RICCA CHEMICAL COMPANY®
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Composition of Concentrated Reagent Grade Acids, Ammonium Hydroxide, and Sodium and Potassium Hydroxide Solutions

Concentrated Reagent	Chemical Formula	Formula Weight	Approximate Strength (%w/w)	ACS Assay Limits (%w/w)	Molarity (M)	Quantity to Prepare 1L of 1M Solution (mL)	Normality (N)	Quantity to Prepare 1L of 1N Solution (mL)
Acetic Acid	CH_3COOH	60.05	99.8	≥99.7%	17.4	57.5	17.4	57.5
Formic Acid	HCOOH	46.03	90.0	88.0-96.0%	23.6	42.5	23.6	42.5
Hydrochloric Acid	HCl	36.46	37.2	36.5-38.0%	12.1	82.5	12.1	82.5
Hydrofluoric Acid	HF	20.01	49.0	48.0-51.0%	28.9	34.5	28.9	34.5
Nitric Acid	HNO_3	63.01	70.0	68.0-70.0%	15.9	63.0	15.9	63.0
Nitric Acid (Fuming)	HNO_3	63.01	90.0	≥90.0%	N/A	N/A	N/A	N/A
Perchloric Acid	$HClO_4$	100.46	61.3	60.0-62.0%	11.7	85.5	11.7	85.5
Perchloric Acid	$HClO_4$	100.46	70.5	69.0-72.0%	9.5	105.5	9.5	105.5
Phosphoric Acid	H_3PO_4	98.00	85.5	≥85.0%	14.8	67.5	44.4	22.5
Sulfuric Acid	H_2SO_4	98.07	96.0	95.0-98.0%	18.0	55.5	36.0	28.0
Ammonium Hydroxide	NH_4OH	35.05	29.0 as NH_3	28.0-30.0% as NH_3	14.5	69.0	14.5	69.0
Potassium Hydroxide	KOH	56.11	45.0 as a solution	≥85% as pellets 45.0-46.0% as solution	11.7	85.5	11.7	85.5
Sodium Hydroxide	NaOH	40.00	50.5 as a solution	≥97% as pellets 50.0-52.0% as solution	19.4	51.5	19.4	51.5

This table is based on values established by the ACS on reagent Chemicals.