

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

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

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**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

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

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

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

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**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	\$18.09	\$108,540,000	\$6,056.53

## 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, 2008. (The consolidated financial statements and the related financial statement schedule, incorporated by reference from Dow's Current Report on Form 8-K, filed September 25, 2009, 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 Quarterly Reports on Form 10-Q for the quarters ended March 31, 2009, June 30, 2009 and September 30, 2009.

(c) Dow's Current Reports on Form 8-K filed or furnished, as the case may be, on January 6, 2009, January 6, 2009, January 26, 2009, February 3, 2009, February 3, 2009, February 19, 2009, March 6, 2009, March 9, 2009, March 10, 2009, March 12, 2009, April 1, 2009, April 7, 2009, April 7, 2009, April 30, 2009, May 5, 2009, May 11, 2009, May 14, 2009, May 26, 2009, May 26, 2009, June 11, 2009, July 1, 2009, July 16, 2009, July 28, 2009, July 30, 2009, August 7, 2009, August 17, 2009, September 25, 2009, October 22, 2009 and October 30, 2009.

(d) 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 Duncan A. Stuart, Associate General Counsel - Corporate Transactions for Dow. As of November 5, 2009, Mr. Stuart beneficially owned 11,270 deferred stock units and 6.771 shares of Dow common stock pursuant to various employee stock plans; and held options to purchase 63,270 shares of Dow common stock, of which options to purchase 36,949 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, 2007, incorporated herein by this reference.
4(a)(i)	Certificate of Designations for the Cumulative Convertible Perpetual Preferred Stock, Series A, as filed with the Secretary of State, State of Delaware on March 31, 2009, incorporated by reference to Exhibit 3.1 to The Dow Chemical Company Current Report on Form 8-K filed on April 1, 2009.
4(b)	Bylaws of The Dow Chemical Company, filed as Exhibit 99.1 to a Form 8-K filed on October 14, 2008, 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 Duncan A. Stuart, 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; and

(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 information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Securities and Exchange Commission 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 Securities Act of 1933 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 Securities Act of 1933 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 November 5, 2009.

THE DOW CHEMICAL COMPANY  
(Registrant)

By: /S/ WILLIAM H. WEIDEMAN  
William H. Weideman  
Vice President and Interim  
Chief Financial Officer

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

J. A BELL\*

J. A. Bell                            Director

J. M. FETTIG\*

J. M. Fettig                        Director

B. H. FRANKLIN\*

B. H. Franklin                      Director

J. B. HESS\*

J. B. Hess                           Director

A. N. LIVERIS\*

A. N. Liveris                        Director, President,  
Chief Executive  
Officer and Chairman

G. E. MERSZEI\*

G. E. Merszei Director

D. H. Reilley

Director

J. M. RINGLER\*

J. M. Ringler Director

R. G. SHAW\*

R. G. Shaw Director

P. G. STERN\*

P. G. Stern Presiding Director

/S/ R. C. EDMONDS

R. C. Edmonds Vice President and  
November 5, 2009 Controller (Principal  
Accounting Officer)

/S/ W. H. WEIDEMAN

W. H. Weideman Vice President and  
November 5, 2009 Interim Chief  
Financial Officer

\*By: /S/ WILLIAM H. WEIDEMAN

William H. Weideman  
Attorney-in-Fact

November 5, 2009



# EXHIBIT INDEX

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24	Power of Attorney.	14-15

EXHIBIT 5

OPINION OF COUNSEL

November 5, 2009

The Dow Chemical Company  
2030 Dow Center  
Midland, Michigan 48674

Ladies and Gentlemen:

I am Associate General Counsel - Corporate Transactions 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/ DUNCAN A. STUART

Duncan A. Stuart  
Associate General Counsel -  
Corporate Transactions  
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 report dated February 17, 2009 (September 25, 2009 as to the effects of the retrospective adjustments disclosed in Notes A, T, and V), relating to the consolidated financial statements and financial statement schedule of The Dow Chemical Company (the "Company")(which report expresses an unqualified opinion and includes explanatory paragraphs relating to the Company's involvement in litigation related to an agreement to acquire Rohm and Haas Company and relating to a change in method of accounting for defined benefit pension and other postretirement plans to conform to Statement of Financial Accounting Standards No. 158)included in the Current Report on Form 8-K dated September 25, 2009, and our report dated February 17, 2009, relating to the effectiveness of internal control over financial reporting, appearing in the Annual Report on Form 10-K of the Company for the year ended December 31, 2008.

/S/ DELOITTE & TOUCHE LLP

Deloitte & Touche LLP

Midland, Michigan

November 3, 2009

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 appearing in the Annual Report on Form 10-K of The Dow Chemical Company for the year ended December 31, 2008; and the Quarterly Reports on Form 10-Q of The Dow Chemical Company for the quarters ended March 31, 2009, June 30, 2009 and September 30, 2009.

/S/ B. THOMAS FLORENCE

B. Thomas Florence

President

Analysis, Research & Planning Corporation

November 5, 2009

Exhibit 24  
Power of Attorney

Each person whose signature appears below constitutes and appoints Geoffery E. Merszei, Charles J. Kalil and William H. Weideman, 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 pursuant to the **2003-2013 Employees' Stock Purchase Plan**, 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> <b>A.A. Allemang</b>	Director and Senior Consultant	October 12, 2006
<u>/S/ J.K. Barton</u> <b>J.K. Barton</b>	Director	October 12, 2006
<u>/S/ J. A. Bell</u> <b>J. A. Bell</b>	Director	October 12, 2006
<u>/S/ J. M. Fettig</u> <b>J. M. Fettig</b>	Director	October 12, 2006
<u>/S/ B.H. Franklin</u> <b>B.H. Franklin</b>	Director	October 12, 2006

<u>/S/ J. B. Hess</u> <b>J. B. Hess</b>	Director	October 12, 2006
<u>/S/ A. N. Liveris</u> <b>A. N. Liveris</b>	Director, Chairman, President and Chief Executive Officer	October 12, 2006
<u>/S/ G. E. Merszei</u> <b>G. E. Merszei</b>	Director, Executive Vice President and Chief Financial Officer	October 12, 2006
<u>/S/ J.P. Reinhard</u> <b>J.P. Reinhard</b>	Director	October 12, 2006
<u>/S/ J.M. Ringler</u> <b>J.M. Ringler</b>	Director	October 12, 2006
<u>/S/ R. G. Shaw</u> <b>R. G. Shaw</b>	Director	October 12, 2006
<u>/S/ P.G. Stern</u> <b>P.G. Stern</b>	Presiding Director	October 12, 2006
<u>/S/ W.H. WEIDEMAN</u> <b>W. H. Weideman</b>	Vice President and Controller (Principal Accounting Officer)	October 10, 2006