

**\* Name Origin:**

Greek: chrôma (color).

**\* Sources:**

Does not occur free in nature. Chromite [ $\text{Fe, Mg}(\text{CrO}_4)$ ] is its most important mineral.

**\* Uses:**

Used to make stainless steel. Also used in plating for car parts, tools, knives, camouflage paint, stereos, video tapes and lasers. It gives rubies and emeralds their color.

**\* Additional Notes:**

Discovered in 1797 by Vauquelin, who prepared the metal the next year, chromium is a steel-gray, lustrous, hard metal that takes a high polish. The principal ore is chromite ( $\text{FeCr}_2\text{O}_4$ ), which is found in Zimbabwe, Russia, Transvaal, Turkey, Iran, Albania, Finland, Democratic Republic of Madagascar, and the Philippines. The metal is usually produced by reducing the oxide with aluminum. Chromium is used to harden steel, to manufacture stainless steel, and to form many useful alloys. Much is used in plating to produce a hard, beautiful surface and to prevent corrosion. Chromium is used to give glass an emerald green color. It finds wide use as a catalyst. All compounds of chromium are colored; the most important are the chromates of sodium and potassium ( $\text{K}_2\text{CrO}_4$ ) and the dichromates ( $\text{K}_2\text{Cr}_2\text{O}_7$ ) and the potassium and ammonium chrome alums, as  $\text{KCr}(\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$ . The dichromates are used as oxidizing agents in quantitative analysis, also in tanning leather. Other compounds are of industrial value; lead chromate is chrome yellow, a valued pigment. Chromium compounds are used in the textile industry as mordants, and by the aircraft and other industries for anodizing aluminum. The refractory industry has found chromite useful for forming bricks and shapes, as it has a high melting point, moderate thermal expansion, and stability of crystalline structure. Many chromium compounds are toxic and should be handled with proper safeguards. Natural chromium contains four isotopes. Sixteen other isotopes are known.