



MANNAQUEST™

SEPTEMBER 2 – 4, 2011

The Ultimate Training Weekend



How to Read Labels

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MANNAQUEST

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Federal Trade Commission (FTC)

- Enforces laws outlawing "unfair or deceptive acts or practices..."
- Role - to ensure that **consumers get accurate information about dietary supplements so that they can make informed decisions about these products.**
- Advertising must be truthful and not misleading.
- Food and Drug Administration (FDA) also has oversight



Labeling

- Refers to the label as well as accompanying material that is used by a manufacturer to promote and market a specific product.
- Caveat emptor...are the claims and statements made in the marketing material consistent with the product label ingredients?



Making informed decisions

Which to choose?

1. Spending your supplement \$\$\$ wisely
2. Your health
3. The \$\$\$ and health of others



Evaluating supplement labels and marketing materials

- 2006 Canadian study of US and Canadian dietary supplements
- Found that... “use statements on their label which are difficult to define. However, such terms and statements seem to be used to add pseudoscientific and unjustified value to the product”.
- Their conclusion – “Such statements should be avoided”.



Standardized labeling

Specifically identified ingredient sources allow you...

- To judge the potential benefit of the supplement.
- Compare one supplement's ingredients to another.



A Quick Guide for Evaluating Vitamin and Mineral Supplements

How Real Is Your Vitamin?

To achieve standardized levels of vitamin and mineral ingredients, there are only two sources:

Synthetically Made

Synthetic vitamins are produced chemically in a laboratory and may be made from petroleum or coal tar; they're not in a food form.



Because they are less expensive, most minerals used for supplementation are mined from the ground or manufactured from chemical processes.

Tests have shown that these minerals do not dissolve well (they are not soluble) in either the stomach or small intestine.



Do You Know Where Your Multivitamin Comes From?

Plant-Sourced

Naturally sourced vitamins are extracted from foods or plants or are cultured in yeast. Plants use multiple processes to accumulate minerals from the soil, predigest them and then bond them into a food matrix. Minerals from plants are, therefore, more soluble.



Research suggests that naturally sourced vitamins are easier to absorb and retain than synthetically made vitamins.



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Our **PhytoMatrix®** caplets deliver real food-sourced nutrients!



Approximately 150 million consumers in North America now take a vitamin/mineral supplement daily! But most people don't even know the source, quality or efficacy of the products they take. Mannatech believes that the best vitamin and mineral supplementation should include:

- Naturally sourced vitamins with standardized and properly labeled amounts
- Plant-sourced minerals at standardized and properly labeled amounts

*Source: Datamonitor: Dietary Supplements Market Trends & Opportunities 4/29/09 (Dietary Supplement Market USA)
These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.



How to Read a Supplement Label

Amount Per Serving heads the listing of nutrients contained in the supplement, followed by the quantity present in each serving.

Supplement Facts

Serving Size 1 tablet
Suggested User: Adults, take one tablet per day with meal

Amount Per Serving	% Daily Value
Vitamin A 8000 I.U.	100%
90% as Beta Carotene	
Vitamin C 250 mg	417%
Vitamin D 400 I.U.	100%
Vitamin E 200 I.U.	100%
Thiamin 5 mg	967%
Riboflavin 5 mg	100%
Niacin 20 mg	32%
Vitamin B6 5 mg	284%
Folic acid 400 mcg	100%
Vitamin B12 5 mcg	200%
Biotin 150 mcg	100%
Pantothenic Acid 10 mg	100%
Calcium 200 mg	50%
Iron 18 mg	100%
Phosphorus 200 mg	20%
Iodine 150 mcg	100%
Selenium 35 mcg	20%
Magnesium 200 mg	100%
Zinc 15 mg	50%
Copper 2 mg	100%
Boron 150 mcg	100%

* Daily Value not established

Serving size is the manufacturer's suggested serving expressed in the appropriate unit (tablet, capsule, softgel, packet, teaspoonful).

Percent Daily Value (DV) tells what percentage of the recommended daily intake for each nutrient for adults and children ages 4 and up is provided by the supplement.

International Unit (IU) is a standard unit of measure for fat soluble vitamins (A, D and E).

An asterisk (*) or symbol (†) under the "Percent Daily Value" heading indicates that a Daily Value has not been established for that nutrient.

Milligram (mg) and microgram (mcg) are units of measurement for water soluble vitamins (C and B complex) and minerals. A milligram is equal to .001 grams. A microgram is equal to .001 milligrams.

