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**UCC**

UNION CARBIDE AND  
CARBON CORPORATION

CONDENSED

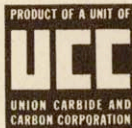
*List of*

**PRODUCTS  
AND  
PRINCIPAL  
SUBSIDIARY  
COMPANIES**

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MAY 15, 1934



## CONDENSED LIST OF PRODUCTS

### ACTIVATED CARBON:

Used for solvent recovery in industrial processes, and in gas masks of all kinds for military and industrial purposes.

### BARIUM "GETTERS":

For the removal of the last vestige of gas in radio tubes.

### CALCIUM CARBIDE:

A product from which is generated acetylene gas used in the oxy-acetylene process of cutting and welding of metals, for farm and mine lighting, in the manufacture of Prest-O-Lite dissolved acetylene, and as a basic material for chemical manufacture.

Brand names are "Union" (packed in the well-known blue and gray drum), "Cameo", "Carbolite", "Imperial" and "Amazon".

### CARBIC:

A briquetted form of calcium carbide used chiefly in flare lamps, floodlights and portable acetylene generators for oxy-acetylene welding and cutting. Carbic Floodlights are used largely for night construction and repair work on highways and railroads, and for routine and emergency operations throughout industry and by municipal street and fire departments.

Brand name is "Carbic".

### CARBON PRODUCTS:

Carbons for motion picture theatre projectors, searchlights, beacons, photo engraving, and motion picture studio lighting.



Carbons for Eveready Sunshine Lamps, Solarium Units, and Milk Irradiation.

Carbon brushes for motors and generators of all kinds.

Carbon specialties such as electric welding carbons, carbon paste, rods, shapes used in the chemical industry, globular carbon for telephone instruments, turbine packing, circuit breakers, lightning arrestors, clutch rings for automobiles and other miscellaneous products.

Carbon electrodes for electric furnaces.

Columbia signal cells for semaphores, train control and crossing signals.

Brand names are "Eveready", "Columbia", "National", "Pyramid" and "Corliss".

#### CHEMICAL PRODUCTS:

Acetone, a solvent for cellulose esters, oils, resins and many organic compounds. Used in acetylene cylinders as a solvent for the gas. Also used for the synthesis of chloroform and as a process solvent in the manufacture of rayon, artificial leather, photographic films, pyroxylin plastics and smokeless powder.

Acetic Anhydride is an important raw material in the manufacture of cellulose acetate which is largely used for rayon, photographic film and other plastics. It also enters into the production of various pharmaceuticals.

Butyl Alcohol, a solvent for resins, gums and oils. Used as a solvent in the nitrocellu-

lose lacquer industry and as a basic material for the production of other lacquer solvents such as butyl acetate, butyl butyrate and butyl Cellosolve.

Butyl Acetate and Isopropyl Acetate are solvents for nitrocellulose, gums and resins. They are used in lacquers and in the manufacture of pyroxylin plastics, photographic films, etc.

Butyraldehyde, essentially used as a raw material for the preparation of compounds required in accelerating the vulcanization of rubber.

Carbitol and Butyl Carbitol, ethers of Diethylene Glycol. These compounds are high boiling nitrocellulose solvents. They are used in lacquers, wood stains and in the manufacture of non-shatterable glass. Carbitol is also used in the printing and dyeing of textiles and in cosmetics.

Cellosolve, Cellosolve Acetate, Butyl Cellosolve and Methyl Cellosolve are solvents for nitrocellulose and many organic compounds. They are used in nitrocellulose lacquers and thinners, in the dyeing and printing of textiles and in textile soaps. In addition, methyl Cellosolve is extensively used for the sealing of moisture-proof wrapping materials.

Ethanol (Ethyl Alcohol), is produced in pure and denatured formulae.

Ethylene Glycol, Diethylene Glycol, Propylene Glycol and Triethylene Glycol are hygroscopic compounds containing replace-



able hydroxyl groups. They consequently form the starting point for the synthesis of many compounds, among which are ethylene glycol dinitrate (a constituent of low freezing dynamite), synthetic resins, lacquer plasticizers, etc. A grade of ethylene glycol specially adapted for use as an anti-freeze in automobile radiators is sold under the trademark, Eveready Prestone. Diethylene glycol is largely used as a moistening and softening agent in composition cork, glue and paper products and as a lubricant and dye solvent in the textile industry. Propylene glycol and triethylene glycol are solvents and moistening agents.

