

## REFERENCES.

- (1) Fränkel, "Arzneimittel Synthese," 6th Edition, pages 348-391; McElvain, *J. Am. Chem. Soc.*, 46 (1924), 1721; *Ibid.*, 48 (1926), 2179; *Ibid.*, 48 (1926), 2239; *Ibid.*, 49 (1927), 2835; McElvain and co-workers, *Ibid.*, 46 (1924), 1221; *Ibid.*, 49 (1927), 2862; *Ibid.*, 50 (1928), 3348; *Ibid.*, 51 (1929), 922; *Ibid.*, 51 (1929), 887; *Ibid.*, 52 (1930), 1633; Gilman and Pickens, *Ibid.*, 47 (1925), 245; Gilman, Heckert and McCracken, *Ibid.*, 50 (1928), 437; Adams and co-workers, *Ibid.*, 48 (1926), 1758; *Ibid.*, 49 (1927), 1303; *Ibid.*, 49 (1927), 1307; Jones and Major, *Ibid.*, 49 (1927), 1527; Marvel and Sandborn, *Ibid.*, 50 (1928), 563; Marvel and Shelton, *Ibid.*, 51 (1929), 915; Blicke and Blake, *Ibid.*, 52 (1930), 235; Bolyard, *Ibid.*, 52 (1930), 1030; Hartung and Munch, *Ibid.*, 51 (1930), 2570.
- (2) Henry, *Ber.*, 28 (1895), 851.
- (3) This was prepared by using the method of Henry, *Ber.*, 28 (1895), 851. Specific gravity at 20° C., 0.8526.

## TOXICITY OF METHANOL.

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A total of 77 white rats were given very pure<sup>1</sup> methanol and ethanol by stomach-tube. Concentrations of 40-50% by volume were administered.

Toxicity was studied for single doses and for doses repeated once and twice at intervals of one day.

## ETHANOL.

Mols./100 Gm.	Cc./100 Gm.	One Dose.		Two Doses.		Three Doses.	
		Killed.	Lived.	Killed.	Lived.	Killed.	Lived.
0.022	1.3	...	1	...	...	...	...
0.021	1.25	1	...	...	...	...	...
0.018	1.07	5	...	...	...	...	...
0.014	0.84	...	..	...	1	1	...
0.013	0.75	2	...	2	3	1	1
0.01	0.6	...	...	2	...	1	2

## METHANOL.

0.036	1.47	1	...	...	...	...	...
0.031	1.25	5	4	...	...	...	...
0.025	1.00	3	5	1	1	...	...
0.019	0.75	2	...	5	1	...	...
0.016	0.66	...	...	...	...	5	5
0.012	0.5	...	...	...	8	1	2
0.01	0.4	...	...	...	...	1	4

All of the rats that did not die regained strength and weight rapidly, giving every appearance of being normal.

Irritation of the eyes was observed only in the case of some of the animals that finally died.

From these data it would appear that very pure methanol is slightly less toxic for rats than is pure ethanol even in repeated doses.

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<sup>1</sup> Methods of purification and tests for purity are described in another paper to be printed in THIS JOURNAL.