UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF REGIONAL COUNSEL
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

DATE: 3 October 2014

MEMORANDUM

SUBJECT: **BASF Corporation and The Harshaw/Filtrol Partnership**

FROM: **Maureen O'Neill, Civil Investigator**

TO: **Jeffery Trevino, Associate Regional Counsel, ORC**

Attached is the Report of Investigation concerning your request for assistance in conducting a corporate structure analysis for BASF Corporation (hereinafter Respondent) and the Harshaw/Filtrol Partnership located at 1000 Harvard Avenue, Cleveland, OH. Please contact me at (312) 886-7158 if you require further assistance. Thank you for allowing me to participate in this project.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF REGIONAL COUNSEL, REGION 5

CONFIDENTIAL

REPORT OF INVESTIGATION

BASF Corporation and The Harshaw/Filtrol Partnership
1000 Harvard Avenue, Cleveland, Ohio
October 2014

Maureen O'Neill, Civil Investigator

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(3) Corporate documents – The Cleveland Commercial Company
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INTRODUCTION

On or about September 9, 2014, I received a request from Jeffery Trevino, Associate Regional Counsel, Region 5, for investigative assistance conducting a corporate structure analysis of BASF Corporation (hereinafter "Respondent") and the Harshaw/Filtrol Partnership, 1000 Harvard Avenue, Cleveland, Ohio regarding compliance with Section 308(a) and 309(a) of the Clean Water Act, 33 U.S.C. §1319.

Information reflected in this report is based solely upon publicly available documents. The Respondent may have further documentation, but that documentation is not publicly available or has not been shared with the U.S. EPA.

DETAILS OF INVESTIGATION

An initial internet search for information on The Harshaw Chemical Company, 1000 Harvard Ave., Cleveland, OH revealed the following information from the website of Case Western Reserve University (http://ech.case.edu/cgi/article.pl?id=HCC1) which states:

HARSHAW CHEMICAL CO. - The Encyclopedia of Cleveland History

HARSHAW CHEMICAL CO., a diversified industrial chemical producer, was founded by Wm. A. Harshaw as the Cleveland Commercial Co. in 1892 to deal in chemicals, oils, and dry colors. In the mid-1890s the company bought interests in several manufacturing firms, acquiring Ralph L. Fuller and Wallace B. Goodwin as partners, and formed the C.H. Price Co. in 1897 to operate a small linseed-oil mill in Elyria. In 1898 Cleveland Commercial and C.H. Price merged to form the Harshaw, Fuller & Goodwin Co. with glycerine-refining and electroplating operations in Elyria and headquarters in Cleveland. With William Harshaw as president, the company expanded its manufacturing operations, building a plant at 1000 Harvard Ave. in the industrial FLATS area and a glycerine refinery in Philadelphia during the early 1900s. World War I saw increased demand for the company's products, and in the 1920s Harshaw improved and enlarged existing facilities and established an operation in New Jersey. The firm, selling over 1,000 different chemical products nationally, shortened its name to Harshaw Chemical Co. in 1929 and moved into new headquarters at 1945 E. 97th St. in 1930.

Demand increased for Harshaw's products during World War II, as it contributed to the atom-bomb project by developing uranium chemicals for the government. By 1949, Harshaw's Harvard Ave. facility was one of the Manhattan Project's largest makers of uranium chemicals. This business was not without risks and officials with the Atomic Energy Commission later reported that between 1942 and 1953, Harshaw released approximately 4,000 pounds of radioactive uranium-fluoride particles annually; making it, in the words of those officials, a "major contributor" to pollution in Cleveland. The company continued to grow after the war; sales were $60.8 million in 1955, with income of $2.5 million and 1,683 employees. In the 1960s the chemical firm contributed to the space program and to military technology utilized during the Vietnam War. In 1966 Harshaw merged with the Kewanee Oil Co. of Bryn Mawr, PA, and Kewanee in turn was acquired by the Gulf Oil Corp. in 1977. Gulf organized a joint venture with the Kaiser Aluminum & Chemical Corp. in 1983, combining their 2 chemical units into the Harshaw/Filtrol Partnership to produce specialty chemicals. After the merger, the firm moved its headquarters from E. 97th St. to 30010 Chagrin Blvd. in 1984, and just two years later the company employed 2,100 people and had revenues of nearly $264 million. In 1988, Kaiser sold the Harshaw/Fitrol partnership to Engelhard, a specialty chemical and metallurgical maker based in Oakland, CA.

Increased scrutiny over sites of former contractors to the Manhattan Project led federal environmental officials to Harshaw's production facility on Harvard Ave., which refined uranium between 1944 and 1959. Investigators discovered that the 40 acre site had high concentrations of hydrofluric acid and the site was added to a list already under study by the Department of Energy's Formerly Utilized Sites Remedial Action Program in 1999. Oversite for the program soon shifted to the U.S. Army Corp of Engineers and in 2003, a review conducted by the Corp concluded that the radiological and chemical contaminants posed "no immediate health risk" to the general public.

Harshaw Chemical Co. *Tested by Time* (1956). (Attachment 1)

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Former employees of the Harshaw Chemical Company, known as "The Harshaw Gang," maintain a website that provides a company history of their previous employer at http://theharshawgang.org/pb/wp_f6a636c5/wp_f6a636c5.html. The website states, in part:

A SHORT HISTORY
OF
THE HARSHAW CHEMICAL
COMPANY

The Cleveland Commercial Company was founded in 1892 by William A. Harshaw with a capital outlay of $3000. Located on South Water Street in Cleveland to buy, sell and manufacture chemicals, oils and dry colors. In 1893, Ralph L. Fuller was invited to join the Company as a partner. At the left is the headquarters located at E. 97th Street in Cleveland, OH. (*see photo on original website*)

A panic in the mid 1890's resulted in the demise of many firms round the country. The Cleveland Commercial Company was able to obtain a large unused warehouse on the Cuyahoga River and next to a rail siding so that merchandise could be obtained by boat and transported by rail. Hardly the chemical business but the "improvement" in business carried the Company through the dark days of 1894 and 1895. An interest was obtained in a glycerine refining company in Cleveland and a linseed oil mill in Elyria. An agreement was reached with another concern for the production of nickel anodes and nickel salts for the electroplating field. The Cleveland Commercial Company acted as a sales agent for these subsidiary operations. Wallace B. Goodwin joined the executive group taking charge of credits and accounting and assisting in sales.

In 1897, fire destroyed the linseed oil mill and the owners decided not to rebuild it and liquidated it. Harshaw purchased the property and organized a new company under the name C. H. Price Company with Mr. Price in charge. In 1898 the C.H. Price Company and the Cleveland Commercial Company were merged under the name Harshaw, Fuller and Goodwin Company. The glycerine and plating businesses were consolidated and moved to Elyria. A graduate of Case Institute, Mr. A. L. Stark, was put in charge of the Elyria operations. In 1902, WA made arrangements to import crude glycerine from France, Italy and Spain. Another arrangement allowed for the importation of manganese dioxide ore to Elyria where it was crushed, sized and ground and resold to the makers of flashlight batteries. The Company also had connections with the paint and varnish industry in making so-called Japan driers. WA also obtained the rights for a French process to manufacture tin oxide used as an opacifier in making glaze for tile and the enameling of steel. The tin oxide process led to the manufacture of chrome oxide as well as other oxides.

Property along the Cuyahoga River in Cleveland was purchased in 1905 for future expansion and eventually came to be known as the Harvard-Denison (H-D) plant. About the same time, a fire destroyed an acetone plant supplying the Company and owned by H.W. Kessler in Brandt, PA. Mr. Kessler was induced to merge and rebuild on the new property. A small hydrofluoric acid operation in Elyria was moved to Cleveland and enlarged and included the manufacture of sodium fluoride and ammonium fluoride. In 1910, Mr. Stark developed a process for the manufacture of antimony oxide used in the enameling industry. The basic aim of the Company was to take care of all the basic requirements of an industry, either by manufacture or resale. The manufacture of cobalt oxide, used as a ground coat for the enameling of steel, led to the manufacture of cobalt salts such as linoleate, acetate and resinate used to make improved driers for the paint and varnish industry.

By 1913, the glycerine refining business declined due to the consolidation of smaller soap companies into larger ones that could produce their own glycerine. As a result, a large refinery was erected in Philadelphia where better advantage could be taken of crudes imported from Europe and South America. An unusually large inventory of manganese ore became a very valuable asset with the advent of World War I. Again just prior to the outbreak of WWI, a process for the manufacture of antimony sulfide was started. This material was required by the rubber companies in Akron to make tires and tubes. WWI caused a large demand for the Company's products such as refined glycerine and manganese and antimony products but also created shortages for many raw materials the Company used. At the end of the war the antimony sulfide operation was shut down and the acetone plant was closed and dismantled. The price of glycerine, fixed by the Government, skidded from $.60/# down to $.10/#. Nonetheless, business flourished and every year except one resulted in an increase in volume and profits over the next decade. The acetone plant was remodeled and new equipment installed to make linoleates and resonates and the hydrates and carbonates of cobalt, manganese and lead which put the Company in an outstanding position to supply the paint, varnish, printing ink and linoleum industries. A decision by the International Nickel Company resulted increased production of nickel salts and moving production from Elyria to a new facility at H-D. The increasing demand for hydrofluoric acid and antimony oxide led to new equipment to increase production. The antimony sulfide facility, which had been idle since 1921, was re-fitted for the production of cadmium products leading to a line of color oxides for the ceramic industry.