The list of all **ingredients** and other ingredients used to formulate the supplement, in decreasing order by weight.

The FDA requires that all dietary supplement product labels include a Supplement Facts box. This box must show the amount (if present in a measurable amount) of sodium, calories from fat, fat, saturated fat, cholesterol, vitamin A, vitamin C, calcium and iron in a product. The Percent Daily Value for any dietary ingredient for included. Vitamins and minerals added for purposes of supplementation or for which a claim is made must also be declared. A list of product ingredients is also required.

Dietary supplement companies have some freedom regarding how they present this information. At Mannatech, our expert Regulatory Affairs and Quality Assurance teams work very hard to ensure that what you read on our labels is what you will find in our products. Basically, with us, what you see is what you get.

GET THE FACTS

Check out the label on our PhytoMatrix caplets; they contain natural vitamins and minerals like vitamin C from acerola fruit extract, magnesium from red algae and copper from mustard sprouts. No unpronounceable or unrecognizable names here. Become a label reader and you can be more confident in your choices. It's only natural to want the best for yourself and your family.

Easily Identify Synthetics

Synthetic vitamins may include:	Listed as:
Vitamin B2	riboflavin
Vitamin C	ascorbic acid
Vitamin D	calciferol
Vitamin E	dl-alpha tocopherol
Vitamin K	menadione or phytonadione
Pantothenic acid	calcium D-pantothenate
Folic acid	pteroylglutamic acid

Any vitamin ending in the following is synthetic: acetate, hydrochloride, mononitrate, palmitate or succinate.

Synthetic mineral names will usually end in one of the following:

ascorbate	aspartate	carbonate	chloride
citrate	disulfide	gluconate	glycerophosphate
iodide	lactate	malate	methionine
orotate	oxide	picolinate	sulfate

† For more info on Supplements 101, check out our blog copy on HealthyScience.net. A portion of this copy was sourced from material produced by Priority Continuing Education Group. Label modified from www.mass.gov/jobs/CPR_How_to_read_a_US_Label.pdf
 Customer Care: (800) 281-4469
 For distribution in the U.S. only.
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 Mannatech.com
 Item Number: 1298201 • 14271.0811







FDA – allows two options to identify source of ingredients on the product label

Label - Option #1

Supplement Facts		
Serving Size 2 Tablets		
[REDACTED]		
	AMOUNT PER SERVING	%DV*
VITAMIN A (AS BETA CAROTENE)	7,500 IU	150%
VITAMIN C (AS CALCIUM, POTASSIUM, MAGNESIUM, & ZINC ASCORBATES)	650 mg	1080%
VITAMIN D3 (AS CHOLECALCIFEROL)	300 IU	80%
VITAMIN E (AS D-ALPHA TOCOPHERYL SUCCINATE)	200 IU	670%
VITAMIN K (AS PHYLLOQUINONE)	30 µg	40%
THIAMIN (AS THIAMIN HCL)	13.5 mg	900%
RIBOFLAVIN	13.5 mg	790%
NIACIN (AS NIACIN AND NIACINAMIDE)	20 mg	100%
VITAMIN B6 (AS PYRIDOXINE HCL)	16 mg	800%
FOLATE (AS FOLIC ACID)	500 µg	130%
VITAMIN B12 (AS CYANOCOBALAMIN)	100 µg	1670%
BIOTIN	150 µg	50%
PANTOTHENIC ACID (AS D-CALCIUM PANTOTHENATE)	45 mg	450%

Source of ingredient listed after the ingredient name

For example:

Vitamin A (as beta carotene)

Vitamin D3 (as cholecalciferol)



FDA – allows two options to identify source of ingredients on the product label

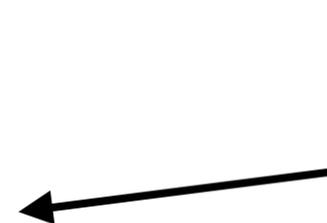
Label - Option #2

Supplement Facts	
Serving Size 1 tablet	
Suggested Use: Adults, take one tablet per day with meal	
Amount Per Serving	% Daily Value
Vitamin A 5000 I.U. 50% as Beta Carotene	100%
Vitamin C 250 mg	417%
Vitamin D 400 I.U.	100%
Vitamin E 200 I.U.	667%
Vitamin K 80 mcg	100%

Only ingredient name is listed in Supplement Facts box.

Source is then listed in the ingredients list below the supplement facts box.

