

1 H Hydrogen																	2 He Helium									
3 Li Lithium	4 Be Beryllium											5 B Boron	6 C Carbon	7 N Nitrogen	8 O Oxygen	9 F Fluorine	10 Ne Neon									
11 Na Sodium	12 Mg Magnesium											13 Al Aluminum	14 Si Silicon	15 P Phosphorus	16 S Sulfur	17 Cl Chlorine	18 Ar Argon									
19 K Potassium	20 Ca Calcium	21 Sc Scandium	22 Ti Titanium	23 V Vanadium	24 Cr Chromium	25 Mn Manganese	26 Fe Iron	27 Co Cobalt	28 Ni Nickel	29 Cu Copper	30 Zn Zinc	31 Ga Gallium	32 Ge Germanium	33 As Arsenic	34 Se Selenium	35 Br Bromine	36 Kr Krypton									
37 Rb Rubidium	38 Sr Strontium	39 Y Yttrium	40 Zr Zirconium	41 Nb Niobium	42 Mo Molybdenum	43 Tc Technetium	44 Ru Ruthenium	45 Rh Rhodium	46 Pd Palladium	47 Ag Silver	48 Cd Cadmium	49 In Indium	50 Sn Tin	51 Sb Antimony	52 Te Tellurium	53 I Iodine	54 Xe Xenon									
55 Cs Cesium	56 Ba Barium											72 Hf Hafnium	73 Ta Tantalum	74 W Tungsten	75 Re Rhenium	76 Os Osmium	77 Ir Iridium	78 Pt Platinum	79 Au Gold	80 Hg Mercury	81 Tl Thallium	82 Pb Lead	83 Bi Bismuth	84 Po Polonium	85 At Astatine	86 Rn Radon
87 Fr Francium	88 Ra Radium											104 Rf Rutherfordium	105 Db Dubnium	106 Sg Seaborgium	107 Bh Bohrium	108 Hs Hassium	109 Mt Meitnerium	110 Uun Ununium	111 Uuu Ununium	112 Uub Ununium			114 Uuq Ununquadium			116 Uuh Ununhexium
		Lanthanides		57 La Lanthanum	58 Ce Cerium	59 Pr Praseodymium	60 Nd Neodymium	61 Pm Promethium	62 Sm Samarium	63 Eu Europium	64 Gd Gadolinium	65 Tb Terbium	66 Dy Dysprosium	67 Ho Holmium	68 Er Erbium	69 Tm Thulium	70 Yb Ytterbium	71 Lu Lutetium								
		Actinides		89 Ac Actinium	90 Th Thorium	91 Pa Protactinium	92 U Uranium	93 Np Neptunium	94 Pu Plutonium	95 Am Americium	96 Cm Curium	97 Bk Berkelium	98 Cf Californium	99 Es Einsteinium	100 Fm Fermium	101 Md Mendelevium	102 No Nobelium	103 Lr Lawrencium								

A Elements with a white background are offered with a range of products utilizing that metal, go to www.shepchem.com for a listing.

A Metals in blue represent Shepherd Chemical's core raw materials.



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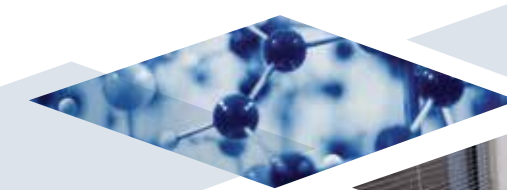
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FAX 81.3.3344.3027



Creating Value *Enhancing Lives*





Shepherd Chemical

Since 1916 The Shepherd Chemical Company has been manufacturing high quality metal based chemicals. Our focus is on the development and manufacture of unique value added compounds which enhance the value of our customer's technology. We offer both a line of standard products and development services for custom chemicals.

Over the years we have found that a collaborative approach with our customers yields the type of outcome that allows our customers to succeed in today's competitive landscape. We maintain an R&D team, characterization lab, and engineering staff focused on the development and rapid scale-up of our customer's target compounds. Today, a significant portion of business is made up of custom products or customized versions of our standard products.

Creating Value For You

relationship

We listen and assess your needs for the best solution to your raw material requirements. We maintain frequent communication with our customers on all our development work and product sales so that we stand ready to support your business.

technology

Our team is made up of seasoned chemists, engineers, and manufacturing personnel. We are able to develop your process and quickly move it from the lab to the commercial scale based on your timing.

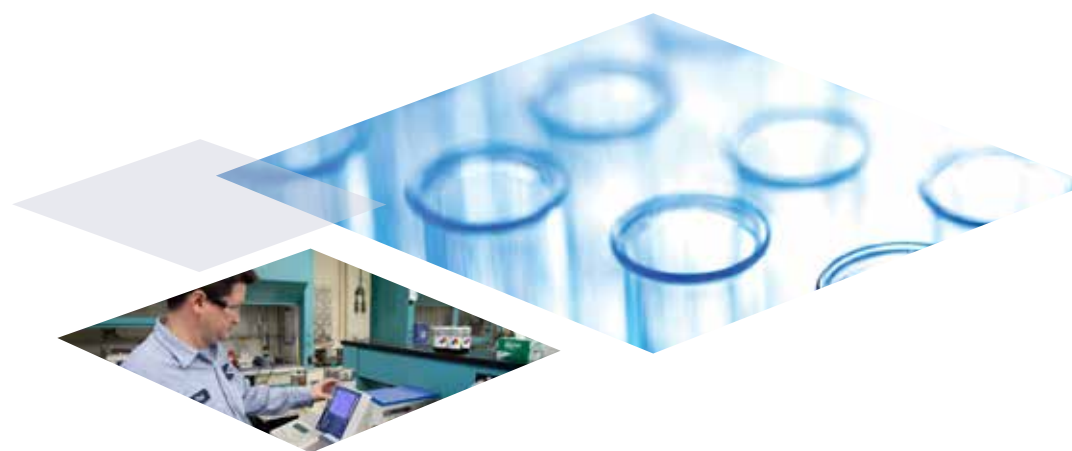
reliability

We welcome customer audits and are happy to review our manufacturing certifications and supply chain processes with you.