1929 saw the Company's name changed to the Harshaw Chemical Company. The market crash in 1929 brought expansion to a halt with the exception of the previous Hathaway-Brown School property on East 97th Street in Cleveland which was to be the Company headquarters for many years to come.

Many of the classrooms were converted into offices and the gym was converted into a research laboratory for electroplating processes, the latter resulting in a process for plating bright nickel which required no buffing. By the mid 1930's, expansion was again underway first for Uverite, a tin oxide substitute, the several new ceramic colors, glass enamels and improved cadmium colors. A start was made in 1936 to manufacture optical crystals. In the late 30's, a new plant was designed to produce anhydrous hydrofluoric acid as well as ammonium bifluoride and a new product, boron trifluoride. World War II again disrupted expansion ideas and created problems with obtaining raw materials. New paths had to be found to circumvent the shortages and the Company was up to the challenge. In early October 1941, the Company had been asked to produce a small amount of uranium hexafluoride and entered into a small scale contract with the National Bureau of Standards. The operation was increased until eventually a plant within a plant was constructed under contract with the Manhattan District. The word uranium was never used but referred to as a code number or "brown salt" or "green salt," etc. It wasn't until August 6, 1945 when an atomic bomb was dropped on Hiroshima that employees learned of the magnitude of the project on which they had worked on in times of shortages, priorities, scarce equipment, clearances, etc. At the war's end, the Company was awarded an Army-Navy "E" with Five Stars for a job well done.

WWII also saw the Company's entry into the catalyst field. Much of the idled ceramic color equipment was found to be suitable for use in catalyst manufacture and the Company found itself producing catalyst for the synthetic rubber industry. With the end of WWII, a new nickel salts plant had to be built because of the new rush for bright plating as well as a new facility for plating research. The glycerine plant in Philadelphia was renovated and moved to a new and larger location in Gloucester City, NJ. Eventually, metallic soap, antimony oxide and some organic specialties were moved to Gloucester City.

A flurry of expansion occurred in the mid 1950's: the Company formed a new affiliated company with a French concern to produce ceramic colors in Europe; the purchase of Zinsser & Company established the Company in dyes, lakes, toners, Metol, tannic and gallic acids and other organic specialties serving the photographic, paint, printing ink, leather and textile industries.

Harshaw Chemicals Ltd. was established in 1956 to produce electroplating products in England and Europe. The offices, laboratories and plant were expanded in 1967 and located in Daventry, England.

In 1958, the Company acquired The Kentucky Color and Chemical Company of Louisville, Kentucky as part of a newly formed Pigment and Dye Department. A complete line of dry colors for paints, printing inks, linoleum, plastics, rubber and textiles are manufactured there. In 1964, the products manufactured by the Zinsser facility were transferred to the greatly enlarged color plant in Louisville, Kentucky. In 1960, Harshaw established a comprehensive laboratory in Cleveland, Ohio to work exclusively with solid state materials and applications research. Also in 1960, Harshaw purchased a majority share holding in its licensee in Holland and subsequently acquired sole ownership. Now operating as Harshaw Chemie N.V. of DeMeern, Netherlands, this company makes catalysts, buffs and polishing compounds, industrial cleaners, electroplating additives and equipment as well as scintillation phosphors and electronics. In 1967, this facility was expanded with addition of a new catalyst manufacturing plant.

In 1962, Harshaw Chemie GmbH was established in Frankfurt, Germany as a sales and service branch for crystal and electronic products, electroplating products and catalysts.

Hamner Electronics Company was acquired in 1964 enabling the Company to offer complete nuclear electronic detection systems. In 1966, the Xtalonix Company was brought into the Company as a part of the Crystal-Solid State Department enabling the company to serve the microwave industry with a line of magnetic ferrite materials.

The Crown Rheostate and Equipment Company, with a modern plant in Chicago, Illinois and a long, respected history as a manufacturer of automatic processing equipment, was acquired in 1966. This brought Harshaw a step closer to becoming a complete supplier to the electroplating industry.

In the Fall of 1966, the Harshaw Chemical Company was merged with the Kewanee Oil Company, a 96 year old enterprise specializing in the production of crude oil and natural gas.

Subsequently, the merged company was acquired by the Gulf Oil Corporation in 1977.

In 1983, The Harshaw/Filtrol Partnership was formed as a joint venture between Kaiser Chemical and Gulf Oil. In 1988, the Partnership was acquired by the Englehard Corporation who retained the Color and Catalyst groups. The Industrial Chemical and Metal Finishing groups were divested to M&T Chemicals which in turn were acquired by Elf Atochem and ultimately merged with their Schering Electroplating Division in 1993 to form a new company, Atochem. The Crystal-Solid State group was divested to Saint Gobain (part of a French consortium). In 2007, Englehard Corporation was purchased by BASF Catalysts.

Today, Harshaw, which once stood for quality, innovative products in many diverse fields is no longer in existence. However, as stated on the home page, former employees still meet and reminisce about the many accomplishments made by the Company for almost 100 years. (Attachment 2)

CORPORATE RECORDS

Research of relevant corporations listed above reveals the following:

THE CLEVELAND COMMERCIAL COMPANY

Records of the Ohio Secretary of State reflect The Cleveland Commercial Company, Entity Number 61841, was incorporated on 3/3/1892 in Ohio. On 8/27/1914, the corporation filed a Certificate of Continued Existence. The corporation is dead.

A second record, Entity Number 27268, reflects that the corporation filed Domestic Articles/For Profit on 4/14/1911 and was cancelled by the Tax Department with Notification on 1/1/1955. Incorporators were H. Melvin Roberts, Roy R. Moffett, and N. I. Young, et al. Due to the age of the corporation, documents were not available for download. (Attachment 3)

C. H. PRICE COMPANY

No records concerning this corporation could be located within the records of the Ohio Secretary of State.

HARSHAW, FULLER & GOODWIN COMPANY

No records concerning this corporation could be located within the records of the Ohio Secretary of State.

THE HARSHAW CHEMICAL COMPANY

Copies of the following records concerning The Harshaw Chemical Company are attached: Corporate entity details obtained from the Ohio and Kentucky Secretary of State's Offices, and a Dun & Bradstreet Business Information Report (Attachment 4).

Ohio Secretary of State

Records of the Ohio Secretary of State reflect The Harshaw Chemical Company filed Domestic Articles/For Profit on 8/21/1897. Documents from 8/21/1897 to 12/26/1940 are not available for download. Documents from 2/4/1941 through 12/9/1966 are attached. The corporation was merged out of existence on 12/9/1966.

Kentucky Secretary of State

Records of the Kentucky Secretary of State reflect The Harshaw Chemical Company, 40 Morris Ave., Bryn Mawr, PA, incorporated in the State of New Jersey on 12/14/1966. Original incorporators were Robert E. Boyd, J. L. Wilsterman, and C. H. McClain. The purpose of the filing was the merger of The Harshaw Chemical Company and Kewanee Oil Company.

Dun & Bradstreet

Records of Dun & Bradstreet refle

URANIUM REFINING ACTIVITIES

The following documents referencing uranium refining activities at The Harshaw Chemical Company site are provided (Attachment 5):

DEPARTMENT OF ENERGY

Enclosure 1 to a December 7, 1984 letter from the Department of Energy, Washington, D.C. to Mr. Harold Snyder, Chief, Discovery and Investigations Branch, U.S. Environmental Protection Agency, reflects the following site function, site description, and owner history of Harshaw Chemical Company. Additionally, this document speaks to the environmental cleanup of the property by Harshaw Chemical Company and an environmental release executed by Harshaw Chemical Company that released the U.S. Government (Atomic Energy Commission) from further liability at the site:

Site Function – In September 1942, the Manhattan Engineer District (MED) contracted with Harshaw Chemical Company for the production of green salt (UF4). This work was a continuation of smaller-scale work performed for the Office of Scientific Research and Development. In 1943, Harshaw also began production of uranium hexafluoride (UF6). The operation was substantially expanded in 1947. Other MED and Atomic Energy Commission (AEC) contracts involved the production of uranium dioxide and sodium uranate at this same facility. Approximately 11 contracts between Harshaw and MED/AEC have been identified. The principal contracts for the production of feed materials were: W-7405-Eng-2, W-7405-Eng-37, W-7405-Eng-43, W-7405-Erg-276, W-26-021-Eng-4, and W-1405-Eng-45. Production of uranium dioxide was discontinued in August 1951, and green salt production was discontinued in [redacted] salt plant was dismantled, and the hexafluoride plant was placed on stand-by status.

Site Description – The main portion of the Harshaw facility includes over 30 buildings on about 16 acres of land. The total facility is over 40 acres. Building G1 (Plant C) was used for the UF6 production and the foundry building was used for the UF4 production. Analytical work was performed in Building K1. Plant C is located on a 1.6-acre, fenced area at 1000 Harvard Avenue. Equipment and material from the MED and the AEC operations were apparently stored in those and other buildings at the site.

Owner History – The plant site (including the buildings) was owned by Harshaw, and the equipment and raw materials were furnished by the AEC. The facility was released from AEC controls upon termination of the contract (W-7405-Eng-276) on 23 December 1959.

Release of Liability

The letter further states, in part:

This survey report identified contaminated areas and recommended methods for decontamination. It was made a part of Contract W-7405-Eng-276 by Modification 85, Supplemental Agreement, dated 25 June 1958. This supplemental agreement assigned to the contractor responsibility for decontaminating all equipment transferred to it and for decontaminating its own premises used in the performance of the contract. Furthermore, the decontamination effort was to be accomplished in accordance with the recommendations contained in the survey report. The facility was decontaminated by Harshaw and released from further AEC control in 1959.