Ethyl Ether and Isopropyl Ether are solvents for fats, waxes and oils and are used extensively for the extraction of these materials. Ethyl ether in combination with alcohol is a nitrocellulose solvent used in the manufacture of guncotton, pyroxylin plastics and rayon. Both ethyl ether and isopropyl ether are utilized for recovering organic acids from aqueous solutions.

Ethylene Oxide is a gas at ordinary temperatures and is highly toxic to insect pests but relatively non-toxic to man. It is an excellent fumigant for foodstuffs, grain, tobacco and other materials. It is also used for the synthesis of phenyl ethyl alcohol and other compounds.

Carboxide is a mixture of carbon dioxide and ethylene oxide which is highly efficient as a general fumigant. It is non-inflammable

and is particularly adapted to the fumigation of foodstuffs, grain, clothing, furs, tobacco and dwellings.

Ethylene Dichloride, Propylene Dichloride, Trichlorethylene and Dichlorethyl Ether are chlorinated solvents which are used for the extraction of oils, fats, pyrethrum and in spot-removing compounds. In the textile industry they are components of liquid soaps and also of cleaning and scouring compounds. Ethylene dichloride mixed with carbon tetrachloride is rendered non-inflammable and this mixture is widely used as a fumigant for the destruction of insect pests. Dichlorethyl ether, under the trade name of Chlorex, is used in the petroleum industry as a means of producing lubricating oils of superior qualities.

Isopropanol (Isopropyl Alcohol) resembles ethanol in properties. It is produced in various grades, the denaturing grade being authorized for use in completely denatured alcohol sold as automobile anti-freeze. Other grades are used as solvents in pharmaceutical preparations, for the synthesis of isopropyl acetate and other compounds and the "wetting" of nitrocellulose.

Dioxan is a solvent for cellulose acetate, cellulose ethers and a variety of resins, oils and waxes. It is used in cellulose acetate solutions, in the manufacture of plastics and as a solvent in various preparations.

Methanol (Methyl Alcohol) is a solvent



for nitrocellulose oils and resins. It is used in the manufacture of pyroxylin plastics and in varnishes, soaps, polishes and wood stains. An anti-freeze grade is widely distributed as Carbide Methanol for use in automobile radiators. Methanol is the basic material from which formaldehyde is made, large quantities of which are used for the manufacture of synthetic resins, rubber accelerators and textile dyeing compounds.

Triethanolamine, Diethanolamine and Monoethanolamine are compounds which are basic in reaction and which combine with fatty acids to form soaps with unusual characteristics. These soaps are used as emulsifying agents in cosmetics, textile specialties, cutting oils and polishes. These amines also react with carbon dioxide, sulphur dioxide and other acid gases and are used for the recovery and purification of these gases.

Vinylite is the trade name for a group of synthetic resins. These resins are thermoplastic and can be molded under heat and pressure. Vinylite molding compound, containing filler and pigment, is being produced in a variety of colors for the manufacture of molded articles. The Vinylite resins are soluble in various solvents and are adapted for surface coatings, especially in applications which require resistance to acids and alkalis. The Vinylite resins used for this purpose and the lacquers made from them have been given the trade-mark of Vinyloid. Hexone and butyrone are two higher boiling

ketones which have been developed as solvents for use in these lacquers.

#### **EVEREADY AIR CELL "A" BATTERY:**

The primary purpose for which the Eveready Air Cell "A" Battery has been developed is to extend the use of radios in unwired homes and to supply current to the filaments of two-volt tubes. The nature of the voltage and current delivered by the battery exactly matches the electrical requirements of these tubes. This battery breathes oxygen from the air. All other forms of batteries obtain this essential ingredient from oxygen-bearing chemicals built into the battery at the time of manufacture.

Brand name is "Eveready Air Cell 'A' Battery".

#### **EVEREADY "B" AND "C" BATTERIES:**

Used in radio sets, automobile and airplane receivers, talking picture equipment and special applications. The Eveready Layerbilt "B" type of construction gives reception of exceptional quality and long life.

Brand names are "Eveready" and "Eveready Layerbilt".

#### **EVEREADY DRY CELLS:**

A convenient form of packaged electricity, in general use for ignition, telephone, radio "A" batteries, household cells, signalling and many other uses.

