

HCP Grade Chromic Acid

General

The purity of industrial grade chromic acid has suffered as the producers compete for market share. This is the result of the methods used in refining and converting the chrome ore that's mined.

Contaminants such as sulfate, chloride, iron, copper and even insoluble materials are now common. These contaminants may not be significant in other applications, but they become very important for high quality hard chromium plating. This is especially true when ZERO Discharge Recovery is used.

HCP grade chromic acid is manufactured and assayed to our stringent specifications. It is intended for use where plating quality is of prime importance. The HCP grade is a beaded (crystalline) material that is non dusting, avoids caking that causes splashes and is easy to pour, almost like a liquid. Besides the exceptional purity the HCP grade provides, this is a huge safety improvement over the older flake form of chromic acid.

It is packaged in 25-kilogram (55.115 pound) steel drums with a gasket lid. It is much safer to handle, use and is more 'user-friendly' than the other varieties are.

Analysis

Each batch of HCP Grade Chromic Acid is produced and later assayed to our stringent quality standards. The other grades are typical averages from several producers.

<u>Component</u>	<u>HCP Grade</u>	<u>Other Grades</u>
Chromium Trioxide (CrO ₃):	99.96%	98.45%
Chloride (Cl):	0%	0.15%
Sulfate (SO ₄):	0.01%	0.25%
Iron (Fe) & Copper (Cu):	0.01%	0.40%
Other Metals & Ions:	0.01%	0.19%
Insoluble Material:	0.01%	0.56%

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Related Data

Formula:	CrO ₃ ; when dissolved in water yields H ₂ CrO ₄ chromic acid.
Synonyms:	Chromium Trioxide, Chromic Anhydride.
Cr Metal Available:	52% percent chromium metal. Plates 16.87 grams/sq. ft./0.011" thick.
Containers:	25-kg. full open head (FOH) steel drums with a gasket seal.
Form:	Crystal Beads, anhydrous.
Density:	87 lbs. /cu. ft. (approx.)
Molecular Weight:	99.993
Appearance:	Dark purplish red
Stability:	Very stable, long shelf life if properly stored.
Specific Gravity:	2.70
Melting Point:	197° C.
Volatilization:	110° C. (approx.)
Boiling Point	250° C.
Heat of Solution:	2467 cal. /mol.
Solubility:	In 100 c.c.'s H ₂ O: 164.9 grams @ 0° C. and 206.7 grams @ 100° C.
Hazards:	Oxidizer, Corrosive, Poison, Carcinogen & Environmental; see the SDS. OSHA and EPA regulated. Avoid contact with organics (especially rags and paper because of the fire hazard).
Storage:	A dedicated and secure storage area is recommended. This should be segregated from other hazard classes, well-ventilated and maintained in a dry condition. All partial drums should be resealed.
Spills:	Sweep up and recover as much clean material as possible. Use ChromeKill-318 to neutralize any residue. Dispose of the material according to regulations.
Ratings:	UN number: 1463 CAS number: 1333-82-0

Safety

HCP Grade Chromic Acid is an industrial product and must be handled and treated as such. Read and understand the SDS prior to handling or using this material. Chromic acid is a strong oxidizer so contact with organic materials and reducing agents must be avoided. Contact with the skin and eyes must also be avoided. The proper use of personal protection equipment is required.