Additional views of the tables from: Dietary Treatment of Obesity

Table 15

Table 15. Dietary Reference Intakes (DRIs): Recommended Intakes for Individuals, Vitamins (292) Food and Nutrition Board, Institute of Medicine, The National Academies

Life Stage Group	Vitamin A (µg/d)[a]	Vitamin C (mg/d)	Vitamin D[±] (µg/d)[b,c]	Vitamin E (mg/d)[d]	Vitamin K (µg/d)	Thiamin (mg/d)	Riboflavin (mg/d)	Niacin (mg/d)[e]	VitaminB6 (mg/d)	Folate (µg/d)[f]	Vitamin B12 (µg/d)	Pantothenic Acid Acid (mg/d)	Biotin (µg/d)	Choline (mg/d)[g]
Infants														
0–6 mo	400*	40*	5*	4*	2.0*	0.2*	0.3*	2*	0.1*	65*	0.4*	1.7*	5*	125*
7–12mo	500*	50*	5*	5*	2.5*	0.3*	0.4*	4*	0.3*	80*	0.5*	1.8*	6*	150*
Children														
1–3 y	**300**	**15**	5*	**6**	30*	**0.5**	**0.5**	**6**	**0.5**	**150**	**0.9**	2*	8*	200*
4–8 y	**400**	**25**	5*	**7**	55*	**0.6**	**0.6**	**8**	**0.6**	**200**	**1.2**	3*	12*	250*
Males														
9–13 y	**600**	**45**	5*	**11**	60*	**0.9**	**0.9**	**12**	**1.0**	**300**	**1.8**	4*	20*	375*
14–18 y	**900**	**75**	5*	**15**	75*	**1.2**	**1.3**	**16**	**1.3**	**400**	**2.4**	5*	25*	550*
19–30 y	**900**	**90**	5*	**15**	120*	**1.2**	**1.3**	**16**	**1.3**	**400**	**2.4**	5*	30*	550*
31–50 y	**900**	**90**	5*	**15**	120*	**1.2**	**1.3**	**16**	**1.3**	**400**	**2.4**	5*	30*	550*
51–70 y	**900**	**90**	10*	**15**	120*	**1.2**	**1.3**	**16**	**1.7**	**400**	**2.4**[h]	5*	30*	550*
> 70 y	**900**	**90**	15*	**15**	120*	**1.2**	**1.3**	**16**	**1.7**	**400**	**2.4**[h]	5*	30*	550*
Females														
9–13 y	**600**	**45**	5*	**11**	60*	**0.9**	**0.9**	**12**	**1.0**	**300**	**1.8**	4*	20*	375*
14–18 y	**700**	**65**	5*	**15**	75*	**1.0**	**1.0**	**14**	**1.2**	**400**[i]	**2.4**	5*	25*	400*
19–30 y	**700**	**75**	5*	**15**	90*	**1.1**	**1.1**	**14**	**1.3**	**400**[i]	**2.4**	5*	30*	425*
31–50 y	**700**	**75**	5*	**15**	90*	**1.1**	**1.1**	**14**	**1.3**	**400**[i]	**2.4**	5*	30*	425*
51–70 y	**700**	**75**	10*	**15**	90*	**1.1**	**1.1**	**14**	**1.5**	**400**	**2.4**[h]	5*	30*	425*
> 70 y	**700**	**75**	15*	**15**	90*	**1.1**	**1.1**	**14**	**1.5**	**400**	**2.4**[h]	5*	30*	425*
Pregnancy														
≤ 18 y	**750**	**80**	5*	**15**	75*	**1.4**	**1.4**	**18**	**1.9**	**600**[j]	**2.6**	6*	30*	450*
19–30 y	**770**	**85**	5*	**15**	90*	**1.4**	**1.4**	**18**	**1.9**	**600**[j]	**2.6**	6*	30*	450*
31–50 y	**770**	**85**	5*	**15**	90*	**1.4**	**1.4**	**18**	**1.9**	**600**[j]	**2.6**	6*	30*	450*
Lactation														
≤ 18 y	**1,200**	**115**	5*	**19**	75*	**1.4**	**1.6**	**17**	**2.0**	**500**	**2.8**	7*	35*	550*
19–30 y	**1,300**	**120**	5*	**19**	90*	**1.4**	**1.6**	**17**	**2.0**	**500**	**2.8**	7*	35*	550*
31–50 y	**1,300**	**120**	5*	**19**	90*	**1.4**	**1.6**	**17**	**2.0**	**500**	**2.8**	7*	35*	550*

