

# ABSTRACT

Dust from blackboard chalk may contaminate samples with its coccoliths, diatoms and microforaminifera.

## Chalk crayons and microfossil contamination

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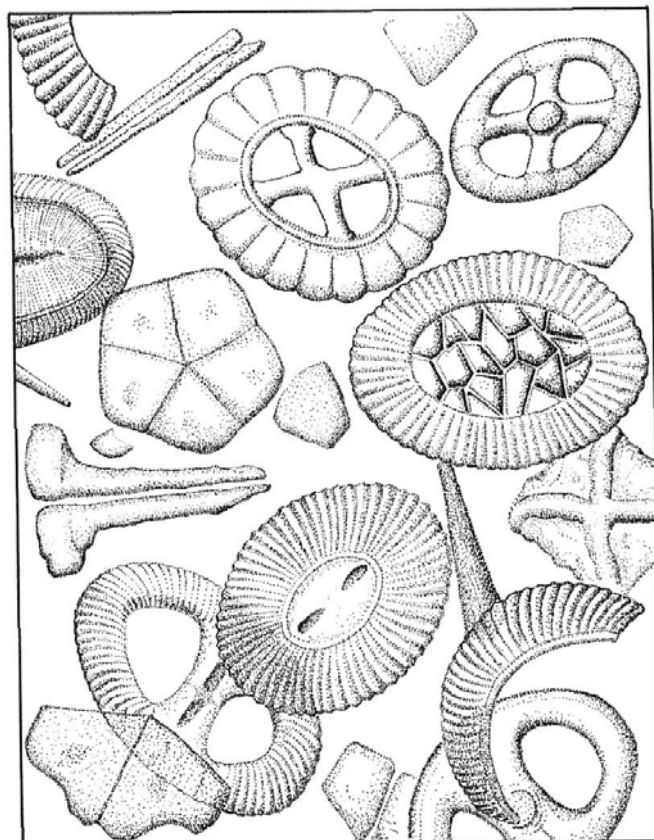
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In the October, 1962, issue of MICROPALAEONTOLOGY, John C. Fisher (p. 508) pointed out an unexpected source of organic contamination discovered in the residue of technical-grade hydrochloric acid. Contamination from this source to samples processed for palynology and other aspects of micropaleontology could unquestionably result in serious misinterpretations and involve unnecessary work.

Another source of contamination which might be suspected but often overlooked is dust from blackboard chalk, an ever-present hazard in the air and professorial coat sleeves of most university laboratories. Recently, in a routine laboratory exercise on the preparation and study of coccoliths, we disaggregated several samples of white and colored blackboard chalk. To the moderate surprise of some who believed modern chalk crayons were of synthetic composition, well-preserved coccoliths (text-figure 1), microforaminifera, and fragments of diatoms were found. In samples of colored chalk, diatoms were predominant.

Because of student interest, we further investigated these occurrences. As an exercise in sample preparation, three common methods were used. In the first method the chalk was pulverized and mixed with distilled water. Slides were then prepared from the suspended material after an appropriate interval of time for settling. Chalk was dissolved in cold technical-grade hydrofluoric acid in the second method, then washed and mounted in the standard manner. The third procedure involved dissolving the chalk in a 10% solution of reagent-grade hydrochloric acid and then preparing slides from the washed residue.



TEXT-FIGURE 1

Coccoliths in white chalk crayons.

The microfossils detected in each of the above preparations are listed as follows:

| Type of chalk crayon | H <sub>2</sub> O preparation  | HF preparation   | HCL preparation            |
|----------------------|---|--|----------------------------|
| White crayon         | Abundant coccoliths:<br><i>Coccolithus</i><br><i>Discolithus</i><br><i>Zygolithus</i><br><i>Rhabdosphaera</i><br><i>Braarudosphaera</i><br>Rare microforaminiferal tests<br>Rare diatom fragments | Common, easily identifiable microforaminifera<br><br>Common coccoliths | Very rare diatom fragments |
| Colored crayon       | Abundant, well-preserved diatoms  | No remains   | Common diatoms             |