

VI.—*Note on the Identification of Basic Salts.*

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Basic Salts are prepared by the action of water or of bases—potash, ammonia, etc.—on the “normal” salts of most of the metals; in composition they stand intermediate between the normal salts and the oxides (bases), hence the name “Basic Salt.” Some are well defined crystalline compounds, but the greater number are known only as amorphous, muddy precipitates, whose composition varies with the concentration and temperature of the solutions and even with the order of mixing the ingredients from which they are prepared.

When the basic salt, besides being amorphous, is insoluble, non-volatile, and infusible—and this is the rule rather than the exception—it is quite impossible to purify it by any of the usual means; and as the removal of the mother-liquors by washing with water can be resorted to only when special experiments have shown that the composition of the precipitate is not affected by such treatment, even the ultimate analysis of the crude precipitate is not unattended with difficulties.

In the article “Antimoine” in the *Encyclopédie Chimique*, M. Guntz quotes analyses of an oxychloride of antimony by four different chemists; the percentage of chlorine varies from 11.25% to 7.8%. As experiments carried out by Mr. Good (referred to below) show that the substances analysed with such discrepant results were in all probability one and the same chemical compound, M. Guntz’s conjecture that the material for analysis was washed too much by some of the analysts, and that the others, may be accepted as correct.

When the allocation of formulæ is apt to be somewhat liberal, the authors distribute them with a lavish hand, and apply the term “amorphous finely-divided precipitates” with a view to the recognition of chemical individuality; while the more conservative describe the same precipitates as “impure modifications of compounds” which have already found their way into the literature. Glauber took a cautious course; after analysing the substance sometimes produced when cupric chloride is dissolved in water, he says:—“Although the salt is evidently somewhat irregular in composition, it approaches nearer [within 2-3%] to the oxychloride