Stable isotopes of chlorine available from ISOFLEX

Isotope	Z(p)	N(n)	Atomic Mass	Natural Abundance	Enrichment Level	Chemical Form
Cl-35	17	18	34.96885271	75.53%	99.00%	Sodium Chloride
Cl-37	17	20	36.96590260	24.37%	98.00%	Sodium Chloride

Chlorine was discovered in 1774 by Carl William Scheele. Its name derives from the Greek word *chloros,* meaning "pale green."

A greenish-yellow gas with a suffocating odor, chlorine combines directly with nearly all other elements. It becomes a pale yellow crystal at -101.5 ºC. It is moderately soluble in water. It has known oxidation states from +1 to +7. It occurs as a diatomic molecule Cl_2, containing a single covalent bond in which the Cl-Cl bond distance is 1.99 Å.

Chlorine is a respiratory irritant that was used in war as early as 1915. Today, much of the chlorine supply is used in the manufacture of chlorinated cleaning compounds, pulp bleaching, disinfectants and textile processing. It is also used in the production of safe drinking water all over the world.

Properties of Chlorine

Name	Chlorine
Symbol	Cl
Atomic number	17
Atomic weight	35.452
Standard state	Gas at 298 ºK
CAS Registry ID	7782-50-5
Group in periodic table	17
Group name	Halogen
Period in periodic table	3
Block in periodic table	p-block

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Isotopes for Science, Medicine and Industry

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Properties of Chlorine (continued)

Color	Greenish-yellow
Classification	Nonmetallic
Melting point	-101.50 ºC
Boiling point	-34.04 ºC
Thermal conductivity	0.0089 W/(m·K)
Electrical resistivity	100 Ω·m
Electronegativity	3.16
Heat of vaporization	10.20 (per mol Cl atoms) $kJ \cdot mol^{-1}$
Heat of fusion	3.20 (per mol Cl atoms) $kJ \cdot mol^{-1}$
Density	2.03 g/cm^3
Electron configuration	$[Ne]3s^2 3p^5$
Most common oxidation state	2

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