NOTE: This table (taken from the DRI reports, see www.nap.edu) presents Recommended Dietary Allowances (RDAs) in **bold type** and Adequate Intakes (AIs) in ordinary type followed by an asterisk (*). RDAs and AIs may both be used as goals for individual intake. RDAs are set to meet the needs of almost all (97 to 98 percent) individuals in a group. For healthy breastfed infants, the AI is the mean intake. The AI for other life stage and gender groups is believed to cover needs of all individuals in the group, but lack of data or uncertainty in the data prevent being able to specify with confidence the percentage of individuals covered by this intake.[a] As retinol activity equivalents (RAEs). 1 RAE = 1 µg retinol, 12 µg ß-carotene, 24 µg ∂-carotene, or 24 µg ß-cryptoxanthin. To calculate RAEs from REs of provitamin A carotenoids in foods, divide the REs by 2. For preformed vitamin A in foods or supplements and for provitamin A carotenoids in supplements, 1 RE = 1 RAE.[b] calciferol. 1 µg calciferol = 40 IU vitamin D.[c] In the absence of adequate exposure to sunlight.[d] As ∂-tocopherol. ∂-Tocopherol includes *RRR*- ∂ - tocopherol, the only form of ∂-tocopherol that occurs naturally in foods, and the *2R* -stereoisomeric forms of ∂-tocopherol (*RRR* -, *RSR* -, *RRS* -, and *RSS* -∂-tocopherol) that occur in fortified foods and supplements. It does not include the *2S* -stereoisomeric forms of ∂-tocopherol (*SRR* -, *SSR* -, *SRS* -, and *SSS* -∂-tocopherol), also found in fortified foods and supplements.[e] As niacin equivalents (NE). 1 mg of niacin = 60 mg of tryptophan; 0–6 months = preformed niacin (not NE).[f] As dietary folate equivalents (DFE). 1 DFE = 1 µg food folate = 0.6 µg of folic acid from fortified food or as a supplement consumed with food = 0.5 µg of a supplement taken on an empty stomach.[g] Although AIs have been set for choline, there are few data to assess whether a dietary supply of choline is needed at all stages of the life cycle, and it may be that the choline requirement can be met by endogenous synthesis at some of these stages.[h] Because 10 to 30 percent of older people may malabsorb food-bound B_{12}, it is advisable for those older than 50 years to meet their RDA mainly by consuming foods fortified with B_{12} or a supplement containing B_{12}.[±] In 2008, the American Academy of Pediatrics adjusted their 2003 recommendations for vitamin D in children from 5 µg per day (200 IU), beginning in the first two months of life, to 10 µg per day (400 IU) within the first few days of life. This increased recommendation is based on the amount of vitamin D that can be given safely per day to prevent or treat rickets and possibly provide additional health benefits. The 2004 DRIs have not yet been updated to reflect this.[i] In view of evidence linking inadequate folate intake with neural tube defects in the fetus, it is recommended that all women capable of becoming pregnant consume 400 µg from supplements or fortified foods in addition to intake of food folate from a varied diet.[j] It is assumed that women will continue consuming 400 µg from supplements or fortified food until their pregnancy is confirmed and they enter prenatal care, which ordinarily occurs after the end of the periconceptional period—the critical time for formation of the neural tube. 2/15/01

Table 16

Table 16. Dietary Reference Intakes (DRIs): Recommended Intakes for Individuals, Elements (130) Food and Nutrition Board, Institute of Medicine, National Academies