On 18 May 1978, the DOE's General Counsel indicated that, based on available information, DOE has no legal responsibility or authority under the Atomic Energy Act of 1954 as amended to undertake a cleanup of the Harshaw site. Since that time, a more thorough review of the records has identified substantially more information. This information clearly substantiates the General Counsel's initial opinion. The opinion is based primarily on the Final Release of Harshaw Contract W-7405-Eng-276, which released AEC from all liabilities arising from this contract. As a result, and in accordance with DOE policy, the State and the Environmental Protection Agency are being notified of these findings in order that they may take appropriate action.

U.S. ARMY CORPS OF ENGINEERS

The U.S. Army Corps of Engineers, Buffalo District, prepared a report dated April 2011 entitled *Former Harshaw Chemical Company Site Investigative Area-06*. In that report, the following Site Description and History are provided:

"The 55-acre former Harshaw Chemical Company Site is located at 1000 Harvard Avenue, approximately three miles southwest of downtown Cleveland in Cuyahoga County, Ohio. The site is in a low-lying area adjacent to the Cuyahoga River and Big Creek and is surrounded on three sides by industries. The main portion of the facility at one time included over 30 buildings on about 16 acres of land.

The former Harshaw Chemical Company was contracted by the Manhattan Engineer District (MED) and later the Atomic Energy Commission (AEC) to support the Nation's early atomic energy program. From 1944 to 1959, various forms of uranium were processed in Building G-1 (formerly known as Plant C) for isotopic separation and enrichment at Oak Ridge, Tennessee."

THE HARSHAW CHEMICAL COMPANY

A letter from W. J. Harshaw, President, The Harshaw Chemical Company, to The District Engineer, U.S. Engineer Office, Manhattan District, P.O. Box 42, Station F, New York, NY, Attention: Lt. L. C. Burman dated March 22, 1943, previously marked SECRET and declassified on 9/10/92, reflects an agreement between Lt. Burman and W. J. Harshaw for the offer of "all the Uranium Compounds and Ceramic Colors containing Uranium in our possession at our various stock points..."

UNITED STATES GOVERNMENT

A letter from J. C. Clark, Contract Coordinator, to DeKoven Hunter, Production Division, dated October 6, 1949, previously marked SECRET and declassified on 8/25/98, is entitled "REQUEST FOR SUPPLEMENTAL AGREEMENT TO HARSHAW CONTRACT NO. W-7405-ENG-276 FOR PRODUCTION OF

MATERIAL IN OCTOBER, NOVEMBER AND DECEMBER 1949." The document discusses the production of green salt, hexafluoride, and brown oxide.

KEWANEE OIL COMPANY

Copies of the following records concerning Kewanee Oil Company are attached: Corporate entity details obtained from the Ohio and Kentucky Secretary of State's Office and a Dun & Bradstreet Business Information Report (Attachment 6).

Ohio Secretary of State

Records of the Ohio Secretary of State reflect that Kewanee Oil Company, Entity Number 466763, filed as a foreign corporation on 5/16/75. The corporation was merged out of existence on 7/19/78. Merger documents are referenced above and are provided in Attachment 4.

Kentucky Secretary of State

Records of the Kentucky Secretary of State reflect one record associated with Kewanee Oil Company. Microfilm Reel 199, Book 119, Page 484-516, lists Amendments to the record of Kewanee Oil Company, a Delaware corporation located at 2317 Fidelity-Philadelphia Trail, Philadelphia, PA and incorporated on 7/2/56. An amendment dated 1/31/67 states the following: "Merger of "The Harshaw Chemical Company," an Ohio Corp. into "Kewanee Oil Company." Rec. $10."

Delaware Secretary of State

Records of the Delaware Secretary of State reflect that Kewanee Oil Company, File Number 0812003, incorporated on 5/2/75. There is no registered agent.

Dun & Bradstreet

Records of Dun & Bradstreet reflect

GULF OIL CORPORATION

Copies of the following records concerning Gulf Oil Corporation are attached: Corporate entity details obtained from the Ohio and Pennsylvania Secretary of State's Office (Attachment 7).

Ohio Secretary of State

Records of the Ohio Secretary of State reflect that Gulf Oil Corporation, Entity Number 660758, registered as a foreign corporation (Pennsylvania) on 8/9/85. The registered agent is The Prentice-Hall Corporation System, Inc., 50 West Broad Street, Suite 1800, Columbus, OH 43215. The corporation is active.

Pennsylvania Secretary of State

Records of the Pennsylvania Secretary of State reflect that Gulf Oil Corporation of Pennsylvania incorporated on 8/11/22. On a date not listed, the corporation changed its name to Gulf Oil Corporation, and then to Chevron U.S.A. Inc., the corporation's current name. Officers of the corporation include: W. J. Price, President; K. Endries, Secretary; A. D. Cornwell, Treasurer; and W. E. Crain, Vice President. The registered agent is Corporation Service Company PA, Dauphin (no further address stated). The corporation is active.

KAISER ALUMINUM & CHEMICAL CORPORATION

Copies of the following records concerning Kaiser Aluminum & Chemical Corporation are attached: Corporate entity details obtained from the Delaware, Ohio and California Secretary of State Offices (Attachment 8).

Delaware Secretary of State

Records of the Delaware Secretary of State reflect that Kaiser Aluminum & Chemical Corporation, File Number 0377426, was incorporated on 12/9/40. The registered agent is The Corporation Trust Company, Corporation Trust Center, 1209 Orange St., Wilmington, DE 19801. No further information is in this record.

Ohio Secretary of State

Records of the Ohio Secretary of State reflect that Kaiser Aluminum & Chemical Corporation, Entity Number 213470, was incorporated in Delaware. On 6/15/49, the corporation registered to do business in the State of Ohio. The registered agent is C T Corporation System, 1300 E. 9th Street, Cleveland, OH 44114. The corporation is active.

California Secretary of State

Records of the California Secretary of State reflect that Kaiser Aluminum Corporation, Entity Number C1196035, was incorporated in Delaware and registered to do business in the State of California on 3/12/87. The registered agent is C T Corporation System, 818 West Seventh St., 2nd Floor, Los Angeles, CA 90017. The corporation is active.

HARSHAW/FILTROL PARTNERSHIP

Copies of the following records concerning Harshaw/Filtrol Partnership are attached: Corporate entity details obtained from the Ohio, Kentucky, Delaware and California Secretary of State Offices; a newspaper article from The New York Times dated 8/30/83; and a Dun & Bradstreet Business Information Report (Attachment 9).

Ohio Secretary of State

Records of the Ohio Secretary of State reflect that Filtrol Corporation, Filing Number FL621002, registered to do business in the State of Ohio on 9/29/83. On 9/23/83, upon the direction of Donald V. Moorehead, V.P. Secy. & Gen. Csl., Kaiser Aluminum & Chemical Corporation, 300 Lakeside Drive, Oakland, CA 94643, C T Corporation System sent a letter and Foreign Corporation Application for License to the Ohio Secretary of State requesting Filtrol Corporation be permitted to conduct business in Ohio. The purpose of the corporation was the manufacture and sale of industrial chemicals and related products.

Kentucky Secretary of State

Records of the Kentucky Secretary of State reflect that Harshaw/Filtrol Partnership, Organization Number 0182779, filed a Certificate of Assumed Name on 10/20/83. The partnership was organized in the State of Delaware and was located at 300 Lakeside Drive, Oakland, CA 94643. The Statement of Assumed name was signed by W. P. Moyles, Chairman of The Harshaw Chemical Company and William W. Massengill, Vice President of Filtrol Corporation.

Delaware Secretary of State

Records of the Delaware Secretary of State reflect that Filtrol Corporation, File Number 0340704, was incorporated on 4/17/35. The registered agent is The Corporation Trust Company, Corporation Trust Center, 1209 Orange St., Wilmington, DE 19801. No further information is in this record.

California Secretary of State

Records of the California Secretary of State reflect that Filtrol Corporation, Entity Number C0162981, a Delaware corporation incorporated on 6/10/35, was located at 525 West Van Buren St., Chicago, IL 60607. The status of the corporation is "surrender."

The New York Times

On 8/30/83, The New York Times published an article entitled, "Gulf and Kaiser Form a Partnership." The article states,

"Pittsburgh, Aug 29 – The Gulf Oil Corporation and the Kaiser Aluminum and Chemical Corporation said today that they had agreed to form a specialty chemicals partnership.

Terms and conditions of the agreement were not disclosed, but the transaction was expected to be completed by October.

The parties in the partnership are Gulf's Harshaw Chemical Company, based in Cleveland, and Kaiser's Filtrol Corporation, based in Los Angeles.

The partnership reflects the change in direction that both companies are taking in their specialty chemicals business.

Don Smith, Kaiser's vice president of industrial chemicals, said the partnership would "expand our interest in industrial chemicals, and continue our corporate strategy for diversification."

In January 1982, Gulf announced new corporate priorities that would refocus its resources on its primary business of petroleum exploration, production, refining and marketing.

Combined annual sales of the new partnership are expected to be $300 million a year. The company will make catalysts and absorbent clays used in the chemical refining and food processing industries, colors and pigments, electrochemical and plating systems and electric detection systems."

Dun & Bradstreet Business Information Report

Records of Dun & Bradstreet reflect

STANDARD OIL OF CALIFORNIA

Copies of the following records concerning Standard Oil of California are attached: Lexis-Nexis printout and corporate entity details obtained from the California Secretary of State's Office (Attachment 10).

Lexis-Nexis

Records of Lexis-Nexis reflect one pertinent record associated with Standard Oil Company of California, Filing Number C1241263. The record reflects that on 7/10/84, Standard Oil Company of California changed its name to Chevron Corporation.

