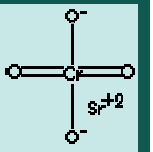
STRONTIUM CHROMATE

PRODUCT IDENTIFICATION	
CAS NO.	7789-06-2, 54322-60-0
EINECS NO.	232-142-6
FORMULA	$SrCrO_4$
MOL WT.	203.62
HS CODE	284150
TOXICITY	Toxic
SYNONYMS	C.I. pigment yellow 32; Strontium yellow; Deep lemon yellow; Strontium Dichromate, Chromic acid strontium salt (1:1);
CLASSIFICATION	



PHYSICAL AND CHEMICAL PROPERTIES	
PHYSICAL STATE	Yellow Powder
MELTING POINT	
BOILING POINT	
SPECIFIC GRAVITY	3.89
SOLUBILITY IN WATER	soluble in hydrochloric acid, nitric acid and ammonia liquid
pH	5 - 8
VAPOR DENSITY	
AUTOIGNITION	
NFPA RATINGS	
REFRACTIVE INDEX	
FLASH POINT	
STABILITY	Stable under ordinary conditions

GENERAL DESCRIPTION & APPLICATIONS

Chromium (symbol Cr and atomic number 24) occurs in the oxidation states 0, +2, +3, and +6 states. Element (0) and divalent chromium, however, are unstable. Chromium (0) immediately produce a thin oxide layer. Divalent chromium is easily oxidized to the trivalent form in air. The trivalent and hexavalent oxidation states are important in industry, which exit in their divalent anions called chromate and dichromate respectively and an chromic anhydride form called chromium trioxide (CrO_3) and chromic oxide (Cr_2O_3). In industrial, chromium trioxide is called chromic acid. The principal uses of chromium are in the metallurgical processing of ferrochromium and other metallurgical products to impart corrosion resistance, chiefly stainless steel. There are applications in chrome plating, anodizing aluminium, and refractory processing of chrome brick. When combined with oxygen together other metallic elements such as lead and potassium, it forms various inorganic pigments. Chromium is used in chemical processing to produce chromic acid and chromates. Chromates are strong oxidants which will produce many organic and inorganic materials and used in the purification of chemicals. Chromates are used as rust and corrosion inhibitors in diesel engines. Dichromate is converted to chromic sulfate for tanning of leather. The reaction of chromium with collagen raises the hydrothermal stability of the leather and renders it resistant to bacterial attack. The reaction with collagen is useful reaction in screen printing application and in photography as a sensitizer for gelatin coatings. This Chromates and dichromates are used as pigments in paints and in dyeing. Chrome colors include black, red, orange, green, and yellow. Chromate salts contain the chromate ion, CrO_4^{-2}, and have an intense yellow color. Dichromate salts contain the dichromate ion, $Cr_2O_7^{-2}$, and have an intense orange color. Chromates are used as mordant in dyeing cloth.

Chromic acid (chromium trioxide, CrO_3) is an odorless red deliquescent solid. Chromium trioxide is produced commercially by the reaction of sodium dichromate with concentrated sulfuric acid. It has been used mainly for chromium plating particularly in the production of automobiles and as a colorant in ceramics. Uses in other metal-finishing operations include aluminium anodizing, particularly on military aircraft; chemical conversion coatings, which provide both decoration and corrosion protection; and the production of phosphate films on galvanized iron or steel. It is a powerful oxidant and are utilized by controlled oxidations in organic synthesis. This compound is sensitive to moisture.

Another significant oxygen compound, chromic oxide is prepared by calcining sodium dichromatewith boric acid or by reducing sodium dichromate with carbon. Anhydrous chromic oxide is produced commercially from chromic hydroxide, dry ammonium dichromate, or sodium dichromate by heating with sulfur. Chromic oxide is a dark green, amorphous powder, forming hexagonal crystals on heating that are insoluble in water or acids. Most chromic oxide is used as a pigment. Anhydrous chromic oxide is known as the most stable green pigment used when heat, light and chemical resistance is required for glass, ceramics, and polymers. Its hydrate form is called Guignet's green and used as a green pigment, particularly for automotive finishes.

Chromic compounds are also used in metallurgy in the manufacture of chromium metal and aluminium-chromium master alloys, in refractory brick, and as a chemical intermediate. They have good resistance to alkali and find application as colorant for latex paints. They are used in asphalt roofing and in camouflage paints. They are used as catalyst in the preparation of methanol, butadiene and high-density polyethylene. When used as a mild abrasive for polishing jewellery and fine metal parts, it is known as ¡®green rouge¡¯

Chromic compounds are used extensively as pigments. Chromic acid finds applications in:

- wood Preservative
- Metal Plating
- Magnetic Tape
- Catalyst
- Copper stripping
- Aluminum anodizing
- Corrosion inhibitor
- Photography
- Purifying oil and acetylene
- Oxidizer in organic synthesis

Strontium chromate is used as rust- and corrosion-resistant pigment in paints, varnishes and oil colors. It is used in water based wash primers, metal conditioners or in aluminium flake coatings, either alone or in combination with basic zinc chromate (solvent and vinyl based wash primer). Strontium chromate has also been used as an additive to control the sulfate content of solutions in electrochemical processes.

SALES SPECIFICATION	
APPEARANCE	Yellow Powder
STRONTIUM	43% min
CHROMIUM	41% min
CHLORIDE	0.1% max
SULPHATE	0.2% max
NITRATE	0.05% max

MOISTURE	1.0% max
OIL ABSORPTION	25 ± 3 (ml/100g)
VOLATILE MATTE	0.5% max
COVERAGE	150 max (g/m2)
PARTICLE SIZE	97% max (325 mesh)
TRANSPORTATION	
PACKING	25kgs, 50kgs in Bag
HAZARD CLASS	6.1
UN NO.	2811
OTHER INFORMATION	
Hazard Symbols: T, Risk Phrases: 45-22, Safety Phrases: 53-44	