Life StageGroup	Calcium (mg/d)	Chromium (μg/d)	Copper (μg/d)	Fluoride (mg/d)	Iodine (μg/d)	Iron (mg/d)	Magnesium (mg/d)	Manganese (mg/d)	Molybdenum (μg/d)	Phosphorus (mg/d)	Selenium (μg/d)	Zinc (mg/d)
Infants												
0–6 mo	210*	0.2*	200*	0.01*	110*	0.27*	30*	0.003*	2*	100*	15*	2*
7–12 mo	270*	5.5*	220*	0.5*	130*	**11**	75*	0.6*	3*	275*	20*	**3**
Children												
1–3 y	500*	11*	**340**	0.7*	**90**	**7**	**80**	1.2*	**17**	**460**	**20**	**3**
4–8 y	800*	15*	**440**	1*	**90**	**10**	**130**	1.5*	**22**	**500**	**30**	**5**
Males												
9–13 y	1,300*	25*	**700**	2*	**120**	**8**	**240**	1.9*	**34**	**1,250**	**40**	**8**
14–18 y	1,300*	35*	**890**	3 *	**150**	**11**	**410**	2.2*	**43**	**1,250**	**55**	**11**
19–30 y	1,000*	35*	**900**	4*	**150**	**8**	**400**	2.3*	**45**	**700**	**55**	**11**
31–50 y	1,000*	35*	**900**	4*	**150**	**8**	**420**	2.3*	**45**	**700**	**55**	**11**
51–70 y	1,200*	30*	**900**	4*	**150**	**8**	**420**	2.3*	**45**	**700**	**55**	**11**
> 70 y	1,200*	30*	**900**	4*	**150**	**8**	**420**	2.3*	**45**	**700**	**55**	**11**
Females												
9–13 y	1,300*	21*	**700**	2*	**120**	**8**	**240**	1.6*	**34**	**1,250**	**40**	**8**
14–18 y	1,300*	24*	**890**	3*	**150**	**15**	**360**	1.6*	**43**	**1,250**	**55**	**9**
19–30 y	1,000*	25*	**900**	3*	**150**	**18**	**310**	1.8*	**45**	**700**	**55**	**8**
31–50 y	1,000*	25*	**900**	3*	**150**	**18**	**320**	1.8*	**45**	**700**	**55**	**8**
51–70 y	1,200*	20*	**900**	3*	**150**	**8**	**320**	1.8*	**45**	**700**	**55**	**8**
> 70 y	1,200*	20*	**900**	3*	**150**	**8**	**320**	1.8*	**45**	**700**	**55**	**8**
Pregnancy												
≤ 18 y	1,300*	29*	**1,000**	3*	**220**	**27**	**400**	2.0*	**50**	**1,250**	**60**	**12**
19–30 y	1,000*	30*	**1,000**	3*	**220**	**27**	**350**	2.0*	**50**	**700**	**60**	**11**
31–50 y	1,000*	30*	**1,000**	3*	**220**	**27**	**360**	2.0*	**50**	**700**	**60**	**11**
Lactation												
≤ 18 y	1,300*	44*	**1,300**	3*	**290**	**10**	**360**	2.6*	**50**	**1,250**	**70**	**13**
19–30 y	1,000*	45*	**1,300**	3*	**290**	**9**	**310**	2.6*	**50**	**700**	**70**	**12**
31–50 y	1,000*	45*	**1,300**	3*	**290**	**9**	**320**	2.6*	**50**	**700**	**70**	**12**