California Secretary of State

Records of the California Secretary of State reflect one record associated with Standard Oil Company, Entity Number C0012925. The corporation was incorporated in California on 9/10/1879 and was located at 225 Bush Street, San Francisco, CA 94104. Its current status is "merged out."

ENGELHARD CORPORATION

Copies of the following records concerning Engelhard Corporation are attached: Corporate entity details obtained from the New Jersey, Ohio, and Kentucky Secretary of State's Offices and a Dun & Bradstreet Business Information Report (Attachment 11).

New Jersey Secretary of State

Records of the New Jersey Secretary of State reflect the Engelhard Corporation, Entity ID 7127810000 was incorporated in January 1956. No further information was available.

Ohio Secretary of State

Records of the Ohio Secretary of State reflect that Engelhard Corporation, Entity Number 790295, registered to do business on 2/11/91. On 8/10/07, the corporation surrendered its registration. A foreign corporation application for license reflects that Engelhard Corporation was originally incorporated on 11/28/38 in Delaware. The corporate address at that time was Menlo Park, CN 40, Edison, NJ 08818. The corporate office in Ohio was located at 815 Superior Avenue, N.E., Cleveland, OH 44114. The purpose of the corporation was to develop, manufacture and market technology-based specialty chemical products and engineered materials for a wide spectrum of industrial customers and provide services to precious metals customers.

Kentucky Secretary of State

One document located in the file of The Harshaw Chemical Company speaks to the purchase of the Harshaw/Filtrol Partnership. A letter dated May 25, 1988 by Donald L. Wichert, Payroll Manager of The Harshaw Chemical Company, 29001 Solon Road, Solon, OH, states:

"Effective May 25, 1988, the Harshaw/Filtrol Partnership was purchased by the Engelhard Corporation.

Effective on this date a successor company was established, titled, "The Harshaw Chemical Company," Federal I.D. No. 0 23-1692770."

Dun & Bradstreet

Records of Dun & Bradstreet reflect

BASF CATALYSTS LLC

Copies of the following records concerning BASF Catalysts LLC are attached: Corporate entity details obtained from the Delaware and Ohio Secretary of State's Offices, a Dun & Bradstreet Business Information Report, and a printout of a web page from the website of BASF (Attachment 12).

Delaware Secretary of State

Records of the Delaware Secretary of State reflect that BASF Catalysts LLC, File Number 0367803, was incorporated on 11/28/38. The registered agent is The Corporation Trust Company, Corporation Trust Center, 1209 Orange St., Wilmington, DE 19801. No further information is in this record.

Ohio Secretary of State

Records of the Ohio Secretary of State reflect that BASF Catalysts LLC, Filing No. 1690053, registered to do business in Ohio on 3/20/2007. Documents and requests are directed to BASF Corporation, c/o The Legal Department, 100 Campus Drive, Florsham Park, NJ 07932.

On 12/29/06, a Certificate of Merger was filed, merging Engelhard Aluminas, Inc., a Delaware corporation, with BASF Catalysts LLC, also a Delaware corporation. BASF Catalysts LLC was the surviving corporation. Engelhard Aluminas, Inc. was merged out of existence.

Dun & Bradstreet Business Information Report

Records of Dun & Bradstreet reflect ·

BASF Website

On the company website of BASF (http://www2.basf.us/corporate/legal-entity-consolidation/), the following announcement was posted:

"Effective April 1, 2010, the operations of the following U.S. subsidiaries will be transferred to BASF Corporation:

- BASF Beauty Care Solutions, LLC;
- BASF Catalysts LLC;
- BASF Construction Chemicals LLC;
- BASF Polyurethane Foam Enterprises LLC;
- BASF Sparks LLC; and
- Ciba Corporation

...As a result of these changes, you will begin to see the new legal entity name on correspondence, commercial documents, promotional information, and other publications related to each of these business lines..."

BASF CORPORATION

Copies of the following records concerning BASF Corporation are attached: Corporate entity details obtained from the Delaware and Ohio Secretary of State's Offices (Attachment 13).

Delaware Secretary of State

Records of the Delaware Secretary of State reflect that BASF Corporation, File Number 0842062, was incorporated on 8/11/77. The registered agent is The Corporation Trust Company, Corporation Trust Center, 1209 Orange St., Wilmington, DE 19801. No further information is in this record.

Ohio Secretary of State

Records of the Ohio Secretary of State reflect that BASF Corporation, Filing Number 509022, a Delaware corporation, filed a Certificate of Merger on 10/1/08, merging The Harshaw Chemical Company, a New Jersey corporation, into BASF Corporation, the surviving entity.

BGD COMPANY

Copies of the following records concerning BGD Company are attached: Corporate entity details obtained from the Delaware Secretary of State (Attachment 14).

Delaware Secretary of State

Records of the Delaware Secretary of State reflect that BGD Company, File Number 2132713, was incorporated on 7/21/87. The registered agent is The Prentice-Hall Corporation System, Inc., 2711 Centerville Road, Suite 400, Wilmington, DE 19808. No further information is in the file.

CORPORATE PROPERTY

Records of the Cuyahoga County Assessor's Office reflect two parcels associated with the site located at 1000 Harvard Avenue, Cleveland, OH.

The first record, for PIN Number 008-34-022, reflects that the property is owned by Harshaw Filtrol Partnership, 1000 Harvard Avenue, Cleveland, OH. The property was purchased on 1/1/85 and is currently appraised for $965,000. Taxes paid on the property are current. The annual tax bill is mailed to BASF Catalysts LLC, 100 Park Avenue, Tax Department, Florham Park, NJ 07932.

The second record, for PIN Number 008-34-028, reflects that the property is owned by BGD Company (Chevron), 1000 Harvard Avenue, Rear, Cleveland, OH. The property was purchased on 6/13/88 and is currently appraised for 81,900. Taxes paid on the property are current. The annual tax bill is mailed to Chevron, Attn: Sandy Owens, P.O. Box 285, Room 2961, Houston, TX 77001.

Five additional parcels associated with Harshaw/Filtrol Partnership, BGD Company, and Harshaw Chemical Company were also located within the records of the Cuyahoga County Assessor's Office.

The first record, for PIN 008-34-026, reflects that the property is owned by Harshaw Chemical Company, Denison Avenue Rear, Cleveland, OH 44109. The property was purchased on 5/25/88 from the Harshaw/Filtrol Partnership and is currently appraised for $43,400. No charges and payments are found for this parcel and tax year (2014).

The second record, for PIN 008-34-027, reflects that the property is owned by Harshaw Chemical Company, Denison Avenue, Cleveland, OH 44109. The property was purchased on 5/25/88 from the Harshaw/Filtrol Partnership and is currently appraised for $14,100. No charges and payments are found for this parcel and tax year (2014).

The third record, for PIN 009-30-002, reflects that the property is owned by Harshaw Chemical Company, Harvard Avenue, Cleveland, OH 44109. The property was purchased on 5/25/88 from the Harshaw/Filtrol Partnership and is currently appraised for $169,600. No charges and payments are found for this parcel and tax year (2014).

The fourth record, for PIN 521-02-001, reflects that the property is owned by BGD Company, Harvard Avenue, Cuyahoga Heights, OH 44105. The property was purchased on 6/13/88 from the Harshaw Chemical Company and is currently appraised for $77,900. No charges and payments are found for this parcel and tax year (2014).

The fifth record, for PIN 742-24-012, reflects that the property is owned by Harshaw/Filtrol Partnership, 23800 Mercantile Road, Beachwood, OH 44122. The property was purchased on 11/29/83 from the Harshaw Chemical Company and is currently appraised for $3,295,200. No charges and payments are found for this parcel and tax year (2014). (Attachment 15)

This report may contain Confidential Business Information

Please do not disclose to anyone outside of EPA (including EPA contractors) without first consulting a FOIA or CBI attorney.

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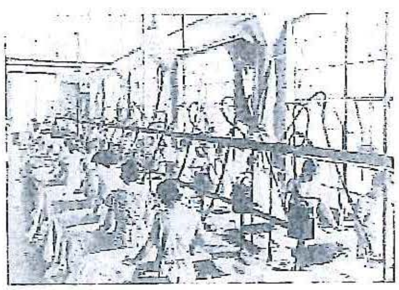
Architecture

The Haymarket area along Ontario Ave., ca. 1920. The facilities for the Gateway sports complex now occupy much of the site. WRHS.

African American History

Newsboys gather in front of the Call & Post building, ca. 1935. Photo from the Allen Cole Collection, WRHS.

Labor



The Ironing Department of L.N. Gross Co., ca. 1930. WRHS

HARSHAW CHEMICAL CO. - The Encyclopedia of Cleveland History

HARSHAW CHEMICAL CO., a diversified industrial chemical producer, was founded by Wm. A. Harshaw as the Cleveland Commercial Cc in 1892 to deal in chemicals, oils, and dry colors. In the mid-1890s the company bought interests in several manufacturing firms, acquiring Ralph L. Fuller and Wallace B. Goodwin as partners, and formed the C.H. Price Co. in 1897 to operate a small linseed-oil mill in Elyria. In 1898 Cleveland Commercial and C.H. Price merged to form the Harshaw, Fuller & Goodwin Co. with glycerine-refining and electroplating operations in Elyria and headquarters in Cleveland. With William Harshaw as president, the company expanded its manufacturing operatior building a plant at 1000 Harvard Ave. in the industrial FLATS area and a glycerine refinery in Philadelphia during the early 1900s. World Wa saw increased demand for the company's products, and in the 1920s Harshaw improved and enlarged existing facilities and established an operation in New Jersey. The firm, selling over 1,000 different chemical products nationally, shortened its name to Harshaw Chemical Co. ir 1929 and moved into new headquarters at 1945 E. 97th St. in 1930.

