



# The Dow Chemical Company

Midland, Michigan 48674

August 15, 2005

2005 AUG 17 P 3 30

OFFICE OF THE  
CHIEF COUNSEL

Ms. Kathleen C. DeMeter, Director  
Office of Defects Investigation Enforcement  
U.S. Department of Transportation  
National Highway Traffic Safety Administration  
400 Seventh Street, S.W.  
Washington, D.C. 20590

Re: NVS-214 BBY EA05-005 Request for Brake Fluid Information from Dow Automotive

Dear Ms. DeMeter:

Please find enclosed answers relative to your request for information dated July 21, 2005 relative to the above-referenced matter. Please be aware that Dow Automotive is a Business Unit of The Dow Chemical Company and the proper corporate entity for future reference is The Dow Chemical Company. In response to your request, attached are three copies of the requested documents and a disc with an electronic copy of the documents. Of the three copies, two are unmarked and the third is redacted to remove confidential information. Also, attached is a copy of a letter to the Chief Counsel for the National Highway Transportation Safety Administration requesting that certain of the information contained in the above-referenced documents be treated as confidential business information. In particular, the confidential business information contained in the documents is information about the components and amounts of components contained in the brake fluid for which you have requested information. Pursuant to 49 CFR 512.20, this information must be retained as confidential until such time as a ruling is issued by the Chief Counsel for your agency.

Submitted herewith relative to the information Request 1 is an Excel spreadsheet showing the model, year and part number of brake fluids sold by The Dow Chemical Company to Ford for the requested models and years. Relative to Request 2, enclosed please find an MSDS for brake fluid 50-4. With respect to Request 3, enclosed please find a Word document containing the composition information of the single fluid used for all of the requested makes and model years. This document also confirms that no significant changes in the composition were made since introduction of the brake fluid. Only the Word document disclosing the specific components and their amounts contains Confidential Business Information.

If you require further information, please feel free to contact the undersigned at your convenience.

Sincerely,

Norman L. Sims  
Patent Counsel  
Dow Automotive  
1250 Harmon Road  
Auburn Hills, MI 48326  
248/391-6455-phone  
248/391-6550-facsimile  
nlsims@dow.com

NLS:mfm

Attachment



2. Provide the Material Safety Data Sheets for each of the brake fluids identified in response to question 1.

MATERIAL SAFETY DATA SHEET PAGE: 1

This material safety data sheet is for informational purposes.  
Assure that you have the most current version from your glycol ether supplier.

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

24-HOUR EMERGENCY PHONE NUMBER: 517-536-4400

Product: BRAKE FLUID HD 50-1

Product Code: 10899

Effective Date: 03/10/99 Date printed: 04/08/99 MSD: 000368

The Dow Chemical Company, Midland, MI 48674

Customer Information Center: 800-255-2436

2. COMPOSITION/INFORMATION ON INGREDIENTS

Proprietary mixture of glycol ethers, polyglycols, glycols, oxidation inhibitors, and corrosion inhibitors.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

\*\*\*\*\*  
\* Light yellow to orange-brown liquid. Mild odor. Toxic fumes are \*  
\* released in fire situations. \*  
\* \*  
\*\*\*\*\*

POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data.)

EYE: May cause slight eye irritation. May cause very slight transient (temporary) corneal injury.

SKIN: Prolonged or repeated exposure not likely to cause significant skin irritation. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

INGESTION: Single dose oral toxicity is considered to be low. Small amounts swallowed incidental to normal handling operations that are not likely to cause injury; swallowing amounts larger than that may cause injury.

INHALATION: At room temperature, vapors are minimal due to physical properties; a single exposure is not likely to be hazardous.

(Continued on Page 2)

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Product Name: BRAKE FLUID HD 50-4  
Product Code: 10899

Effective Date: 03/10/99

Date Printed: 04/08/99

MSD: 000368

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#### 4. FIRST AID

EYE: Flush eyes with plenty of water.

SKIN: Wash off in flowing water or shower.

INGESTION: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

INHALATION: Remove to fresh air if effects occur. Consult a physician.

NOTE TO PHYSICIAN: No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

#### 5. FIRE FIGHTING MEASURES

##### FLAMMABLE PROPERTIES

FLASH POINT: 312F, 156C

METHOD USED: EMCC

AUTOIGNITION TEMPERATURE: 606F, 319C

##### FLAMMABILITY LIMITS

LFL: Not determined.

UFL: Not determined.

HAZARDOUS COMBUSTION PRODUCTS: During a fire, smoke may contain the original material in addition to unidentified toxic and/or irritating compounds. Hazardous combustion products may include and are not limited to: carbon monoxide, carbon dioxide.

OTHER FLAMMABILITY INFORMATION: Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Spills of these organic liquids on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

EXTINGUISHING MEDIA: Water fog or fine spray, carbon dioxide, dry chemical, foam. Alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively. Do not use direct water stream. Will spread fire.

MEDIA TO BE AVOIDED: Do not use direct water stream.

(Continued on Page 3)

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5. FIRE FIGHTING MEASURES (CONTINUED)

**FIRE FIGHTING INSTRUCTIONS:** Keep people away. Isolate fire area and deny unnecessary entry. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire.

**PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES (See Section 15 for Regulatory Information)

**PROTECT PEOPLE:** Isolate area.

**PROTECT THE ENVIRONMENT:** Contain liquid to prevent contamination of soil, surface water or ground water.

**CLEANUP:** Clean up with absorbent material. Collect material in suitable and properly labeled open containers.

7. HANDLING AND STORAGE

**HANDLING:** Refer to "Exposure Controls/Personal Protection", Section 8, of the MSDS.

**STORAGE:** Keep containers tightly closed when not in use. Protect from atmospheric moisture.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**ENGINEERING CONTROLS:** Good general ventilation should be sufficient for most conditions.

**PERSONAL PROTECTIVE EQUIPMENT**

**EYE/FACE PROTECTION:** Use safety glasses.

**SKIN PROTECTION:** No precautions other than clean body-covering clothing should be needed.

**RESPIRATORY PROTECTION:** No respiratory protection should be

(Continued on Page 4)

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MSD: 000368

8. EXPOSURE CONTROLS/PERSONAL PROTECTION (CONTINUED)

needed.

EXPOSURE GUIDELINE(S): None established.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Light yellow to orange-brown liquid.

ODOR: Mild odor.

VAPOR PRESSURE: (mmHg @ 20C) low

VAPOR DENSITY: Not determined.

BOILING POINT: 550F, 288C min.

SOLOBILITY IN WATER: Infinite

SPECIFIC GRAVITY: 1.035

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable.

CONDITIONS TO AVOID: Active ingredient decomposes at elevated temperatures. Product can decompose at elevated temperatures.

INCOMPATIBILITY WITH OTHER MATERIALS: Avoid contact with oxidizing materials.

HAZARDOUS DECOMPOSITION PRODUCTS: Hazardous decomposition products depend upon temperature, air supply and the presence of other materials.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION (See Section 3 for Potential Health Effects. For detailed toxicological data, write or call the address or non-emergency number shown in Section 1)

SKIN: The LD50 for skin absorption in rabbits is >2000 mg/kg.

INGESTION: The oral LD50 for female rats is 4300 - 5670 mg/kg.

12. ECOLOGICAL INFORMATION (For detailed Ecological data, write or call the address or non-emergency number shown in Section 1)

ENVIRONMENTAL FATE

MOVEMENT & PARTITIONING: No bioconcentration is expected because of the relatively high water solubility. Potential for mobility in soil is very high ( $K_{oc}$  between 0 and 50).

(Continued on Page 5)

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Product Name: BRAKE FLUID HD 50-4

Product Code: 10899

Effective Date: 03/10/99

Date Printed: 04/08/99

MSD: 00036B

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**12. ECOLOGICAL INFORMATION** (For detailed Ecological data, write or call

Soil organic carbon/water partition coefficient (K<sub>oc</sub>) is estimated to be <50.

**DEGRADATION & PERSISTENCE:** No relevant information found.

**ECOTOXICITY:** No relevant information found.

**13. DISPOSAL CONSIDERATIONS** (See Section 15 for Regulatory Information)

**DISPOSAL:** DO NOT DUMP INTO ANY SEWERS, ON THE GROUND OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. THE DOW CHEMICAL COMPANY HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2 (Composition/Information On Ingredients).

FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: recycler, reclaimer, incinerator or other thermal destruction device.

As a service to its customers, Dow can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums. Telephone Dow's Customer Information Center at 800-258-2436 or 517-832-1556 for further details.

**14. TRANSPORT INFORMATION**

**DEPARTMENT OF TRANSPORTATION (D.O.T.):** For DOT regulatory information, if required, consult transportation regulations, product shipping papers or contact your Dow representative.

**CANADIAN TDG INFORMATION:**

For TDG regulatory information, if required, consult transportation regulations, product shipping papers, or your Dow representative.

(Continued on Page 6)

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15. REGULATORY INFORMATION (Not meant to be all-inclusive--selected regulations represented)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

U.S. REGULATIONS

SARA 313 INFORMATION: To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Not to have met any hazard category

TOXIC SUBSTANCES CONTROL ACT (TSCA):

All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

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STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

(Continued on Page 7)

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REGULATORY INFORMATION: (CONTINUED)

CHEMICAL NAME	CAS NUMBER	LIST
PROPRIETARY INGREDIENT	PROPRIETARY	X

X -This product contains proprietary ingredient(s) listed by one or more states.

## OSHA HAZARD COMMUNICATION STANDARD:

This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CANADIAN REGULATIONS

WHMIS INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is:

This product is not a "Controlled Product" under WHMIS.

## 16. OTHER INFORMATION

MSDS STATUS: Revised Sections 3, 4, 8, 12, 13.

## HAZARD RATING SYSTEMS:

## NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

Health	1
Flammability	1
Reactivity	0

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The Information Herein Is Given In Good Faith, But No Warranty,  
Express Or Implied, Is Made. Consult The Dow Chemical Company For  
Further Information.

3. For each part number of brake fluid(s) identified in response to question number 1, provide the original chemical composition of the brake fluid.

- a. *All makes, all model years*
- b. *N/A*
- c. *N/A*
- d. *N/A*
- e. *N/A*
- f. *N/A*

*- No significant modifications have been made by or on behalf of Dow Automotive on HD50-4 brake fluid since product was initially launched (1965)*