Ingredients: vitamin A acetate, beta carotene, vitamin D, dl-alpha tocopherol acetate, ascorbic acid, thiamin mononitrate, riboflavin, niacinamide, pyridoxine hydrochloride, vitamin B12, biotin, d-calcium pantothenate, potassium chloride, dicalcium phosphate, potassium iodine, ferrous fumarate, magnesium oxide, copper sulfate, zinc oxide, manganese sulfate, sodium selenate, chromium chloride, sodium molybdate, microcrystalline cellulose, calcium carbonate, sodium carboxymethyl cellulose





RDA / RDI percentages

- Obviously – multivitamin/mineral supplements all contain vitamins and minerals.
- Competition then is often about which supplement has the highest percent of RDA or RDI per ingredient.
- Percentage of nutrient does not mean...
 - It will be bioavailable to the body
 - Higher percentages might be harmful



The 2% rule

- If vitamins or minerals are present at or above 2% of their Recommended Dietary Intake (RDI), they must also be listed in the box.
- “Juice” supplements
- Nutrition Facts vs Supplement Facts
Food versus supplements



Reading Labels - Ingredients

- The list of all ingredients includes nutrients and other ingredients used to formulate the supplement, in decreasing order by weight.
- Common to see in multi-vitamin/mineral supplements:
 - Mixed synthetic and natural vitamins
 - Multiple forms of minerals
- Claims – expressed or implied – still must be consistent



Synthetic vitamin manufacture

Partial list of ingredients used to manufacture synthetic vitamins

- Coal tar or petroleum derivatives (A/Beta carotene, B1, B3, B6, B9, PABA)
- Hydrochloric acid (B1, B8, Choline)
- Methanol, benzene (A/Beta carotene)
- Acetonitrole with ammonia (B1)
- Formaldehyde (B5, B6)
- Fermented corn/hydrogenated sugar/acetone (C)
- Trimethylhydroquinone (E)
- Acetylene (A/Beta carotene, B9)
- P-allelic-nickel (K)



Absorption and retention of natural versus synthetic vitamins...

Vitamin A – absorbed 1.54X, nontoxic (A)

Vitamin B1 – absorbed 1.38X, retained 1.27X (A)

Vitamin B2 – retained 1.92X (A)

Vitamin B3 – absorbed 3.94X, retained 1.7X (A)

(A) = animal study, (H) = human study

Thiel RJ, Medical Hypotheses (2000) 55 (6) 461-469



Absorption and retention of natural versus synthetic vitamins...

Vitamin B6 – absorbed 2.54X, retained 1.56X (A)

Vitamin B9 – retained 2.13X (folic acid) (A)

Vitamin C – absorbed 1.35 to 1.74X (H)

Vitamin E – absorbed 2.7 to 3.42X (H)

(A) = animal study, (H) = human study

Thiel RJ, Medical Hypotheses (2000) 55 (6) 461-469



How can I identify synthetic vitamins?

A: Any vitamin ending in the following is synthetic:

Acetate, hydrochloride, mononitrate, palmitate or succinate



How can I identify synthetic vitamins?

A: Any vitamin ending in the following is synthetic:

Acetate, hydrochloride, mononitrate, palmitate or succinate

Additional synthetic vitamins may include:	Listed as:
Vitamin C	ascorbic acid
Beta carotene	beta carotene (if source not given)
Vitamin B2	riboflavin
Niacin	niacin
Pantothenic acid	calcium D-pantothenate
Folic acid	pteroylglutamic acid
Vitamin D	calciferol
Vitamin E	dl-alpha tocopherol
Vitamin K	menadione or phytonadione



Example label - plant sourced vitamins with specific plant source listed

Supplement Facts

Serving Size 2 Caplets

Servings Per Container 60

	Amount Per Serving	% Daily Value
Calories	5	
Total Carbohydrate	1 g	<1%*
Dietary Fiber	<1 g	2%*
Vitamin A (as mixed carotenoids from African oil palm fruit)	2500 IU	50%
Vitamin C (from acerola fruit extract)	30 mg	50%
Vitamin D (as plant source ergocalciferol)	200 IU	50%
Vitamin E (as mixed tocopherols from vegetable oil extract (soy, corn, safflower))	15 IU	50%



Inconsistency in marketing material claims and Supplement Facts label - Vitamins

Marketing materials say 100% plant sourced

Label says plant sourced organic vitamin complex

PLANT SOURCED ORGANIC VITAMIN COMPLEX (With Antioxidant Minerals)		
Vitamin A (Acetate)	10,000 IU	200%
Vitamin D	400 IU	100%
Vitamin E (d-a-tocopherol acetate)	30 IU	100%
Vitamin K	80 mcg	100%
Vitamin C	150 mg	250%



