



A chemical investigation of some silicates containing chlorine, sulphuric and carbonic acid

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To cite this article: M. Whitney (1847) A chemical investigation of some silicates containing chlorine, sulphuric and carbonic acid, Philosophical Magazine Series 3, 30:204, 528-529, DOI: [10.1080/14786444708645768](https://doi.org/10.1080/14786444708645768)

To link to this article: <http://dx.doi.org/10.1080/14786444708645768>



Published online: 30 Apr 2009.



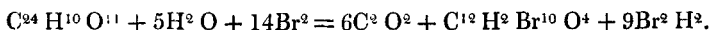
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On account of the decomposition of this substance by the alkalies the author proposes to call it *bromoxaform*. In this operation there is then first a case of oxidizement which resolves the molecule of citric acid into more simple products; then the bromine acting by itself on one of the products formed, gives rise to a phenomenon of substitution.

On observing the preceding product so readily decomposed on the presence of bases and of water, may it not be admitted that this compound is first formed, and that the bromoform is merely the result of a secondary action?

The citrates of soda and barytes act in the same manner as the citrate of potash, bromoform and the crystalline matter being both obtained with them.—*Ann. de Ch. et de Ph.*, Avril 1847.

A CHEMICAL INVESTIGATION OF SOME SILICATES CONTAINING CHLORINE, SULPHURIC AND CARBONIC ACID. BY M. WHITNEY OF BOSTON, UNITED STATES.

Long ago Arfvedson observed, in examining sodalite, that it dissolved entirely in nitric acid, although it formed a gelatine with hydrochloric acid. Gustave Rose made a similar observation upon cancrinite from the Ilmen mountains, which dissolves to a clear liquid in concentrated hydrochloric acid, but suddenly gelatinizes on boiling. Mr. Whitney found that a whole series of silicates, which, as regards composition, exhibit great similarity to the above minerals, possess the property of dissolving to a clear liquid in all dilute acids. All these minerals gelatinize with concentrated acids, with the exception of cancrinite, which is likewise soluble in them. To this series belongs, besides sodalite and the cancrinite from the Ilmen mountains, *elæolite* from Litchfield (Maine), *noseau* from the Lachersee, *hauijne* from the Albanese mountains and from Niedermeinig, and the cancrinite discovered by Dr. Jackson of Boston, along with the above *elæolite* at Litchfield.

The author has examined all these minerals with the greatest care, and the following are the interesting results of his investigation:—sodalite, *noseau* and *hauijne*, may be regarded as combinations of a silicate of alumina and soda, of the composition $NaO Si O^3 + 3(Al^2 O^3 Si O^3)$, with chloride of sodium, sulphate of soda, and sulphate of lime. This silicate has hitherto never been met with in the isolated state. It possesses the composition which was formerly ascribed to *elæolite*. The following are the formulæ of the minerals under consideration:—

$NaO Si O^3 + 3Al^2 O^3 Si O^3 + Na Cl$, sodalite.

$NaO Si O^3 + 3Al^2 O^3 Si O^3 + NaO SO^3$, *noseane*.

$NaO Si O^3 + 3Al^2 O^3 Si O^3 + 2CaO SO^3$, *hauyne* from Albanese mountains.

$NaO Si O^3 + 3Al^2 O^3 Si O^3 + NaO SO^3$ } *hauyne* from Niederme-
 $2(NaO SO^3 + 3Al^2 O^3 Si O^3 + 2CaO SO^3)$ } nig.

The cancrinite from the Ilmen mountains and that from Litchfield are combinations of true elæolite, $2\text{NaO Si O}_3 + 2(\text{Al}^3 \text{O}_3 \text{ Si O}_3)$, with carbonate of lime and carbonate of soda.

$\text{Na}_2 \text{O}^2 \text{ Si O}_3 + 2\text{Al}^3 \text{O}^3 \text{ Si O}_3 + \text{CaO CO}_2$, cancrinite from Ilmen mountains.