NOTE: This table presents Recommended Dietary Allowances (RDAs) in **bold type** and Adequate Intakes (AIs) in ordinary type followed by an asterisk (*). RDAs and AIs may both be used as goals for individual intake. RDAs are set to meet the needs of almost all (97 to 98 percent) individuals in a group. For healthy breastfed infants, the AI is the mean intake. The AI for other life stage and gender groups is believed to cover needs of all individuals in the group, but lack of data or uncertainty in the data prevent being able to specify with confidence the percentage of individuals covered by this intake.**SOURCES** : *Dietary Reference Intakes for Calcium, Phosphorous, Magnesium, Vitamin D, and Fluoride* (1997); *Dietary Reference Intakes for Thiamin, Riboflavin, Niacin, Vitamin* B_6 *, Folate, Vitamin* B_{12} *, Pantothenic Acid, Biotin, and Choline* (1998); *Dietary Reference Intakes for Vitamin C, Vitamin E, Selenium, and Carotenoids* (2000); and *Dietary Reference Intakes for Vitamin A, Vitamin K, Arsenic, Boron, Chromium, Copper, Iodine, Iron, Manganese, Molybdenum, Nickel, Silicon, Vanadium, and Zinc* (2001). These reports may be accessed via www.nap.edu.Copyright 2001 by the National Academy of Sciences. All rights reserved. 2/15/01

Table 17

Table 17. Dietary Reference Intakes (DRIs): Tolerable Upper Intake Levels (UL [a]) for Vitamins (130) Food and Nutrition Board, Institute of Medicine, National Academies

Life Stage Group	Vitamin A (μg/d) [b]	Vitamin C (mg/d)	Vitamin D (μg/d)	Vitamin E (mg/d) [c,d]	Vitamin K ---	Thiamin ---	Riboflavin ---	Niacin (mg/d) [d]	Vitamin B_6 (mg/d)	Folate (μg/d) [d]	Vitamin B_{12} ---	Pantothenic Acid ---	Biotin ---	Choline (g/d)	Carotenoids [e] ---
Infants															
0-6 mo	600	ND [f]	25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
7-12 mo	600	ND	25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Children															
1-3 y	600	400	50	200	ND	ND	ND	10	30	300	ND	ND	ND	1.0	ND
4-8 y	900	650	50	300	ND	ND	ND	15	40	400	ND	ND	ND	1.0	ND
Males, Females															
9-13 y	1,700	1,200	50	600	ND	ND	ND	20	60	600	ND	ND	ND	2.0	ND
14-18 y	2,800	1,800	50	800	ND	ND	ND	30	80	800	ND	ND	ND	3.0	ND
19-70 y	3,000	2,000	50	1,000	ND	ND	ND	35	100	1,000	ND	ND	ND	3.5	ND
> 70 y	3,000	2,000	50	1,000	ND	ND	ND	35	100	1,000	ND	ND	ND	3.5	ND
Pregnancy															
≤ 18 y	2,800	1,800	50	800	ND	ND	ND	30	80	800	ND	ND	ND	3.0	ND
19-50 y	3,000	2,000	50	1,000	ND	ND	ND	35	100	1,000	ND	ND	ND	3.5	ND

Lactation															
≤ 18 y	2,800	1,800	50	800	ND	ND	ND	30	80	800	ND	ND	ND	3.0	ND
19-50 y	3,000	2,000	50	1,000	ND	ND	ND	35	100	1,000	ND	ND	ND	3.5	ND

[a] UL = The maximum level of daily nutrient intake that is likely to pose no risk of adverse effects. Unless otherwise specified, the UL represents total intake from food, water, and supplements. Due to lack of suitable data, ULs could not be established for vitamin K, thiamin, riboflavin, vitamin B_{12}, pantothenic acid, biotin, or carotenoids. In the absence of ULs, extra caution may be warranted in consuming levels above recommended intakes.[b] As preformed vitamin A only.[c] As ∂-tocopherol; applies to any form of supplemental ∂-tocopherol.[d] The ULs for vitamin E, niacin, and folate apply to synthetic forms obtained from supplements, fortified foods, or a combination of the two.[e] ß-Carotene supplements are advised only to serve as a provitamin A source for individuals at risk of vitamin A deficiency.[f] ND = Not determinable due to lack of data of adverse effects in this age group and concern with regard to lack of ability to handle excess amounts. Source of intake should be from food only to prevent high levels of intake.**SOURCES** : *Dietary Reference Intakes for Calcium, Phosphorous, Magnesium, Vitamin D, and Fluoride* (1997); *Dietary Reference Intakes for Thiamin, Riboflavin, Niacin, Vitamin B_6, Folate, Vitamin B_{12}, Pantothenic Acid, Biotin, and Choline* (1998); *Dietary Reference Intakes for Vitamin C, Vitamin E, Selenium, and Carotenoids* (2000); and *Dietary Reference Intakes for Vitamin A, Vitamin K, Arsenic, Boron, Chromium, Copper, Iodine, Iron, Manganese, Molybdenum, Nickel, Silicon, Vanadium, and Zinc* (2001). These reports may be accessed via www.nap.edu. 2/15/01