Inconsistency in marketing material claims and Supplement Facts label - Vitamins

Marketing materials say 100% plant sourced

Label says B-Vitamins in a base of brown rice concentrate

B-VITAMINS IN A BASE OF BROWN RICE CONCENTRATE		
Thiamine (Vitamin B1)	6 mg	400%
Riboflavin (Vitamin B2)	4.25 mg	250%
Niacin (Niacinamide)	20 mg	100%
Vitamin B6 (Pyridoxine Hydrochloride)	5 mg	250%
Folic Acid	400 mcg	100%
Vitamin B12	100 mcg	1667%
Biotin	120 mcg	40%
Pantothenic Acid (Vitamin B5)	10 mg	*

Standard Process Catalyn®

Whole Food Multivitamin



Vitamin A	1,200 IU	25%
Vitamin C	4 mg	6%
Vitamin D	312 IU	80%
Thiamine	0.2 mg	15%
Riboflavin	0.2 mg	15%
Vitamin B ₆	1 mg	50%

Proprietary Blend: 766 mg

Defatted wheat (germ), carrot (root), **calcium lactate**, nutritional yeast, bovine adrenal, bovine liver, **magnesium citrate**, bovine spleen, ovine spleen, bovine kidney, dried pea (vine) juice, dried alfalfa (whole plant) juice, mushroom, oat flour, soybean lecithin, and rice (bran).

Other Ingredients:

Honey, glycerin, arabic gum, **ascorbic acid**, **calcium stearate**, cholecalciferol, **pyridoxine hydrochloride**, starch, sucrose (beets), **vitamin A palmitate**, cocarboxylase, and **riboflavin**.



How can I identify commonly used mineral salts or mineral/organic acid mixtures in a supplement?

A: The mineral name will usually end in one of the following:

ascorbate	aspartate	carbonate	chloride
citrate	disulfide	gluconate	glycerophosphate
iodide	lactate	malate	methionine
orotate	oxide	picolinate	dibasic phosphate
tribasic phosphate	stearate	sulfate	



Example Label – inorganic minerals

Calcium (as Calcium carbonate, phosphate)	100	mg	10%
Iodine (as potassium iodide)	150	mcg	100%
Magnesium (as magnesium oxide)	20	mg	5%
Zinc (as zinc oxide)	9	MG	60%



Example Label – food sourced minerals

Calcium (from red algae (<i>Lithothamnium</i> spp.))**	255 mg	26%
Iron (from mustard sprout)	3 mg	13%
Iodine (from mustard sprout)	60 mcg	40%
Magnesium (from red algae (<i>Lithothamnium</i> spp.))	5 mg	1%
Zinc (from mustard sprout)	7 mg	47%
Selenium (from mustard sprout)	80 mcg	114%
Copper (from mustard sprout)	0.8 mg	40%

Yeast sourced minerals

Calcium	(333 mg <i>S. cerevisiae</i>)	17 mg	2%
Iron	(30 mg <i>S. cerevisiae</i>)	2 mg	8%
Iodine	(2 mg <i>S. cerevisiae</i>)	25 mcg	17%
Magnesium	(333 mg <i>S. cerevisiae</i>)	17 mg	4%



Claim is amino acid chelated minerals,
but the product label is not consistent with claim

Zinc (Sulfate, Amino Acid Complex)	15 mg	100%
Calcium (Gluconate, Amino Acid Complex)	28 mg	2.8%
Magnesium (Sulfate, Amino Acid Complex)	6 mg	1.5%
Copper (Sulphate, Amino Acid Complex)	2 mg	100%
Manganese (Sulphate, Amino Acid Complex)	3 mg	150%
Potassium (Citrate, Amino Acid Complex)	100 mg	2.85%

Nanotechnology... Marketing buzz word or Reality?



How many of the nutrients in the supplement are truly nanotechnology?

May be paying a big price for only 1 or 2 "nano" nutrients in a multi-formula.

Proprietary Cellular Nano-Activator Blend: 575 mcg

D-ribose, Alpha Lipoic Acid, Silybum marianum, Bacopa monniera, Witharia somnifera, Quercitin, Camelia sinensis, Curcuma longa, CoQ10

Nano-sized D-Ribose and CoQ10 to support ATP energy production

12V7M - \$69

Putting your money where your claims are!



Third party independent evaluation:



NSF
International

Mannatech Quality Assurance Program



It's all about *your* health.

Invest in it **WISELY!**



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