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Technical Report

PREPARATION OF HIGH-PURITY GRADE AMMONIUM SULFATE FROM LOCALLY AVAILABLE PRODUCTS (A BRIEF REPORT).

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Precipitation of proteins can be achieved, by the addition of various salts, among which, ammonium sulfate (A.S) is superior, because of it's high solubility and its being exothermic when redissolved.

Attempts were therefore made to purify the locally available A.S, mainly containing ferrous sulfate as a major impurity element.

The crude salt, containing about 25% ferrous sulfate is dissolved in distilled water, to which, concentrated nitric acid is sufficiently added, and the mixture is brought to boiling, and fianlly ammonia is added to produce a jelly precipitate of ferric hydroxide.

The sediment is removed by filtration, and the filtrate is then evaporated to recrystallize iron-free A.S.

Antidiphtheria plasma was purified,using both crude

and partially purified A.S, and the products thus obtained were injected to gunia pigs, for comparing the innocuity of the two biologics, as reflected in table 1.

Both products were then subjected compactively, to antibody titration and neutralyzation tests, as demonstrated in table 2.

Table 1:

	Guina pig No	Initial weight	Material 5ml S/C	weight after 5 week
Comercial A.S	1	310 gr	Serum lot 883	352
	2	314 "	" " 884	325
	3	338 "	" " 885	390
Crude A.S	1	347 gr	Serum lot 886	490
	2	388 "	" " 887	404
	3	378 "	" " 888	412

Table 2:

Test No	Crude A.S		Commeric l A.S	
	in-vitro Au/ml	in-vivo Iu.A/ml	in-vitro Au/ml	in-vivo Iu.A/ml
1	1800	2300	1800	2300
2	1500	2300	1500	2300
3	1900	2200	1950	2200
4	2000	2400	2000	2400
5	1300	2400	1300	2400
6	1600	2400	1500	2400
7	1500	2400	1500	2400

RESULTS:

Investigation of tab le 1 and 2 reveal that the purified A.S gives better results with respect to in-vivo and in-vitro studies of antitoxins, as compared with those of the commercial salts imported and available in the market .