$\text{Na}_2 \text{O}^2 \text{ Si O}_3 + 2\text{Al}^3 \text{O}^3 \text{ Si O}_3 + \left\{ \begin{array}{l} \frac{1}{2} \text{NaO} \\ \frac{1}{2} \text{CaO} \end{array} \right\} \text{CO}_2 + \text{HO}$, cancrinite from Litchfield.—*Bericht der Berliner Akademie*, Feb. 1847.

NEW BOOKS.

Scientific Memoirs, Part XVII., commencing the 5th Volume, containing Schmidt's Contributions to the Comparative Physiology of the Invertebrate Animals, being a Physiologico-Chemical Investigation; Fresnel on the Colours produced in Homogeneous Fluids by Polarized Light; Jamin on Metallic Reflexion; Dove's Researches on the Electricity of Induction.

Manual of British Botany, containing the Flowering Plants and Ferns arranged according to the Natural Orders, by Charles Cardale Babbage, M.A., F.L.S. &c. 2nd edit.

The Elements of Botany, Structural and Physiological, by John Lindley, Ph.D., F.R.S. &c. 3rd edit.

METEOROLOGICAL OBSERVATIONS FOR APRIL 1847.

Chiswick.—April 1. Slight haze: sleet and hail-showers: frosty. 2. Overcast. 3. Cloudy and cold: rain. 4. Overcast. 5. Cloudy: fine. 6. Cloudy: rain at night. 7. Cloudy: rain. 8. Rain: cloudy: clear. 9. Clear and cold. 10. Cloudy: fine. 11. Uniformly overcast: rain. 12. Rain: cloudy. 13. Densely clouded. 14. Bleak and cold: slight hail-showers. 15. Snow and hail: clear, cold and dry: sharp frost at night. 16. Sharp frost: clear and cold. 17. Frosty and foggy: cold and dry. 18. Clear. 19. Clear: cloudy: slight frost. 20. Foggy: fine, with sun: cloudy. 21. Clear: overcast. 22. Cold haze: frosty. 23. Fine: clear at night. 24. Slight haze: fine, with sun: frosty. 25. Foggy: fine. 26. Rain: overcast. 27. Boisterous, with showers. 28. Fine: showery. 29. Heavy showers, partly hail: thunder. 30. Clear: heavy clouds and showers.
 Mean temperature of the month 44°·28
 Mean temperature of April 1846 47°·36
 Mean temperature of April for the last twenty years ... 47°·20
 Average amount of rain in April 1·47 inch.

Boston.—April 1. Cloudy: snow A.M. and P.M.: rain yesterday. 2. Cloudy: large fall of snow A.M.: rain P.M. 3. Cloudy: snow A.M.: rain P.M. 4—6. Fine. 7. Cloudy. 8. Rain: rain early A.M.: stormy, with rain P.M. 9. Stormy. 10. Fine. 11. Fine: rain A.M. and P.M. 12, 13. Cloudy. 14. Fine. 15. Cloudy: snow-showers. 16. Fine. 17, 18. Fine: ice this morning. 19. Cloudy. 20—23. Fine. 24. Fine: rain P.M. 25. Cloudy: rain and hail P.M. 26. Rain: rain A.M. 27. Windy: rain P.M. 28. Windy. 29. Fine. 30. Cloudy: thunder and rain P.M.

Sandwich Manse, Orkney.—April 1. Snowing: snow. 2. Snowing: showers: snow-showers. 3. Cloudy. 4. Bright: damp. 5. Sleet-showers: showers. 6. Bright: showers. 7. Bright: hail-showers: aurora. 8. Rain: showers. 9. Showers: clear: aurora. 10. Clear. 11. Clear: rain. 12. Bright: cloudy. 13. Snow-showers: cloudy. 14, 15. Cloudy. 16. Clear: cloudy. 17. Showers: clear. 18. Showers: cloudy. 19. Fine: clear. 20. Showers: clear. 21. Cloudy: clear: frost. 22. Bright: cloudy. 23. Bright: showers. 24. Showers: drops. 25. Bright: cloudy. 26. Bright: clear. 27. Bright: rain. 28. Showers: drizzle. 29, 30. Bright: clear.