Brand names are "Eveready", "Columbia" and "Hercules".



**EVEREADY FLASHLIGHTS:**

All sizes from the small "Penlight" to the large, long range, focusing light used in marine and other signalling, are manufactured. Types especially suited to household use, public utility meter reading, motorists, Boy Scouts, plumbers, electricians, municipal police and fire departments, oil industry, aeronautics, army and navy, mines, and wherever a portable light is desirable, are available. These include the Eveready "Wallites".

Brand name is "Eveready".

**EVEREADY FLASHLIGHT BATTERIES:**

These are made in battery and unit cell form. They are manufactured in various sizes, and are extensively used for industrial, railroad and governmental service and wherever flashlights are required. These cells are also used in earphone batteries and for the operation of toys as well as dental and surgical instruments.

Brand name is "Eveready".

**EVEREADY SUNSHINE LAMPS AND CARBONS:**

Used in homes, hospitals, and doctors' offices. Eveready Sunshine Carbons are used with these lamps to duplicate natural sunshine. Other therapeutic carbons are furnished on doctors' orders for special therapeutic purposes.

Brand name is "Eveready Sunshine".

**EVEREADY INDUSTRIAL ARC LAMPS AND CARBONS:**

Used in the direct irradiation of milk and in

other industries requiring an economical source of light with special characteristics.

**EVEREADY LAMPS:**

A complete line of miniature lamps for automobiles, toys, flashlights and other uses.

Brand name is "Eveready Mazda".

**EVEREADY PRESTONE ANTI-FREEZE:**

An anti-freeze for automobile and airplane engines having qualities superior to any other anti-freeze material. It is non-odorous, non-corrosive and will not attack paint or lacquer. Having a higher boiling point than water it will not boil off, and one filling of the cooling system will last for a season.

Brand name is "Eveready Prestone".

**FERROALLOYS:**

The trend in engineering demands metals with a wide variety of special properties. Lighter weight construction requires stronger metals to ensure safety. In chemical engineering, special alloy steels are required to resist corrosion and oxidation at both higher temperatures and greater pressures. In the food and kindred industries, rustless and stainless metals are required. Electrical apparatus requires steel with low magnetic hysteresis and high permeability. The mining industry requires metals that resist wear, abrasion and corrosion.

These special properties are obtained through the proper alloying of elements,

such as chromium, silicon, manganese, vanadium, tungsten and zirconium to iron and steel. These elements are added to steel in the molten state in the form of ferroalloys made by the Electro Metallurgical Company.

Ferrochromium imparts hardness and resistance to corrosion and oxidation. High nitrogen ferrochromium is particularly effective in reducing grain size and improving the physical properties of cast steels containing 20 per cent or more chromium.

Ferromanganese is an essential element in the manufacture of nearly all grades of steel. It improves hot-rolling properties, adds strength and toughness and is generally used as a deoxidizer.

Ferrosilicon imparts strength, special electrical properties and is extensively used for degasifying and deoxidizing purposes.

Special silicones are made for the generation of hydrogen for dirigibles.

Combination alloys of silicon and manganese speed up production of high-quality steels, reduce impurities in them, improve rolling properties and lower chipping and cleaning costs.

Briquets of ferrosilicon, ferrochromium, ferromanganese and combination alloys of silicon and manganese controllably affect hardness, strength, machinability, and resistance to corrosion, abrasion and oxidation of cast and malleable irons.

Ferrovandium in steel increases the strength and resistance to fatigue.

Ferrotungsten adds hardness and strength to steel at high temperatures.

Zirconium-alloys are active deoxidizers in ferrous and non-ferrous metals. In steel they give uniformity of grain-size and additional resistance to fatigue.

Manganese, silicon and chromium are also alloyed in non-ferrous metals, such as aluminum, nickel and copper, to increase the strength and improve other physical properties.

Brand name of these products is "Electromet".

#### **GASOLINE:**

Derived from natural gas and from oil cracking. It is sold in bulk to oil companies.

#### **GRAPHITE PRODUCTS:**

Graphite Electrodes used in the electric arc furnace for the production of alloy steels, brass, malleable iron and gray cast iron.

Graphite Anodes used in electrolytic cells.

Graphite Powders used in the manufacture of dry batteries.