Custom Metal Chemisty

At Shepherd Chemical we recognize that many processes and applications require unique chemistry and technology. We have developed an exceptional capability for the custom design, development and manufacture of metal chemicals to meet our customers' specific needs. Using a team approach involving sales, engineering, development and production we will work with you to understand your requirements and meet your needs.



inorganic metal salts

Bismuth Hydroxide
Bismuth Nitrate Solution
Bismuth Nitrate Crystals
Bismuth Oxychloride
Bismuth Oxyhydroxy Nitrate
Bismuth Subcarbonate
Bismuth Subnitrate
Bismuth Trioxide
Cadmium Nitrate Solution
Cerium Nitrate Solution
Chromium Nitrate Solution
Chromium Nitrate Crystals
Cobalt Ammonium Phosphate
Cobalt Carbonate
Cobalt Chloride Solution
Cobalt Chloride Crystals
Cobalt Hydroxide
Cobalt Nitrate Solution

Cobalt Nitrate Crystals
Cobalt Oxide
Cobalt Phosphate
Cobalt Sulfate Monohydrate
Cobalt Sulfate Solution
Cobalt Sulfate Crystals
Copper (Basic) Nitrate
Copper Carbonate
Copper Hydroxide
Copper Iodide
Copper Nitrate Solution
Copper Nitrate Crystals
Copper Oxide Ultra-Fine
Ferric Nitrate Solution
Ferric Nitrate Crystals
Ferric Oxide Hydroxide
Ferric Phosphate
Magnesium Nitrate Solution

Manganese Acetate Solution
Manganese Carbonate
Manganese Nitrate Solution
Manganese Oxyhydrate
Manganese Sulfate Solution
Nickel Carbonate
Nickel Hydroxide
Nickel Nitrate Solution
Nickel Nitrate Crystals
Sodium Nitrate Solution
Vanadyl Sulfate Solution
Zinc Carbonate
Zinc Nitrate Solution
Zinc Nitrate Tetrahydrate
Crystals
Zinc Sulfate Crystals
Zinc Sulfate Solution
Zirconium Oxynitrate

metal organics

BiCAT® 8106
BiCAT® 8108
BiCAT® 8118
BiCAT® 8210
BiCAT® 8
BiCAT® V
BiCAT® Z
BiCAT® 3228
BiCAT® 3184
BiCAT® 2536C
BiCAT® 8840
BiCAT® 8842
BiLUBE® 8109
BiLUBE® 8123
BiLUBE® 8211
BiLUBE® 8313
BiLUBE® 8325
Bismuth B-Resorcyate
Bismuth Citrate
Bismuth Lactate
Bismuth Naphthenate
Bismuth Neodecanoate
Bismuth Octoate
Bismuth Subsalicylate
Cerium Octoate 12%
Cerium Octoate 23%
Chromium Acetate, Solution
Chromium Acetate Crystals
Chromium Acetylacetonate

Chromium Heptanoate
Chromium Octoate
Cobalt Decanoate
Cobalt 21
Cobalt Acetate
Cobalt Boro-Neodecanoate
Cobalt Linoleate
Cobalt Naphthenate
Cobalt Neodecanoate
Cobalt Octoate
Cobalt Oleate
Cobalt Resinate
Cobalt Stearate
Cobaltous Acetylacetonate
CoMEND® A
CoMEND® B
CoMEND® CM
Copper Acetate Solution
Copper Acetate Crystals
Copper Acetylacetonate
Copper Naphthenate
Copper Oxalate
Copper Salicylate
Copper Thiocyanate
Ferric Acetate
Ferric Acetylacetonate
Ferric Stearate
Lead B-Resorcyate
Lead Salicylate

Lithium Neodecanoate
Magnesium Acetate Solution
Manganese Acetate Crystals
Manganese Linoleate
Manganese Oleate
Manganese Stearate
Manganese Versalate
Molybdenum Naphthenate
Molybdenyl Octoate
Neodymium Octoate
Nickel Acetylacetonate
Nickel Octoate
Nickel Oxalate
Potassium Octoate
Strontium Octoate
Vanadium Naphthenate
Vanadium Octoate
Vanadyl Oxalate Solution
Yttrium Octoate
Zinc Acetate Crystals
Zinc Acetylacetonate
Zinc Caprylate
Zinc Naphthenate
Zinc Neodecanoate
Zinc Octoate
Zinc Oleate
Zirconium Neodecanoate
Zirconium Octoate

specialty organics

Multi-step organic synthesis - Ligand synthesis, heterocycles
Organotransition metal chemistry
Single site catalysts
Organo-main group
Coordination complexes
Grignard chemistry
Alkyl lithium Chemistry



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