

# SAFETY INDEX

Vitamin	Recommended Adult Intake <sup>a</sup>	Minimum Toxic Dose (MTD)	Vitamin Safety Index (VSI)
Vitamin A	5,000 IU	25,000 to 50,000 IU	5 to 10
Vitamin D	400 IU	50,000 IU 1,000 to 2,000 IU <sup>b</sup>	125 2.5 to 5
Vitamin E	30 IU	1,200 IU	40
Vitamin C	60 mg	2,000 to 5,000 mg 1,000 mg <sup>c</sup>	33 to 83 17
Thiamin (B <sub>1</sub> )	1.5 mg	300 mg	200
Riboflavin	1.7 mg	1,000 mg	588
Niacin	20 mg	1,000 mg	50
Pyridoxine (B <sub>6</sub> )	2.2 mg	2,000 mg 200 mg <sup>d</sup>	900 90
Folacin	0.4 mg	400 mg 15 mg <sup>e</sup>	1,000 37
Biotin	0.3 mg	50 mg	167
Pantothenic Acid	10 mg	10,000 mg	1,000

Mineral	Recommended Adult Intake <sup>a</sup>	Minimum Toxic Dose (MTD)	Mineral Safety Index (MSI)
Calcium	1,200 mg	12,000 mg	10
Phosphorus	1,200 mg	12,000 mg	10
Magnesium	400 mg	6,000 mg	15
Iron	18 mg	100 mg	5.5
Zinc	15 mg	500 mg	33
Copper	3 mg	100 mg < 3 mg <sup>g</sup>	33 < 1
Fluoride	4 mg	20 mg 4 mg <sup>c</sup>	5 1
Iodine	0.15 mcg	2 mg	13
Selenium	0.2 mcg	1 mg	5

## VITAMINS AND VITAMIN SUPPLEMENTS

The best way to obtain needed nutrients, including vitamins and minerals, is to eat a balanced diet. Food provides these nutrients in balanced and proportioned amounts as well as trace elements that are not found in supplements.

Some people do benefit from taking a good quality vitamin and mineral supplement. These people include those who:

- eat out frequently
- rely on highly processed convenience foods much of the time
- snack on high fat and high sugar foods
- skip meals regularly
- go on and off diets regularly
- those who eat very little - less than 1500 calories for those over age 11 years.
- have an illness, anemia, or injury
- pregnant or breastfeeding

It is extremely important to remember that adding supplements to a diet high in fat, sugar, salt, coffee and alcohol cannot reverse the damage done by excess amounts of any of these.

At the same time, other people are taking far too many vitamins. Excesses of many vitamins can pose serious health risks or be just a waste of money.

### VITAMINS

The water soluble B-vitamins and vitamin C are not stored in the body. They should be supplied in adequate amounts each day. These vitamins are fragile and large portions naturally present in foods may be washed out or destroyed during food storage, processing, or preparation.

B vitamins, except for niacin - B3, do not have any known risks of megadoses. However, since B vitamins are interdependent, excess of one may produce a deficiency of others - a pseudo deficiency: your body thinks it needs more to balance the high dose of the other vitamin B.

High doses of B 6 may lead to dependency leading to deficiency symptoms when one returns to normal amounts.

Vitamin C - Risks of megadoses: dependency on high doses, possibly precipitating symptoms of scurvy when withdrawn; kidney and bladder stones, diarrhea, urinary-tract irritation, increased tendency of blood to clot, breakdown of red blood cells in persons with certain common genetic disorders; may induce B12 deficiency.

The fat soluble vitamins - A,D,E,K, are stored in body fat, so it is not essential to consume them daily unless you take in only marginal amounts. Since they are stored in the body they can build up to toxic levels if too much is consumed.

Risks of megadoses - A: Blurred vision, loss of appetite, headaches, skin rashes, nausea, diarrhea, hair loss, menstrual irregularities, extreme fatigue, joint pain, liver damage, insomnia, abnormal bone growth, injury to brain and nervous system.

Risks of megadoses - D: calcium deposits, deafness, nausea, loss of appetite, kidney stones, fragile bones, high blood pressure, high blood cholesterol

Risks of megadoses - E: None definitely known, Reports of headache, blurred vision, extreme fatigue, muscle weakness. Deficiency symptoms not seen in human beings except after prolonged impairment of fat absorption.

Risks of megadoses - K: Jaundice in babies; anemia in laboratory animals