molecular form by synthesis, represent another distinct category. A typical example is vitamin C, which is produced commercially by synthesis, and the synthetic substance is referred to as a nature-identical vitamin.

In conclusion, from the examples presented in this article, it is clear that natural and synthetic substances have a similar overall range of properties with regard to efficacy and safety, in terms of their impact on human health. The actions of individual substances are determined by their molecular structures and dose, not whether they are of natural or synthetic origin.

www.iupac.org/publications/pac/2002/7410/7410x1957.html

## Isotope-Abundance Variations of Selected Elements (IUPAC Technical Report)

***by T. B. Coplen, J. K. Böhlke, P. DeBiŁvre, T. Ding, N. E. Holden, J. A. Hopple, H. R. Krouse, A. Lamberty, H. S. Peiser, K. RŁvŁsz, S. E. Rieder, K. J. R. Rosman, E. Roth, P. D. P. Taylor, R. D. Vocke, Jr., and Y. K. Xiao***

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Documented variations in the isotopic compositions of some chemical elements are responsible for expanded uncertainties in the standard atomic weights published by IUPAC's Commission on Atomic Weights and Isotopic Abundances. This report summarizes reported variations in the isotopic compositions of 20 elements due to physical and chemical fractionation processes (not due to radioactive decay) and their effects on the standard atomic-weight uncertainties. For 11 of those elements (hydrogen, lithium, boron, carbon, nitrogen, oxygen, silicon, sulfur, chlorine, copper, and selenium), standard atomic-weight uncertainties have been assigned values that are substantially larger than analytical uncertainties because of common isotope-abundance variations in materials of natural terrestrial origin. For two elements (chromium and thallium), recently reported isotope-abundance variations potentially are large enough to result in future expansion of their atomic-weight uncertainties. For seven elements (magnesium, calcium, iron, zinc, molybdenum, palladium, and tellurium), documented isotope variations in materials of natural terrestrial origin are too small to have a significant effect on their standard atomic-weight uncertainties.

This compilation indicates the extent to which the atomic weight of an element in a given material may differ from the standard atomic weight of the element. For most elements given above, data are graphically illustrated by a diagram in which the materials are specified in the ordinate and the compositional ranges are plotted along the abscissa in scales of (1) atomic weight, (2) mole fraction of a selected isotope, and (3) delta value of a selected isotope ratio.

www.iupac.org/publications/pac/2002/7410/7410x1987.html

**Errata. Generic Source-Based Nomenclature for Polymers (IUPAC Recommendations 2001) *Pure Appl. Chem.* 73, 1511-1519 (2001)**

Pure and Applied Chemistry, Vol. 74, No. 10, p. 2019 (2002)

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**Translations of the "Blue Book"—*A Guide to IUPAC Nomenclature of Organic Compounds* (recommendations 1993)**

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~ in Croatian—prepared by V. Rapic; Skolska Knjiga, Zagreb, 2002 [ISBN 953-0-30917-1]

www.iupac.org/publications/books/seriestitles/nomenclature.html