Demand increased for Harshaw's products during World War II, as it contributed to the atom-bomb project by developing uranium chemicals for the government. By 1949, Harshaw's Harvard Ave. facility was one of the Manhattan Project's largest makers of uranium chemicals. This business was not without risks and officials with the Atomic Energy Commission later reported that between 1942 and 1953, Harshaw released approximately 4,000 pounds of radioactive uranium-fluoride particles annually; making it, in the words of those officials, a "major contributor" to pollution in Cleveland. The company continued to grow after the war; sales were $60.8 million in 1955, with income of $2.5 million and 1,683 employees. In the 1960s the chemical firm contributed to the space program and to military technology utilized during the Vietnam War. In 1966 Harshaw merged with the Kewanee Oil Co. of Bryn Mawr, PA, and Kewanee in turn was acquired by the Gulf Oil Cor in 1977. Gulf organized a joint venture with the Kaiser Aluminum & Chemical Corp. in 1983, combining their 2 chemical units into the Harshaw/Filtrol Partnership to produce specialty chemicals. After the merger, the firm moved its headquarters from E. 97th St. to 30010 Chagrin Blvd. in 1984, and just two years later the company employed 2,100 people and had revenues of nearly $264 million. In 1988, Kais sold the Harshaw/Filtrol partnership to Engelhard, a specialty chemical and metallurgical maker based in Oakland, CA.

Increased scrutiny over sites of former contractors to the Manhattan Project led federal environmental officials to Harshaw's production facil on Harvard Ave., which refined uranium between 1944 and 1959. Investigators discovered that the 40 acre site had high, concentrations of hydrofluric acid and the site was added to a list already under study by the Department of Energy's Formerly Utilized Sites Remedial Action Program in 1999. Oversite for the program soon shifted to the U.S. Army Corp of Engineers and in 2003, a review conducted by the Corp concluded that the radiological and chemical contaminants posed "no immediate health risk" to the general public.

Harshaw Chemical Co. *Tested by Time* (1956).

Last Modified: 09 Jul 2004 11:53:52 AM

Related Article(s)

- BUSINESS, INDUSTRY AND TECHNOLOGY

This site maintained by Case Western Reserve Univer

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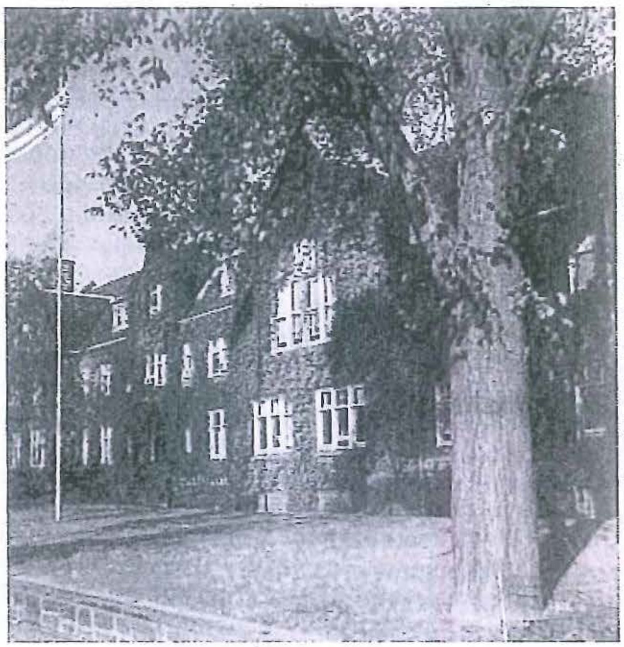
www.TheHarshawGang.org



A SHORT HISTORY OF THE HARSHAW CHEMICAL COMPANY

The Cleveland Commercial Company was founded in 1892 by William A. Harshaw with a capital outlay of $3000. Located on South Water Street in Cleveland to buy, sell and manufacture chemicals, oils and dry colors. In 1893, Ralph L. Fuller was invited to join the Company as a partner.
At the left is the headquarters located at E. 97th Street in Cleveland, OH.

A panic in the mid 1890's resulted in the demise of many firms round the country. The Cleveland Commercial Company was able to obtain a large unused warehouse on the Cuyahoga River and next to a rail siding so that merchandise could be obtained by boat and transported by rail. Hardly the chemical business but the "improvement" in business carried the Company through the dark days of 1894 and 1895. An interest was obtained in a glycerine refining company in Cleveland and a linseed oil mill in Elyria. An agreement was reached with another concern for the production of nickel anodes and nickel salts for the electroplating field. The Cleveland Commercial Company acted as a sales agent for these subsidiary operations. Wallace B. Goodwin joined the executive group taking charge of credits and accounting and assisting in sales.
In 1897, fire destroyed the linseed oil mill and the owners decided not to rebuild it and liquidated it. Harshaw purchased the property and organized a new company under the name C. H. Price Company with Mr. Price in charge. In 1898 the C. H. Price Company and the Cleveland Commercial Company were merged under the name Harshaw, Fuller and Goodwin Company. The glycerine and plating businesses were consolidated and moved to Elyria. A graduate of Case Institute, Mr. A. L. Stark, was put in charge of the Elyria operations. In 1902, WA made arrangements to import crude glycerine from France, Italy and Spain. Another arrangement allowed for the importation of manganese dioxide ore to Elyria where it was crushed, sized and ground and resold to the makers of flashlight batteries. The Company also had connections with the paint and varnish industry in making so-called Japan driers. WA also obtained the rights for a French process to manufacture tin oxide used as an opacifier in making glaze for tile and the enameling of steel. The tin oxide process led to the manufacture of chrome oxide as well as other oxides.
Property along the Cuyahoga River in Cleveland was purchased in 1905 for future expansion and eventually came to be known as the Harvard-Denison (H-D) plant. About the same time, a fire destroyed an acetone plant supplying the Company and owned by H. W. Kessler in Brandt, PA. Mr. Kessler was induced to merge and rebuild on the new property. A small hydrofluoric acid operation in Elyria was moved to Cleveland and enlarged and included the manufacture of sodium fluoride and ammonium fluoride. In 1910, Mr. Stark developed a process for the manufacture of antimony oxide used in the enameling industry. The basic aim of

the Company was to take care of all the basic requirements of an industry, either by manufacture or resale. The manufacture of cobalt oxide, used as a ground coat for the enameling of steel, led to the manufacture of cobalt salts such as linoleate, acetate and resinate used to make improved driers for the paint and varnish industry.

By 1913, the glycerine refining business declined due to the consolidation of smaller soap companies into larger ones that could produce their own glycerine. As a result, a large refinery was erected in Philadelphia where better advantage could be taken of crudes imported from Europe and South America.

An unusually large inventory of manganese ore became a very valuable asset with the advent of World War I. Again just prior to the outbreak of WWI, a process for the manufacture of antimony sulfide was started. This material was required by the rubber companies in Akron to make tires and tubes. WWI caused a large demand for the Company's products such as refined glycerine and manganese and antimony products but also created shortages for many raw materials the Company used. At the end of the war the antimony sulfide operation was shut down and the acetone plant was closed and dismantled. The price of glycerine, fixed by the Government, skidded from $.60/# down to $.10/#. Nonetheless, business flourished and every year except one resulted in an increase in volume and profits over the next decade. The acetone plant was remodeled and new equipment installed to make linoleates and resinates and the hydrates and carbonates of cobalt, manganese and lead which put the Company in an outstanding position to supply the paint, varnish, printing ink and linoleum industries. A decision by the International Nickel Company resulted increased production of nickel salts and moving production from Elyria to a new facility at H-D. The increasing demand for hydrofluoric acid and antimony oxide led to new equipment to increase production. The antimony sulfide facility, which had been idle since 1921, was re-fitted for the production of cadmium products leading to a line of color oxides for the ceramic industry.

1929 saw the Company's name changed to the Harshaw Chemical Company. The market crash in 1929 brought expansion to a halt with the exception of the previous Hathaway-Brown School property on East 97th street in Cleveland which was to be the Company headquarters for many years to come.

Many of the classrooms were converted into offices and the gym was converted into a research laboratory for electroplating processes, the latter resulting in a process for plating bright nickel which required no buffing. By the mid 1930's, expansion was again underway first for Uverite, a tin oxide substitute, the several new ceramic colors, glass enamels and improved
cadmium colors. A start was made in 1936 to manufacture optical crystals.

In the late 30's, a new plant was designed to produce anhydrous hydrofluoric acid as well as ammonium bifluoride and a new product, boron trifluoride.

World War II again disrupted expansion ideas and created problems with obtaining raw materials. New paths had to be found to circumvent the shortages and the Company was up to the challenge. In early October 1941, the Company had been asked to produce a small amount of uranium hexafluoride and entered into a small scale contract with the National Bureau of Standards. The operation was increased until eventually a plant within a plant was constructed under contract with the Manhattan District. The word uranium was never used but referred to as a code number or "brown salt" or "green salt", etc. It wasn't until August 6, 1945 when an atomic bomb was dropped on Hiroshima that employees learned of the magnitude of the project on which they had worked on in times of shortages, priorities, scarce equipment, clearances, etc. At the war's end, the Company was awarded an Army-Navy "E" with Five Stars for a job well done.