Gredag, a quality graphite grease used in automotive and industrial lubricating problems.

#### **HAYNES STELLITE:**

A non-ferrous alloy of cobalt, chromium and tungsten having the unique property of retaining its hardness even when heated to a red heat. As a cutting tool, it is used for machining cast iron and steel and metals of



similar characteristics. Its outstanding characteristic of red hardness makes it possible to cut cold steel even if the Haynes Stellite tool is red hot. It is also widely used in welding rod form for hard-surfacing wearing parts subject to abrasion such as steam shovel teeth, oil well drilling tools, agricultural implements such as plows and disks, road machinery, valves and brick and steel manufacturing equipment. In sheet form it is used for mirrors and reflectors for scientific equipment and long-range searchlights, dentures and bushings and liners subject to abrasion and corrosion.

**Hascrome**—a manganese-chromium-iron alloy used in the form of welding rod for the building up of wearing surfaces subject to shock or impact.

**Haystellite**—a cast tungsten carbide used as a diamond substitute in oil well drilling and coring tools.

**Composite Rod**—a welding rod composed of crushed Haystellite held in a binder or matrix of steel, Hascrome or Haynes Stellite. This material is used particularly for hard-facing where a large number of small hard particles are desired as in airplane tailskids and oil well drilling and coring tools.

**Hastelloys**—a group of ferrous and non-ferrous alloys developed for specific acid and chemical resistance as required in the chemical and allied industries. Hastelloy "A" is a nickel-molybdenum-iron alloy and is resistant to hydrochloric acid. It is available in

sheets, bars, castings and wire. Large quantities of fine wire are being used for the manufacture of grids for radio tubes. Hastelloy "C" is a nickel-molybdenum-chromium-iron alloy which resists hydrochloric, sulphuric and phosphoric acids and strong oxidizing agents such as wet chlorine. It is available in castings and welding rod. Hastelloy "D" is a nickel-silicon-copper-aluminum alloy resistant to sulphuric and phosphoric acids. It is available in castings and welding rod.

Brand names of these products are "Haynes Stellite", "Haystellite", "Hascrome" and "Hastelloy".

#### HYDROCARBON GASES AND CARBON DIOXIDE:

Carbon Dioxide is produced for the manufacture of "Dry Ice".

Methane and Ethane are used for fuel in various applications where a high calorific value is required. Ethane also is used as a low temperature refrigerant and as fuel for lighter-than-air craft.

Ethylene and Propylene are basic materials for the synthesis of many chemical compounds. Ethylene is widely used for accelerating the coloring and ripening processes of fruits and vegetables.

Butane and Isobutane are excellent refrigerants for domestic types of refrigerating systems. Butane is also used as a fuel for industrial applications.

Propane is particularly applicable to refrigerating systems where low temperatures are required.



Pyrofax Gas brings the convenience of gas for fuel to country and suburban homes, institutions and industrial plants located beyond the city gas mains. The gas is delivered in steel cylinders through a nation-wide chain of distributing stations and is used with standard gas ranges, water heaters and oil burners. Pyrofax Gas is also used as a cutting gas with oxygen and in many industrial applications where a fuel of uniform composition is required. Pyrofax, mixed with hydrogen, is used as fuel for the engines of lighter-than-air craft.

#### **OXYGEN AND ACETYLENE:**

Oxygen and Acetylene are the basic materials for the oxy-acetylene process of cutting and joining metals. This process is universally known as "Oxwelding". It is in general use in manufacturing and repairing in the railroad, steel, petroleum, marine, automotive, aeronautic, electrical and other industries. Typical uses are building up worn rail ends; cutting and welding structural steel; cutting of scrap metal; joining of alloy metals and of special steels; welding pipe joints for oil, gas, water and steam lines; and the manufacture of pressure containing vessels and tanks. The oxy-acetylene process is truly an indispensable tool of all metal working industries.

Linde Oxygen for use in the oxy-acetylene process is available in the familiar green and gray cylinders from Linde plants and ware-

houses in all industrial centers. Linde Driox (liquid oxygen) is supplied to large industrial users for oxy-acetylene welding and cutting.

