

## Topic Page: [Cerium](#)

Definition: **cerium** from *Philip's Encyclopedia*

(symbol Ce) Soft, ductile, iron-grey metallic element, the most abundant of the lanthanide series (rare-earth metals), first isolated in 1803. The chief ore is monazite. It is used in alloys, catalysts, nuclear fuels, glass and as the core of carbon electrodes in arc lamps. Properties: at.no. 58; r.a.m. 140.12; r.d. 6.77; m.p. 798°C (1468°F); b.p. 3257°C (5895°F). The most common isotope is Ce<sup>140</sup> (88.48%).

Summary Article: **cerium**

From *The Columbia Encyclopedia*

(sēr'ēəm) [from the asteroid Ceres], metallic chemical element; symbol Ce; at. no. 58; at. wt. 140.116; m.p. 799 degrees Celsius; b.p. 3,426 degrees Celsius; sp. gr. 6.77 at 25 degrees Celsius; valence +3 or +4. Cerium is a soft, malleable, ductile, iron-grey metal with hexagonal or cubic crystalline structure. It is slightly harder than lead. It is the most abundant of the rare-earth metals of Group 3 of the periodic table. It does not tarnish rapidly in dry air but quickly loses its luster in moist air. It oxidizes slowly in cold water and rapidly in hot water. It is attacked by solutions of alkalis and by concentrated or dilute acids. When heated it burns with a brilliant flame to form the oxide (ceria) that exhibits incandescence and is used in making lamp mantles (see Welsbach mantle). The metal is used as a core for the carbon electrodes of arc lamps. The element forms alloys with other metals. An alloy of cerium and iron is used as the flint in cigarette and gas lighters. Minute particles of this alloy ignite in the air when scratched from the surface of the larger mass. Cerium is prepared by electrolysis of the chloride or by reduction of the fused fluoride with calcium. Cerium was recognized in 1803 in the oxide (ceria) as a new metal by M. H. Klaproth and by J. J. Berzelius and Wilhelm Hisinger; it was named for the asteroid Ceres, which had been discovered only two years earlier. The metal was obtained in a very impure state by C. G. Mosander and by Friedrich Wöhler some thirty years later; the nearly pure metal was not obtained until 1875 by W. F. Hillebrand and T. H. Norton.

**APA**

Chicago

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cerium. (2018). In P. Lagasse, & Columbia University, *The Columbia encyclopedia* (8th ed.). New York, NY: Columbia University Press. Retrieved from <https://search.credoreference.com/content/topic/cerium>

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## APA

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## Chicago

"cerium." In *The Columbia Encyclopedia*, by Paul Lagasse, and Columbia University. 8th ed. Columbia University Press, 2018. <https://search.credoreference.com/content/topic/cerium>

## Harvard

cerium. (2018). In P. Lagasse & Columbia University, *The Columbia encyclopedia*. (8th ed.). [Online]. New York: Columbia University Press. Available from: <https://search.credoreference.com/content/topic/cerium> [Accessed 21 October 2019].

## MLA

"cerium." *The Columbia Encyclopedia*, Paul Lagasse, and Columbia University, Columbia University Press, 8th edition, 2018. *Credo Reference*, <https://search.credoreference.com/content/topic/cerium>. Accessed 21 Oct. 2019.