WWII also saw the Company's entry into the catalyst field. Much of the idled ceramic color equipment was found to be suitable for use in catalyst manufacture and the Company found itself producing catalyst for the synthetic rubber industry. With the end of WWII, a new nickel salts plant had to be built because of the new rush for bright plating as well as a new facility for plating research. The glycerine plant in Philadelphia was renovated and moved to a new and larger location in Gloucester City, NJ. Eventually, metallic soap, antimony oxide and some organic specialties were moved to Gloucester City.

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A flurry of expansion occurred in the mid 1950's: the Company formed a new affiliated company with a French concern to produce ceramic colors in Europe; the purchase of Zinsser & Company established the Company in dyes, lakes, toners, Metol, tannic and gallic acids and other organic specialties serving the photographic, paint, printing ink, leather and textile industries.

Harshaw Chemicals Ltd. was established in 1956 to produce electroplating products in England and Europe. The offices, laboratories and plant were expanded in 1967 and located in Daventry, England.

In 1958, the Company acquired The Kentucky Color and Chemical Company of Louisville, Kentucky as part of the newly formed Pigment and Dye Department. A complete line of dry colors for paints, printing inks, linoleum, plastics, rubber and textiles are manufactured there. In 1964, the products manufactured by the Zinsser facility were transferred to the greatly enlarged color plant in Louisville, Kentucky.

In 1960, Harshaw established a comprehensive laboratory in Cleveland, Ohio to work exclusively with solid state materials and applications research. Also in 1960, Harshaw purchased a majority share holding in its licensee in Holland and subsequently acquired sole ownership. Now operating as Harshaw Chemie N.V. of DeMeern, Netherlands, this company makes catalysts, buffs and polishing compounds, industrial cleaners, electroplating additives and equipment as well as scintillation phosphors and electronics. In 1967, this facility was expanded with addition of a new catalyst manufacturing plant.

In 1962, Harshaw Chemie GmbH was established in Frankfurt, Germany as a sales and service branch for crystal and electronic products, electroplating products and catalysts.

Hamner Electronics Company was acquired in 1964 enabling the Company to offer complete nuclear electronic detection systems. In 1966, the Xtalonix Company was brought into the Company as a part of the Crystal-Solid State Department enabling the company to serve the microwave industry with a line of magnetic ferrite materials.

The Crown Rheostat and Equipment Company, with a modern plant in Chicago, Illinois and a long, respected history as a manufacturer of automatic processing equipment, was acquired in 1966. This brought Harshaw a step closer to becoming a complete supplier to the electroplating industry.

In the Fall of 1966, the Harshaw Chemical Company was merged with the Kewanee Oil Company, a 96 year old enterprise specializing in the production of crude oil and natural gas.

Subsequently, the merged company was acquired by the Gulf Oil Corporation in 1977.

In 1983, the Harshaw/Filtrol Partnership was formed as a joint venture between Kaiser Chemical and Gulf Oil. In 1988, the Partnership was acquired by the Engelhard Corporation who retained the Color and Catalyst groups. The Industrial Chemical and Metal Finishing groups were divested to M&T Chemicals which in turn were acquired by Elf Atochem and ultimately merged with their Schering Electroplating Division in 1993 to form a new company, Atochem. The Crystal-Solid State group was divested to Saint Gobain (part of a French consortium). In 2007, Engelhard Corporation was purchased by BASF Catalysts.

Today, Harshaw, which once stood for quality, innovative products in many diverse fields is no longer in existence. However, as stated on the home page, former employees still meet and reminisce about the many accomplishments made by the Company for almost 100 years.

Recently, we learned about two articles covering the razing of the Harshaw Corporate offices located at E. 97 and Chester Ave which were originally occupied by the Laurel School for Girls and the Hathaway-Brown School. Strangely, neither article mentions that the building was occupied by Harshaw for more years than the schools. The URL's for these articles are:

January 28, 2010 article:
http://www.clevelandareahistory.com/2010/01/lost-hathaway-brown-school-and-laurel.html

March 13, 2010 article:
http://blog.cleveland.com/architecture/2010/03/cleveland_clinics_razing_of_fo.html

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There are some pictures which may be of interest.

Many other articles of interest may be found on the Internet using the Google search engine. One such Goggle search is the following URL: http://www.google.com/search?q=harshaw+chemical+company&rls=com.microsoft:en-us:IE-SearchBox&ie=UTF-8&oe=UTF-8&sourceid=ie7&rlz=1I7ADBR_en

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Corporation Details

Corporation Details	
Entity Number	27268
Business Name	THE CLEVELAND COMMERCIAL COMPANY
Filing Type	CORPORATION FOR PROFIT
Status	Cancelled
Original Filing Date	04/14/1911
Expiry Date	
Location: CLEVELAND	County: CUYAHOGA State: OHIO

Incorporator Information

H MELVIN ROBERTS
ROY R MOFFETT
N I YOUNG
ET AL

Filings

Filing Type	Date of Filing	Document Number/Image
DOMESTIC ARTICLES/FOR PROFIT	04/14/1911	V156_0467
CANCELLED BY TAX DEPT W/NOTIFICATION	01/01/1955	000000007256

Return To Search Page | Return To Search List | Printer Friendly Report

Corporation Details

Corporation Details	
Entity Number	61841
Business Name	THE CLEVELAND COMMERCIAL COMPANY
Filing Type	CORPORATION FOR PROFIT
Status	Dead
Original Filing Date	03/03/1892
Expiry Date	

Location: CLEVELAND County: CUYAHOGA State: OHIO

Filings		
Filing Type	Date of Filing	Document Number/Image
DOMESTIC ARTICLES/FOR PROFIT	03/03/1892	V056_0154
CERTIFICATE OF CONTINUED EXISTENCE	08/27/1914	000000442815

Corporation Details

Corporation Details	
Entity Number	12181
Business Name	THE HARSHAW CHEMICAL COMPANY
Filing Type	CORPORATION FOR PROFIT
Status	Dead
Original Filing Date	08/21/1897
Expiry Date	
Location: CLEVELAND	County: DARKE State: OHIO

Incorporator Information

W H BEAVIS
J P BEARDSLEY
M M CHEW ET AL

Filings

Filing Type	Date of Filing	Document Number/Image
DOMESTIC ARTICLES/FOR PROFIT	08/21/1897	V074_1743
DOMESTIC/AMENDMENT TO ARTICLES	08/26/1897	V071_0372
DOMESTIC/AMENDMENT TO ARTICLES	06/22/1898	V072_0457
DOMESTIC/AMENDMENT TO ARTICLES	01/20/1899	V075_0431
DOMESTIC/AMENDMENT TO ARTICLES	01/20/1899	V075_0430
DOMESTIC/AMENDMENT TO ARTICLES	02/13/1900	V078_0362
DOMESTIC/AMENDMENT TO ARTICLES	02/21/1901	V086_0213
DOMESTIC/AMENDMENT TO ARTICLES	01/20/1902	V082_0580
DOMESTIC/AMENDMENT TO ARTICLES	01/15/1904	V100_0203
DOMESTIC/AMENDMENT TO ARTICLES	12/06/1906	V118_0084
DOMESTIC/AMENDMENT TO ARTICLES	09/19/1913	V174_0131
DOMESTIC/AMENDMENT TO ARTICLES	02/13/1929	V371_0647
DOMESTIC/AMENDMENT TO ARTICLES	02/13/1929	V371_0640
DOMESTIC/AMENDMENT TO ARTICLES	12/26/1940	V476_0475
DOMESTIC/AMENDMENT TO ARTICLES	02/04/1941	V478_0085
DOMESTIC/AMENDMENT TO ARTICLES	03/19/1945	V500_0360
DOMESTIC/AMENDMENT TO ARTICLES	06/04/1947	V535_0144
DOMESTIC/AMENDMENT TO ARTICLES	01/13/1948	V547_0340
DOMESTIC/AMENDMENT TO ARTICLES	01/13/1948	V547_0239
DOMESTIC/AMENDMENT TO ARTICLES	10/08/1951	V619_0180
DOMESTIC/AMENDMENT TO ARTICLES	08/09/1955	V711_0626
DOMESTIC/AMENDMENT TO ARTICLES	01/11/1956	V726_0541
DOMESTIC/AMENDMENT TO ARTICLES	02/09/1963	B293_1072
MERGER/DOMESTIC	12/09/1966	B484_0105

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12/87

AMENDMENT

OF

The Harshaw Chemical Co.