Table 18

Table 18. Dietary Reference Intakes (DRIs): Tolerable Upper Intake Levels (UL [a]), Elements (130) Food and Nutrition Board, Institute of Medicine, National Academies

Life Stage Group	Arsenic [b]	Boron	Calcium	Chrom-ium	Copper	Fluoride	Iodine	Iron	Magn-esium	Manga-nese	Molyb-denum	Nickel	Phos-phorus	Selenium	Silicon [d]	Van-adium	Zinc
	---	(mg/d)	(g/d)	---	(µg/d)	(mg/d)	(µg/d)	(mg/d)	(mg/d) [c]	(mg/d)	(µg/d)	(mg/d)	(g/d)	(µg/d)	---	(mg/d) [e]	(mg/d)
Infants																	
0-6 mo	ND [f]	ND	ND	ND	ND	0.7	ND	40	ND	ND	ND	ND	ND	45	ND	ND	4
7-12 mo	ND	ND	ND	ND	ND	0.9	ND	40	ND	ND	ND	ND	ND	60	ND	ND	5
Children																	
1-3 y	ND	3	2.5	ND	1,000	1.3	200	40	65	2	300	0.2	3	90	ND	ND	7
4-8 y	ND	6	2.5	ND	3,000	2.2	300	40	110	3	600	0.3	3	150	ND	ND	12
Males, Females																	
9-13 y	ND	11	2.5	ND	5,000	10	600	40	350	6	1,100	0.6	4	280	ND	ND	23
14-18 y	ND	17	2.5	ND	8,000	10	900	45	350	9	1,700	1.0	4	400	ND	ND	34
19-70 y	ND	20	2.5	ND	10,000	10	1,100	45	350	11	2,000	1.0	4	400	ND	1.8	40
> 70 y	ND	20	2.5	ND	10,000	10	1,100	45	350	11	2,000	1.0	3	400	ND	1.8	40
Pregnancy																	
≤ 18 y	ND	17	2.5	ND	8,000	10	900	45	350	9	1,700	1.0	3.5	400	ND	ND	34
19-50 y	ND	20	2.5	ND	10,000	10	1,100	45	350	11	2,000	1.0	3.5	400	ND	ND	40
Lactation																	
≤ 18 y	ND	17	2.5	ND	8,000	10	900	45	350	9	1,700	1.0	4	400	ND	ND	34
19-50 y	ND	20	2.5	ND	10,000	10	1,100	45	350	11	2,000	1.0	4	400	ND	ND	40

[a] UL = The maximum level of daily nutrient intake that is likely to pose no risk of adverse effects. Unless otherwise specified, the UL represents total intake from food, water, and supplements. Due to lack of suitable data, ULs could not be established for arsenic, chromium, and silicon. In the absence of ULs, extra caution may be warranted in consuming levels above recommended intakes.[b] Although the UL was not determined for arsenic, there is no justification for adding arsenic to food or supplements.[c] The ULs for magnesium represent intake from a pharmacological agent only and do not include intake from food and water.[d] Although silicon has not been shown to cause adverse effects in humans, there is no justification for adding silicon to supplements.[e] Although vanadium in food has not been shown to cause adverse effects in humans, there is no justification for adding vanadium to food and vanadium supplements should be used with caution. The UL is based on adverse effects in laboratory animals and this data could be used to set a UL for adults but not children and adolescents.[f] ND = Not determinable due to lack of data of adverse effects in this age group and concern with regard to lack of ability to handle excess amounts. Source of intake should be from food only to prevent high levels of intake.**SOURCES** : *Dietary Reference Intakes for Calcium, Phosphorous, Magnesium, Vitamin D, and Fluoride* (1997); *Dietary Reference Intakes for Thiamin, Riboflavin, Niacin, Vitamin B_6, Folate, Vitamin B_{12}, Pantothenic Acid, Biotin, and Choline* (1998); *Dietary Reference Intakes for Vitamin C, Vitamin E, Selenium, and Carotenoids* (2000); and *Dietary Reference Intakes for Vitamin A, Vitamin K, Arsenic, Boron, Chromium, Copper, Iodine, Iron, Manganese, Molybdenum, Nickel, Silicon, Vanadium, and Zinc* (2001). These reports may be accessed via www.nap.edu. 2/15/01

