

EXHIBIT 32.1

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

I, Coley L. Bailey, Chief Executive Officer of Mississippi Chemical Corporation (the "Company"), hereby certify that the accompanying annual report on Form 10-K/A for the fiscal year ended June 30, 2004, filed with the Securities and Exchange Commission on the date hereof pursuant to Section 13(a) of the Securities Exchange Act of 1934 (the "Report") by the Company fully complies with the requirements of that section.

I further certify that the information contained in the Report fairly presents, in all material aspects, the financial condition and results of operations of the Company.

/s/ Coley L. Bailey

Coley L. Bailey

Chief Executive Officer

October 6, 2004