ELECTRONIC CHEMICALS



Whether for research or production, GFS has industry specific experience to support your project in the electronics industry.

With decades of experience in manufacturing high-purity chemicals used in cleaning, etching, polishing, and film dipping of semiconductors, circuit boards, solar panels, and more.

The **GFS Inorganics Division** offers a world class reputation in manufacturing anhydrous materials with the continuous refinement of moisture control technologies. Our proprietary in-house drying methods allow us to offer numerous low moisture and anhydrous chemicals for use in electronics, battery, and other specialty applications.

Products manufactured for the electronics industry include:

- Low Trace Metal Nitrates
- Cadmium Chloride
- Cerous Chloride
- Yttrium Salts
- Lanthanum Salts
- Perchloric Acid

- High Purity Nitric Acid
- Perchlorate Salts
- Lithium Products
- High Purity Oxalic Acid
- Ceric Ammonium Nitrate

Located in Columbus Ohio GFS focuses on developing and adapting core chemistries to meet our clients' unique and individualized specifications. Our technical staff continuously monitor the quality of these products while driving process improvements through quality control and automation. We have a proven track record of supporting our customers from concept through commercialization.

Perchloric Acid/Ceric Ammonium Nitrate Etchants

Robert Kramer | Technical Sales & Business Development Mgr. Inorganic Manufacturing Division | rkramer@gfschemicals.com Direct: 380.390.8782

155 Hidden Ravines Dr. Suite A. Powell, Ohio 43065

gfschemicals.com 800.858.9682









ABOUT GFS CHEMICALS

Commitment to Quality

- Specialized chemistries with ultra-pure chemicals
- Custom manufacturing capabilities
- Facilities are ISO 9001:2015 certified

Shipping

- Export to 80+ countries
- Handle a wide range of packaging configurations
- Navigate the complex shipping requirements of hazardous materials

? Service

- Tailored sizes, packaging and specifications
- Responsive customer service
- Expert technical & manufacturing personnel
- Quick turn-around of in-stock products

PROCESS-PERFECT INORGANIC CHEMICALS



GFS can support your business by providing:

Tighter metal specifications, single batch-charge packaging, and a technical team based at our production facility.

ITEM #	CHEMICAL NAME
646	Ammonium Nitrate, ACS
602	Barium Chloride, Dihydrate, ACS
8	Barium Perchlorate, Trihydrate, Reagent
779	Calcium Nitrate, Tetrahydrate, ACS
12	Calcium Perchlorate, Hydrated, Reagent
13	Ceric Ammonium Nitrate, ACS
768	Ceric Ammonium Nitrate, Commercial
2909	Ceric Ammonium Nitrate, Superior ACS
7683	Ceric Ammonium Nitrate, Electronics Grade
1574	Ceric Nitrate, 1.0N Solution
1575	Ceric Nitrate,1.5N Solution
24	Ceric Sulfate, Reagent
29	Cerous Chloride, Heptahydrate, Reagent
30	Cerous Nitrate, Hydrated, Reagent
666	Cupriethylenediamine, 1 M Solution
39	Ferric Perchlorate, Hydrated, Yellow
40	Ferric Perchlorate, Hydrated, Non-Yellow
42	Ferrous Perchlorate, Hydrated
44	Iodic Acid, ACS
634	Lanthanum Chloride, Heptahydrate, ACS
633	Lanthanum Nitrate, Hexahydrate, Reagent
2595	Lithium Iodide, Anhydrous
611	Lithium Nitrate, Reagent
53	Lithium Perchlorate, Trihydrate, ACS
221	Lithium Perchlorate, Anhydrous, ACS
233	Lithium Perchlorate, Battery Grade

Is your supply chain as strong as it could be?

ITEM #	CHEMICAL NAME
	CHEMICAL IVANIL
805	Sodium Tartrate, Dihydrate, ACS
55	Magnesium Perchlorate, Anhydrous, ACS
56	Magnesium Perchlorate, Hexahydrate, Reagent
652	Oxalic Acid, Dihydrate, ACS
1277	Oxalic Acid, Dihydrate, High Purity
66	Perchloric Acid, 70%, ACS
69	Perchloric Acid, 60%, ACS
987	Potassium Chlorate, ACS
554	Potassium Acid Phthalate, Primary Standard (ACS)
2354	Potassium Acid Phthalate, Buffer Grade
80	Potassium Perchlorate, ACS
373	Potassium Perchlorate, Commercial
1190	Silver Iodide, Reagent
378	Silver Nitrate, ACS
1029	Sodium Chlorate, ACS
658	Sodium Nitrate, ACS
559	Sodium Nitrite, ACS
91	Sodium Perchlorate, Anhydrous, ACS
92	Sodium Perchlorate, Monohydrate, ACS
807	Strontium Chloride, Hexahydrate, ACS
808	Strontium Nitrate, ACS Reagent
96	Strontium Perchlorate, Trihydrate, Reagent
1216	Yttrium Nitrate, Hexahydrate, 99.9%
102	Zinc Perchlorate, Hexahydrate, Reagent

This list is a small sampling of the chemicals GFS can manufacture. To view our full range of chemicals, scan the QR code and visit our Inorganics division home page.