Table 20

Table 20. Nutritive and Non-nutritive low-calorie sweeteners approved by FDA or recognized as Generally Recognized as Safe (GRAS) (242-291).

	Non-nutritive sweeteners								**Nutritive Sweeteners**		
Names	Aspartame	Acesulfame-K	Saccharin	Sucralose	Neotame	Advantame	Steviosides	Mannitol	Xylitol	Sorbitol	Erythritol
Brand names	NutraSweet®, Equal®, others	Sunett®, Sweet One®	Sweet'N Low®, Sweet Twin, Sugar Twin®, Necta Sweet®	Splenda®	Used as ingredient in food products.	Used as an ingredient in food and beverage products	Stevia®, Truvia™, Sun Crystals®, PureVia™, Sweetleaf Sweetener™	Used as ingredient in food products.	XyloSweet	Used as ingredient in food products.	Zerose
	Synthetic	A combination	Synthetic sweetener in	A sugar derivative by replacing 3	Dipeptide methyl ester	Synthetic sweetener produced in	Derived from the leaves of Stevia		An intermediate product of	A hexose alcohol from	A tetrose alcohol derived

Definition	sweetener composed of aspartic acid and phenylalanine.	of an organic acid and potassium.	forms of sodium or calcium saccharin.	hydroxyl groups with 3 chlorine atoms on the sugar molecule.	derived from aspartic acids and phenylalanine.	a 3-step process that ultimately combines aspartame and HMPA	rebaudiana plant in South America. Known as “sweet leaf.”	A hexose alcohol extracted from seaweed.	carbohydrate metabolism from xylan-containing plants.	hydrogenation of glucose and fructose with nickel catalyst.	from the cultivation of yeast-like fungi on glucose.
Characteristics	Loses sweetness with high heat.	Highly heat stable for cooking and baking. Metallic aftertaste.	Highly heat stable for cooking and baking. Bitter metallic aftertaste.	Highly heat stable for cooking and baking.	Highly heat stable for cooking and baking. Clean sweet sucrose-like taste.	Heat Stable for cooking and baking. Clean sweet sucrose like taste. Ultra high potency.	Heat stable. Licorice aftertaste. Enhances sweet and savory flavors. Lacks bulking property.	Heat stable. High melting point. Non-hygroscopic(does not pick up moisture).	Sweetest of sugar alcohols. Quickly dissolves. Produces cooling effect in the mouth.	Heat stable and highly soluble. Does not cause browning. Humectant (retain moisture).	Very water-soluble. Non-hygroscopic.
Non-nutritive sweeteners								Nutritive Sweeteners			
Metabolism and Excretion	Broken down into aspartic acid, phenylalanine, and methanol upon digestion. All compounds are metabolized normally, except in individuals with PKU.	Not metabolized and excreted unchanged by kidneys.	Not metabolized and excreted unchanged by kidneys.	Not randomized and excreted by the kidneys and in feces.	Partially absorbed and excreted in feces and urine.		Not absorbed in small intestine. Degraded into steviol by bacteria in the colon, where it is absorbed. Excreted in the feces and urine.	25% is absorbed and excreted in the urine. Unabsorbed portion is fermented by colonic bacteria.	50% absorbed and excreted. Unabsorbed portion is fermented by colonic bacteria.	25% is absorbed and excreted in the urine. Unabsorbed portion is fermented by colonic bacteria.	90% is absorbed. Rapidly excreted in the urine and feces within 24 hours.
Relative sweetness compared to sucrose*	180	200	300	600	7000 - 13000	20000	200 - 300	0.5 - 0.7	1	0.5 - 0.7	0.6 - 0.8