As all Linde cylinders are marked, "This Cylinder Contains Linde Oxygen, U.S.P.", to indicate that all Linde Oxygen meets the purity requirements of the United States Pharmacopoeia, an increasing amount of Linde Oxygen, U.S.P., from standard commercial cylinders is being used in oxygen therapy to treat pneumonia and heart diseases. Its use also as an adjunct to other treatments is being extended through research and clinical investigations.

Numerous Prest-O-Lite plants and warehouses furnish dissolved acetylene in large cylinders for oxwelding and cutting and in smaller size cylinders for motor truck lighting and for various applications of the acetylene flame in soldering, brazing and heating.

Brand names are "Linde" (oxygen), "Linde Driox" (liquid oxygen), and "Prest-O-Lite" (acetylene).

#### **RARE GASES AND OTHER AIR CONSTITUENTS:**

In addition to Oxygen and Nitrogen, the rare atmospheric gases Helium, Neon, Argon, Xenon and Krypton also are extracted from air by the Linde Liquefaction Process.

Nitrogen is used in the incandescent lamp industry. Nitrogen as well as Hydrogen is used to furnish an atmosphere free of oxygen for heat treating of metals.

Brand names are "Linde" (hydrogen, nitrogen, helium, neon, argon, xenon, and krypton).

#### **WELDING AND CUTTING APPARATUS:**

A complete line of blowpipes, regulators, acetylene generators, welding rods and supplies for use in the application of the oxy-acetylene process justify the slogan "Everything for Oxwelding and Cutting". Automatic and hand-operated welding and cutting machines also are available.

Brand names are "Oxweld", "Prest-O-Weld", "Purox" and "Carbic".

Further detailed facts regarding any products of the Corporation in which you may be interested, or information on prices and delivery can be obtained by communicating with

**THE SECRETARY  
UNION CARBIDE AND  
CARBON CORPORATION  
CARBIDE AND CARBON BUILDING  
30 EAST 42nd STREET  
NEW YORK, N. Y.**

### **PRINCIPAL UNITS OF UNION CARBIDE AND CARBON CORPORATION**

Acheson Graphite Corporation  
American Carbolite Company, Inc.  
Canadian National Carbon Company, Limited  
Carbide and Carbon Chemicals Corporation  
Carbide and Carbon Chemicals Limited  
Carbide and Carbon Realty Company, Inc.  
Clendenin Gasoline Company  
Dominion Oxygen Company, Limited  
Electro Metallurgical Company  
Electro Metallurgical Company of Canada, Limited  
Electro Metallurgical Sales Corporation  
Haynes Stellite Company  
Kemet Laboratories Company, Inc.  
The Linde Air Products Company  
Michigan Northern Power Company  
National Carbon Company, Inc.  
New-Kanawha Power Company  
Oxweld Acetylene Company  
The Oxweld Railroad Service Company  
The Prest-O-Lite Company, Inc.  
Prest-O-Lite Company of Canada, Limited  
Union Carbide Company  
Union Carbide Company of Canada, Limited  
Union Carbide and Carbon Research Laboratories, Inc.  
Union Carbide Sales Company  
United States Vanadium Corporation  
Aktieselskabet Sauefaldene  
Aktieselskabet Meraker Smelteverk  
Electric Furnace Products Company, Ltd.



## Read These Books Too

If you have found this booklet interesting, you will undoubtedly enjoy the others in this series:

- A - UCC Products for Oxy-Acetylene Welding and Cutting
- B - UCC Products for Oxygen Therapy
- C - UCC Lighting Carbon Products
- D - UCC Industrial Carbon Products
- E - UCC Pyrofax Gas
- F - UCC Synthetic Organic Chemical Products
- G - UCC Vinylite—The Thermoplastic
- H - UCC Products for Alloy Steels and Irons
- I - UCC Carbon and Graphite Electrodes and Specialties
- J - UCC Haynes Stellite Products
- K - UCC Eveready Flashlights and Batteries
- L - UCC Eveready Prestone
- M - UCC Eveready Layerbilt "B" Battery
- N - UCC Condensed List of Technical Literature
- O - UCC Condensed List of Products and Principal Subsidiary Companies
- P - UCC Story of Air and Linde Liquid Air Demonstrations
- Q - UCC Story of the Electric Furnace

Ask for these booklets at the Union Carbide and Carbon Corporation exhibits at *A Century of Progress*, or write for them to:

### UNION CARBIDE AND CARBON CORPORATION

30 East 42nd Street, New York, N. Y.