[illegible] of State

[illegible] on the 4 day

Feby A.D. 1941

Recorded in Volume 478, page 85

Records of Incorporations

John E. Sweeney

TAX ... DEPT

Morley Stickle & Kelley
Union Commerce Bldg
Cleveland, O

CERTIFICATE OF ADOPTION

OF

AMENDED ARTICLES OF INCORPORATION

OF

THE HARSHAW CHEMICAL COMPANY

W. J. Harshaw, President, and D. T. Perry, Secretary, of THE HARSHAW CHEMICAL COMPANY, an Ohio corporation with its principal office located at Elyria, Ohio, do hereby certify that a special meeting of the holders of the shares of Common Stock of said company, being the only class of shares entitled to be voted on the proposals before said meeting to amend the Articles of the Company and to adopt Amended Articles of Incorporation of the Company as contained in the following resolution, was duly called for such purpose and held on December 26, 1940, and, pursuant to adjournment was reconvened on January 30, 1941, at which meeting and adjourned meeting a quorum was present in person or by proxy, and that at said adjourned meeting by the affirmative vote of the shareholders entitled under the Articles to exercise at least two-thirds of the voting power of the Company on such proposals (the Articles not requiring the exercise of a greater proportion of such voting power), the following resolution was adopted:

WHEREAS, pursuant to the privilege of exchange extended to the holders of the Company's 7% Preferred Stock under the Plan of Exchange heretofore authorized by the directors and shareholders, the holders of 5704 shares of said 7% Preferred Stock have surrendered their shares of said stock in exchange for shares of the Company's 4½% Convertible Preferred Stock authorized under its Amended Articles of Incorporation, and the 7% Preferred Stock so surrendered has been cancelled; and

WHEREAS the remaining 4296 shares of said 7% Preferred Stock not so surrendered for exchange within the time limited therefor, have been called for redemption and retired at the redemption price provided in the terms and provisions of said 7% Preferred Stock as set forth in said Amended Articles of Incorporation of the Company; and

WHEREAS, by reason of such exchange by the holders of said 7% Preferred Stock and the retirement by call and redemption as aforesaid of all unexchanged shares of said stock, it is desired to further amend the Articles of Incorporation of the Company by eliminating from the Amended Articles of Incorporation, filed in the office of the Secretary of State on December 26th, 1940, Subdivision B thereof setting forth the express terms and conditions of said 7% Preferred Stock, and Section 11 of Subdivision A referring to said stock, and for that purpose to adopt Amended Articles of Incorporation eliminating said provisions and changing the number of authorized shares to show the reduced number of shares incident to the retirement of said 10,000 shares of 7% Preferred Stock;

NOW, THEREFORE, be it

RESOLVED, that amendments to the Company's Amended Articles of Incorporation, filed in the office of the Secretary of State of Ohio on December 26, 1940, are hereby adopted so that, as amended, the Articles of Incorporation shall read as set forth below, and, in addition to the adoption of such amendments, the following Amended Articles of Incorporation are hereby adopted in their entirety:

A31 1785

AMENDED ARTICLES OF INCORPORATION
OF
THE HARSHAW CHEMICAL COMPANY

FIRST: The name of the Company shall be THE HARSHAW CHEMICAL COMPANY.

SECOND: Said Company is to be located at Elyria, Lorain County, Ohio, and its principal business there transacted.

THIRD: Said Company is formed for the purpose of the manufacture and sale of oil and oil products and a general manufacturing and merchandising business.

FOURTH: The maximum number of shares which the Company is authorized to have outstanding shall be 270,000, which shall be classified as follows: 20,000 shares of Convertible Preferred Stock, of the par value of $100 each, and 250,000 shares of Common Stock, without par value.

The shares of said classes shall have the following express terms and provisions:

A. *Express Terms and Provisions of Convertible Preferred Stock*

SECTION 1. The holders of record of shares of Convertible Preferred Stock shall be entitled to receive, when and as declared by the Board of Directors of the Company, dividends at the rate of but not exceeding 4½% per annum, payable quarterly on the first day of March, June, September and December in each year in preference to and in priority over dividends upon the shares of any other class or classes of the Company. Such dividends shall be cumulative from the first day of the quarterly period beginning March 1, June 1, September 1 and December 1 in which such shares were originally issued; provided, however, that the quarterly dividend payable March 1, 1941, shall accrue and be cumulative only from January 15, 1941.

SECTION 2. All or any part or parts of the shares of Convertible Preferred Stock are subject to call for redemption and may be redeemed by the Company at any time or times at the option of the Company, upon notice mailed not less than thirty (30) days prior to the date fixed for such redemption, addressed to the holders of the shares of Convertible Preferred Stock to be redeemed as shown by the books of the Company, at the redemption price of $105 per share plus an amount equal to accrued unpaid dividends to the date fixed for redemption.

At any time after notice has been given as aforesaid, the Company may deposit the aggregate redemption price of the shares of Convertible Preferred Stock to be redeemed with any bank or trust company in the City of Cleveland, Ohio, having capital and surplus of more than Five Million Dollars ($5,000,000), named in such notice, directed to be paid to the respective holders of the shares of Convertible Preferred Stock so to be redeemed, in amounts equal to the redemption price of all shares of Convertible Preferred Stock so to be redeemed, on endorsement and surrender of the stock certificate or certificates held by such holders, and on the deposit of such redemption price such holders shall cease to be shareholders with respect to such shares, and thereafter such holders shall have no interest in or claim against the Company with respect to such shares but shall be entitled only to receive said moneys from such bank or trust company without interest; provided, however, that until, but not after, two o'clock P.M., Eastern Standard Time, on the fifth day next preceding the date fixed for redemption such holders shall have the right of conversion hereinafter set forth. In case less than all of the outstanding shares of Convertible Preferred Stock are to be redeemed, the Company shall select by lot the shares so to be redeemed in such manner as shall be prescribed by its Board of Directors.

All shares of Convertible Preferred Stock redeemed by call shall be cancelled and not again issued.

SECTION 3. Upon any dissolution, liquidation or winding up of the Company the holders of shares of Convertible Preferred Stock shall be entitled to receive out of the assets of the Company, whether from capital, surplus or from earnings, before any payment or distribution of any kind shall be made to the holders of shares of stock of the Company of any other class or classes, a distribution of cash in an amount which, in the case of involuntary dissolution, liquidation or winding up, shall be equal to \$100 per share, and, in the case of a voluntary dissolution, liquidation or winding up, shall be equal to \$105 per share, plus, in either case, all accrued and unpaid dividends upon such shares to the date fixed for distribution; but the holders of Convertible Preferred Stock shall be entitled to no further participation in any distribution.

SECTION 4. If the net earnings, as hereinafter defined, of the Company for any fiscal year ending in 1941 or thereafter shall be greater than \$400,000, then on or before April 1st of each year next succeeding each such fiscal year in which such net earnings were made the Company shall use in the purchase or redemption of shares of Convertible Preferred Stock an amount which shall be not less than 5% of the excess of such net earnings for such fiscal year over \$400,000, less all amounts which the Company theretofore shall have expended in the purchase or redemption of Convertible Preferred Stock in excess of the amounts theretofore required by this Section 4 to be so expended, to the extent such excess so expended has not theretofore been deducted in computing the amounts so required to be expended during any previous period. For this purpose the Company shall be deemed to have expended, in the case of shares which it purchases, an amount equal to the cost or par value of such shares, whichever is the greater, but not in excess of the redemption price of any thereof; and, in the case of shares converted into Common Stock, the Company shall be deemed to have expended in the purchase of such shares so converted an amount equal to the par value of the shares so converted.

The term "net earnings" whenever used herein in respect of the Company or any subsidiary thereof shall mean the gross earnings of the Company or such subsidiary, less all current and operating expenses of the Company or such subsidiary, including wages and compensation, fixed charges, all interest, sales and administration expenses, insurance, the amount of all yearly amortization and discount on funded debt, all state, federal and local taxes for such period, including income taxes, a reasonable reserve for credit losses and other losses of every nature, reasonable depreciation and any other items which under generally accepted accounting practice should be charged to expense. The "net earnings" of the Company as herein defined shall be computed by including the net earnings or net losses of its subsidiaries properly allocable to or upon the shares of stock or securities of such subsidiaries owned by the Company.

The term "subsidiary" whenever used herein shall mean a corporation at least 51% of whose stock or shares having voting power for the election of directors are owned by the Company.

The term "fiscal year" means the period of twelve calendar months ending September 30th.

On or before March 1st in each calendar year, beginning with March 1, 1942, the Company shall cause a firm of certified public accountants having an office in the City of Cleveland, Ohio, and in not less than four other cities located in the United States, to determine in writing the amount of the "net earnings" as herein defined of the Company for the preceding fiscal year, and the amount (if any) required to be expended by the Company prior to the succeeding April 1st pursuant to the provisions of this Section 4, and on or before the said date shall file a copy of such written determination with each Transfer Agent of the Convertible Preferred Stock. Each determination so made shall be binding and conclusive upon all shareholders of the Company. In each instance when written determination filed by the Company as hereinabove required by this paragraph shall disclose that the Company is required to expend funds pursuant to the provisions of this Section 4, the Company shall, on or before May 1st in the same calendar year, file with each Transfer Agent of the Convertible Preferred Stock a written statement, signed by the Treasurer or an Assistant Treasurer of the Company, disclosing the expenditures made by the Company in performance of such requirement, including information, in form approved by the Board of Directors of the Company, disclosing the manner and extent to which the Company shall have taken credit for shares converted or for the excess of par over cost of shares purchased in computing the amount of such expenditures.

All shares of Convertible Preferred Stock purchased or redeemed as provided in this Section 4, including shares purchased or redeemed by the expenditure of amounts which were deducted in computing the amount the Company is required to expend in any year pursuant to Section 4, shall be cancelled and not again issued.

SECTION 5. The holders of shares of Convertible Preferred Stock shall not be entitled to vote or participate in meetings of shareholders except as hereinafter provided. If the Company shall be in default in the payment of four quarterly dividends at the rate of 4½% per annum on the shares of Convertible Preferred Stock, whether or not earned or declared, each holder of Convertible Preferred Stock shall, in respect of each share thereof, be entitled to vote and participate in actions or business of shareholders to the same extent and in the same manner as if such holder held one share of Common Stock of the Company. Such special voting right each time it becomes effective shall continue until such time as all cumulative dividends upon the Convertible Preferred Stock shall have been paid for all previous quarterly dividend periods and the then current quarterly dividend shall have been declared and surplus appropriated therefor.

The right to vote vested in the holders of shares of Convertible Preferred Stock upon the happening and continuance of default, or as provided hereinafter, shall not deprive such holders of the exercise of any right that they may have at law, in equity or by statute to enforce any provision with respect to the shares of Convertible Preferred Stock.

