

minutes a constant reading was obtained. Two cc. more acid was added with no change in the reading taking place. The acidity of the solution was insufficient to dissolve the subcarbonate. This mixture gave an initial voltage reading of 0.0752, the silver electrode being positive.

Using the value 0.497 volt, obtained by Smith and Giesy,¹ for the potential difference between a silver electrode in a solution which is normal with respect to silver-ions and a saturated KCl-calomel half cell, the p_{Ag} of the bismuth subcarbonate mixture was 8.2. This is equivalent to the amount of silver present in a saturated solution of silver iodide, or in the vicinity of 0.000035 part in 100 parts of solution at 21° C.

In another experiment 50 Gm. of bismuth subcarbonate was extracted with aqueous ammonia. After boiling off the ammonia, the solution was tested as above. No evidence of the presence of silver was obtained.

In determining the action of air and sunlight on the subcarbonate the following work was carried out:

Sample no.	Time.	Treatment.	Results.
1	12 hrs.	Enclosed in pyrex desiccator and exposed to sunlight	No change
2	48 hrs.	Exposed to air but not to sunlight	No change
3	12 hrs. Sun 48 hrs. Air	Exposed to both air and sunlight	Brownish coloration
4	15 hrs.	Enclosed in flint bottle and exposed to sunlight	Brownish coloration
5	15 hrs.	Enclosed in blue bottle and exposed to sunlight	Brownish coloration
6	15 hrs.	Enclosed in amber bottle and exposed to sunlight	No change

We desire to express our thanks to Mr. Benjamin Stadholz for assistance in the experimental work.

SUMMARY.

Bismuth subcarbonate develops a brownish coloration when exposed to sunlight. This is apparently a characteristic of the compound itself and not due to impurities either in the atmosphere or contaminating the product. The most effective means of overcoming this difficulty is to market the material in amber bottles or suitable paper cartons.

LABORATORIES OF
E. R. SQUIBB & SONS,
BROOKLYN, N. Y.

GRUBSTAKING LICORICE DIGGERS IN CHINA.

The chief licorice-producing area in China is the Ordos territory, a steppe lying to the north of Shen-Si Province, formerly belonging to Inner Mongolia. The licorice export business of this region is almost monopolized by the merchants of Paote.

Licorice root is gathered by a class of diggers who offer their services for hire to the Paote merchants. Every spring Paote merchants establish their headquarters at Ho-kau and other points near the Ordos territory. From their headquarters collecting agencies are

maintained in different parts of the desert. To these agencies licorice diggers report themselves for work.

When a digger is enrolled by a licorice-collecting agency he is given provisions to last several months and also the loan of digging implements, but no wages. He then sets out for the wilderness to search for the plant. On his return he sells his finds to the collecting agency. The digger is bound by contract to sell the plant to no person but the collector from whom he has obtained provisions and the loan of digging implements.—*Chinese Economic Bulletin.*