

## Topic Page: [Neutralization \(Chemistry\)](#)

Definition: **neutralization** from *Merriam-Webster's Collegiate(R) Dictionary*

 [pronunciation](#)

(1808) **1** : an act or process of neutralizing **2** : the quality or state of being neutralized

### Summary Article: **neutralization**

From *The Columbia Encyclopedia*

chemical reaction, according to the Arrhenius theory of acids and bases, in which a water solution of acid is mixed with a water solution of base to form a salt and water; this reaction is complete only if the resulting solution has neither acidic nor basic properties. Such a solution is called a neutral solution. Complete neutralization can take place when a strong acid, such as hydrochloric acid, HCl, is mixed with a strong base, such as sodium hydroxide, NaOH. Strong acids and strong bases completely break up, or dissociate, into their constituent ions when they dissolve in water. In the case of hydrochloric acid, hydrogen ions, H<sup>+</sup>, and chloride ions, Cl<sup>-</sup>, are formed. In the case of sodium hydroxide, sodium ions, Na<sup>+</sup>, and hydroxide ions, OH<sup>-</sup>, are formed. The hydrogen and hydroxide ions readily unite to form water. If the number of hydrogen ions in the hydrochloric acid solution is equal to the number of hydroxide ions in the sodium hydroxide solution, complete neutralization occurs when the two solutions are mixed. The resulting solution contains sodium ions and chloride ions that unite when the water evaporates to form sodium chloride, common table salt. In a neutralization reaction in which either a weak acid or a weak base is used, only partial neutralization occurs. In a neutralization reaction in which both a weak acid and a weak base are used, complete neutralization can occur if the acid and the base are equally weak. The heat produced in the reaction between an acid and a base is called the heat of neutralization. When any strong acid is mixed with any strong base, the heat of neutralization is always about 13,700 calories for each equivalent weight of acid and base neutralized. See article on pH; titration.

**APA**

Chicago

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**MLA**

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neutralization. (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/neutralization>

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## APA

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## Harvard

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## MLA

"neutralization." *The Columbia Encyclopedia*, Paul Lagasse, and Columbia University, Columbia University Press, 8th edition, 2018. *Credo Reference*, <https://search.credoreference.com/content/topic/neutralization>. Accessed 17 Nov. 2019.