of The Dow Chemical Company in connection with the **2003-2013 Employees' Stock Purchase Plan** of The Dow Chemical Company, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting to said attorney-in-fact and agent full power and authority to perform any act in connection with any of the foregoing as fully to all intents and purposes as he or she might do in person, hereby ratifying and confirming all that said attorney-in-fact and agent may lawfully do or cause to be done by virtue hereof. Each attorney-in-fact and agent is hereby granted full power of substitution and revocation with respect hereto.

SIGNATURE	TITLE	DATE
<u>/S/ A.A. Allemang</u> A.A. Allemang	Director and Executive Vice President	July 25, 2003
<u>/S/ J.J. Barton</u> J.K. Barton	Director	July 25, 2003
<u>/S/ F.H. Brod</u> F.H. Brod	Vice President and Controller (Principal Accounting Officer)	July 24, 2003
<u>/S/ A.J. Carbone</u> A.J. Carbone	Director and Vice Chairman of the Board	July 25, 2003
<u>/S/ J.M. Cook</u> J.M. Cook	Director	July 25, 2003
<u>/S/ J.C. Danforth</u> J.C. Danforth	Director	July 25, 2003

<u>/S/ W.D. Davis</u> W.D. Davis	Director	July 28, 2003
<u>/S/ B.H. Franklin</u> B.H. Franklin	Director	July 28, 2003
<u>/S/ K.R. McKENNON</u> K.R. McKennon	Director	July 29, 2003
<u>/S/ J.P. Reinhard</u> J.P. Reinhard	Director, Executive Vice President and Chief Financial Officer	July 25, 2003
<u>/S/ H.T. Shapiro</u> H.T. Shapiro	Presiding Director	July 29, 2003
<u>/S/W.S.Stavropoulo s</u> W.S. Stavropoulos	Director, Chairman of the Board, President and Chief Executive Officer	July 24, 2003
<u>/S/ P.G. Stern</u> P.G. Stern	Director	July 25, 2003
<u>/S/J.M. Ringler</u> J.M. Ringler	Director	July 25, 2003