Kcal/g	4	0	0	0	0	0	0	1.6	2,4	2,6	0.2
ADI (mg/kg/d) **	50	15	5	5	18mg / NA	1970 mg/day	0-4 (as steviol)	Not specified.	Not specified.	Not specified.	Not specified.
ADI for 70kg person / Cans of soda equivalent	3500mg / 28	1050mg / 21	350mg / 4	350mg / 6	18mg / NA	1970 mg/ NA	0 – 280mg / 5	NA / NA	NA / NA	NA / NA	NA / NA
Year of approval by FDA and as GRAS.	1981	1988	Prior to 1958. Reapproved again in 2000.	1998	2002	2014	GRAS in 2008	1986	1983	GRAS 1982	GRAS in 2001
Chemical Structures	Aspartame	Acesulfame-K	Saccharin	Sucralose	Neotame	Advantame	Steviosides	Mannitol	Xylitol	Sorbitol	Erythrit
			Non-nutritive sweeteners						**Nutritive Sweeteners**		
Uses	Tabletop sweetener, ingredients in foods and diet soft drinks. Limited use in bakery products.	Tabletop sweeteners, baked goods, frozen desserts, candies, beverages, cough drops, and breath mints.	Tabletop sweetener, soft drinks, baked goods, jams, chewing gum, canned fruit, candy, dessert toppings, salad dressings.	Tabletop sweetener, beverages, chewing gum, frozen desserts, fruit juices, gelatins.	Flavor enhancer, baked goods, soft drinks, chewing gum, frozen desserts, jams, puddings, gelatins, processed fruits.	Flavor enhancer, baked goods, soft drinks, chewing gum, frozen desserts, jams, puddings, gelatins, processed fruits.	Tabletop sweetener, juices, tea beverages. (Used extensively in Japan for pickles, dried seafoods, and confections).	Dusting powder for chewing gum, ingredient in chocolate-flavored coating agents for ice cream and confections.	Chewing gum, hard candy, oral health products, cough syrups and cough drops, children’s chewable multivitamins, foods for special dietary needs.	Sugar-free candies, chewing gums, frozen desserts, pastries	Bulk sweetener in diet food products, candies, beverages, fat-based creams, chewing gums, confection, yogurt.
Health benefits	Virtually calorie free.	Calorie free.	Calorie free.	Calorie free.	Calorie free.	Calorie free.	Calorie free. Claimed to have a hypoglycemic effect.	Low calorie content. Non-cariogenic. Low glycemic response.	Low calorie content. Reduces dental plaque and caries and may promote tooth remineralization. Low glycemic response.	Low calorie content. Slow absorption and metabolism independently of insulin might benefit for diabetics.	Calorie free. Unlikely to have a laxative effect. Non-cariogenic.. Low glycemic response.
Non-nutritive sweeteners								Nutritive Sweeteners			
Health concerns		All should be used at levels below the ADI.						Strong laxative effect at >20 mg/day.	Strong laxative (> 50 mg/day) and also diuretic effects. Flatulence and diarrhea.		
Comment	Requires a label that product contains phenylalanine.				Does not require a label for phenylalanine content due to negligible amount used and low availability of phenylalanine from the neotame.			Requires a warning label for a possible laxative effect.		Requires a warning label for a possible laxative effect.	

*Relative sweetness as compared to sucrose (table sugar). 1= reference value which is the sweetness of sucrose. ** ADI = Acceptable Daily Intake *** Other non-nutritive low-calorie sweeteners (Alitame, Thaumatin, Neohesteridine, and Glycyrrhizin) are not yet approved as both sweeteners and as GRAS in the US. See text for details.http://beverageinstitute.org/