Table of Common Phosphate Additives

Name	Molecular Formula and Weight (MW)	P Conversion Factor	Accompanying Mineral Conversion Factor
Calcium Based (Molecular Weight of Calcium = 40.08g/mol)			
Tricalcium phosphate *Synonyms:* • Tricalcium diphosphate • Calcium orthophosphate	$Ca_3O_8P_2$ (MW 310.18)	0.20	0.388
Calcium hydrogen phosphate *Synonyms* • Calcium phosphate dibasic • calcium hydrogen phosphate • Dibasic calcium phosphate • Dicalcium phosphate	$CaHO_4P$ (MW 136.06)	0.228	0.295
Monocalcium phosphate *Synonyms:* • Calcium phosphate • Calcium phosphate, monobasic	$CaH_4O_8P_2$ (MW 234.05)	0.265	0.17
Sodium Based (Molecular Weight of Sodium = 22.989g/mol)			
Sodium Acid Pyrophosphate *Synonyms:* • Sodium pyrophosphate • Tetrasodium pyrophosphate	$Na_4O_7P_2$ (MW 265.90)	0.233	0.346
Sodium Phosphate *Synonyms:* • Sodium dihydrogen phosphate • Sodium phosphate, monobasic	H_2NaO_4P (MW 199.977)	0.155	0.115
Disodium phosphate *Synonyms:*	Na_2HPO_4 (MW 141.959)	0.218	0.324

• Disodium hydrogen phosphate • Sodium phosphate, dibasic			
Sodium Aluminum Phosphate *Synonyms:* • Aluminum Sodium phosphate	$AlNaO_4P$ (MW 144.943)	0.214	0.159
Iron Based (Molecular Weight of Iron = 55.84g/mol)			
Ferric Orthophosphate *Synonyms:* • Ferric Orthophosphate • Iron phosphate	FeO_4P (MW 150.82)	0.205	0.370
Potassium Based (Molecular Weight of Potassium = 39.098g/mol)			
Dipotassium phosphate *Synonyms* • *Dipotassium hydrogen phosphate* • *Dipotassium hydrogenphosphate* • *Potassium phosphate dibasic*	K_2HPO_4 (MW 174.18)	0.178	0.449
Tripotassium phosphate *Synonyms* • *Potassium phosphate tribasic* • *Tripotassium orthophosphate*	K_3O_4P (MW 212.266)	0.146	0.553
Potassium pyrophosphate *Synonyms* • Tetrapotassium diphosphate	$K_4O_7P_2$ (MW 330.34)	0.187	0.473
Non-Mineral Based Additives			
Lecithin	$C_{42}H_{80}NO_8P$ (MW 758.1)	0.04	n/a
Disodium Guanylate	$C_{10}H_{12}N_5Na_2O_8P$ (MW 407.18)	0.076	n/a
Disodium Inosinate	$C_{10}H_{11}N_4Na_2O_8P$ (MW 392.17)	0.079	n/a
Disodium-5'-ribonucleotides	$C_{20}H_{23}N_9Na_4O_{16}P_2$	0.077	n/a

	(MW 799.4)		

Phosphorus Conversion Factor determined using P Molecular Weight = 30.973g/mol

Determining the amount of phosphorus

To determine how much phosphorus is in a product with a labeled amount for the accompanying mineral use this 2-step process:

Step 1: Amount of Accompanying Mineral/ % accompanying mineral = Total Amount of phosphorus additive in the food

Step 2: Total amount of phosphorus additive in the food * % phosphorus = Amount of phosphorus in the food.

Example:

Orange Juice product fortified with tricalcium phosphate contains 330mg of calcium.

Step 1: 330mg calcium / 0.388 = 850.5mg

Step 2: 850.5 * 0.200 = 170mg of phosphorus per serving