SECTION 6. Anything herein to the contrary notwithstanding, so long as any shares of Convertible Preferred Stock shall be outstanding the Company shall not, unless with the affirmative vote or written consent of the holders of record of at least a majority of the number of shares of Convertible Preferred Stock at the time outstanding (but, so far as the holders of shares of Convertible Preferred Stock are concerned, the Company may, with such affirmative vote or written consent):

(a) Issue, guarantee or assume or permit any of its subsidiaries (as defined in Section 4 hereof) to issue, guarantee or assume any bonds, notes, debentures, or other similar funded indebtedness the payment of which is postponed more than one year from the date of such issuance, guaranty or assumption; provided, however, that without such vote or consent the Company or any subsidiary thereof may issue, guarantee or assume any such indebtedness as a part of the purchase price paid by it for property acquired after December 31, 1940, but not in excess of 75% of such purchase price, or if the entire proceeds of such indebtedness are used to pay not in excess of 75% of the purchase price in any such acquisition, or if such indebtedness is or the proceeds thereof are used solely in the retirement of any such excepted indebtedness; or

(b) Create or issue any shares of stock having a parity with or priority over the shares of Convertible Preferred Stock as to dividends or liquidation rights, or any shares of stock (other than additional shares of Common Stock of the class now authorized) having a participation or parity with the Common Stock as to dividends, or change the terms or provisions of the outstanding shares of Convertible Preferred Stock or increase the authorized Convertible Preferred Stock beyond 20,000 shares; or

(c) Consolidate or merge with any other corporation on any basis other than one which provides for the payment to the holders of Convertible Preferred Stock of an amount equal to $106 per share, plus accrued unpaid dividends to the date of such payment.

SECTION 7. The Company shall not declare or pay any dividend on or purchase any shares of the Company of any class or classes other than Convertible Preferred Stock, or distribute any of its assets to the holders of shares of any such other class or classes as such holders, so long as—

(a) The Company shall be in default in the payment of all or any part of any quarterly dividend at the rate of 4½% per annum on the shares of Convertible Preferred Stock for any previous quarterly dividend period, whether or not earned or declared, or shall have failed to pay or declare and appropriate surplus for the payment of the dividend upon the shares of Convertible Preferred Stock for the current quarterly dividend period; or

(b) The Company shall be in default in expending in the retirement of shares of Convertible Preferred Stock the aggregate amount which is required to have been expended under the provisions of Section 4 above; or

(c) The net current assets of the Company are, or after such payment or distribution would be, less than 75% of the aggregate par value of Convertible Preferred Stock then outstanding and not held in the treasury of the Company.

The term "net current assets" whenever used herein in respect of the Company shall mean the excess of the current assets of the Company over the current liabilities thereof determined under generally accepted accounting practice. In computing the net current assets of the Company there shall be included the net current assets of its subsidiaries ("subsidiary" being defined in Section 4) less, in respect of each subsidiary, that portion of such subsidiary's net current assets which would be required for distribution upon voluntary dissolution of such subsidiary to the outstanding capital stock of such subsidiary not owned by the Company or another subsidiary; provided, however, that the portion of the net current assets of any subsidiary so included shall not exceed the amount which would be distributed or paid upon the capital stock, other securities, indebtedness or obligations of such subsidiary owned by the Company upon the voluntary liquidation of such subsidiary.

The Company, by action of its Board of Directors, may designate a firm of certified public accountants, having an office in the City of Cleveland, Ohio, and in not less than four other cities located in the United States, to determine the "net current assets" as herein defined of the Company as of any date, and any determination so made shall be binding upon and conclusive as to all shareholders of the Company.

SECTION 8. The Convertible Preferred Stock, at the option of the holders thereof, may at any time (but, in the case of Convertible Preferred Stock called for redemption then until, but not after, two o'clock P.M., Eastern Standard Time, on the fifth day next prior to the date fixed for redemption, unless default shall be made in such redemption) be converted, in the manner hereinafter provided, into fully paid and non-assessable shares of Common Stock of the Company as constituted at the time of conversion, on the following terms and conditions:

(a) Unless and until an adjusted conversion price of such Common Stock is required to be computed as hereinafter provided, each share of Convertible Preferred Stock shall be convertible: On or before June 30, 1943 (hereinafter called the "First Conversion Period"), into 3½ shares of Common Stock; thereafter, and on or before December 31, 1945 (hereinafter called the "Second Conversion Period"), into 3⅓ shares of Common Stock; thereafter, and on or before December 31, 1950 (hereinafter called the "Third Conversion Period"), into 3 shares of Common Stock; and thereafter (hereinafter called the "Fourth Conversion Period"), into 2½ shares of Common Stock; provided, however, that each of the First, Second and Third Conversion Periods shall end at two o'clock P.M., Eastern Standard Time, on the final day of such periods, and if any of the foregoing dates shall be a Sunday or a legal holiday the next succeeding business day shall be substituted therefor.

In the event that an adjusted conversion price of the Common Stock is required to be computed as hereinafter provided, then for the purposes thereof the value of the Convertible Preferred Stock shall be $100 per share, the basic conversion price of the Common Stock shall be $28.57 per share during the First Conversion Period, $30 per share during the Second Conversion Period, $33.33 per share during the Third Conversion Period, and $40 per share during the Fourth Conversion Period, and the number of shares of Common Stock issuable on conversion of one share of Convertible Preferred Stock shall be determined by dividing $100 by the adjusted conversion price of one share of Common Stock.

(b) In case at any time or from time to time the Company shall issue, in addition to the 134,652 shares of Common Stock now issued, any shares of Common Stock which are not excluded from "additional shares" by the terms of subparagraphs (i), (ii), (iii), or (iv) of this paragraph (b) of Section 8, then successively upon each such issue a computation is hereby required to be made for the purpose of ascertaining the adjusted conversion price, substantially in accordance with the following formula:

(1) Multiply 134,652 by the then basic conversion price.

(2) Add to the result obtained the aggregate consideration (determined as provided hereinafter) received by the Company upon the issue of any and all additional shares of Common Stock (as defined hereinafter).

(3) Divide the result by the sum of 134,652 plus the number of such additional shares of Common Stock, disregarding in the quotients obtained the fractions of one cent.

The result so obtained will represent the adjusted conversion price except in the event the adjusted conversion price so obtained would be greater than the then current basic conversion price, in which event the adjusted conversion price shall be the basic conversion price.

In making the foregoing computation the term "additional shares" shall mean all shares of Common Stock issued by the Company in addition to the 134,652 shares now issued, excluding the following:

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(i) Common Stock issued in conversion of shares of Convertible Preferred Stock, or for scrip certificates issued in connection with such conversion.

(ii) Common Stock issued in exchange for or replacement of outstanding shares of Common Stock, except that shares of Common Stock so issued shall be included to the extent of the excess in number of such shares over the number of shares so exchanged or replaced.

(iii) Common Stock issued in exchange for property.

(iv) Common Stock issued upon any subdivision of, or as a dividend on, any shares specified in the foregoing subparagraphs (i), (ii) and (iii) as excluded from additional shares, and Common Stock issued successively as a subdivision of or as a dividend on shares so issued.

In making any computation of the adjusted conversion price as above provided, the considerations received by the Company upon the issue of any and all additional shares as above defined shall be determined as follows:

(1) Shares of Common Stock issued as a stock dividend upon any shares of stock, and shares of Common Stock issued in exchange for or replacement of, outstanding shares of Common Stock, to the extent of the excess in number of the shares so issued over the number of the shares so exchanged or replaced, shall be deemed to have been issued for a consideration of no value.

(2) Common Stock issued for money shall be deemed to have been issued for a consideration equal to the money received by the Company, plus such reasonable commissions and discounts for the underwriting or marketing thereof as may have been deducted from money which otherwise would have been received by the Company.

(3) Common Stock issued in conversion of or exchange for obligations, stock or other securities of the Company (other than shares of Convertible Preferred Stock) shall be deemed to have been issued for cash equal to the consideration received by the Company for the issuance of such obligations, stocks or other securities (or the part thereof) converted into or exchanged for Common Stock, plus such reasonable commissions or discounts for the underwriting or marketing thereof as may have been deducted from money which otherwise would have been received by the Company.

(4) After the First Conversion Period there shall be added to the consideration received upon the issue of any additional shares during a prior conversion period a percentage thereof necessary to give effect to the increase of the basic conversion price in the Second, Third or Fourth Conversion Period, as the case may be, over that fixed for the conversion period during which such consideration was received; that is to say, for and during the Second Conversion Period there shall be added to the consideration so received during the First Conversion Period 5% thereof; and for and during the Third Conversion Period there shall be added to the consideration so received during the First Conversion Period 16.66% thereof, and to the consideration so received during the Second Conversion Period 11% thereof; and for and during the Fourth Conversion Period 40% of the consideration so received in the First Conversion Period, 33 1/3% of the consideration so received in the Second Conversion Period, and 20% of the consideration so received in the Third Conversion Period. The adjustment provided above in this subparagraph (4) shall be made on the first day of each conversion period subsequent to any conversion period or periods in which additional shares shall have been issued, and shall be in addition to the computations hereinabove provided to be made in the event of issuing additional shares during any conversion period.

No adjustment shall be made upon any such conversion for any dividends on such shares of Convertible Preferred Stock or for any dividends upon any shares of Common Stock.

In the event that during any of the conversion periods there is any capital reorganization or reclassification of capital stock of the Company, or the Company shall

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consolidate or merge with or into any other corporation or corporations, involving in any such case the issuance or delivery to the holders of Common Stock of other stock, securities, property or rights, or the Company shall dissolve, liquidate or wind up, or sell, convey or transfer all or substantially all of its assets, then in any one or more of such events the Company shall give to the holders of the Convertible Preferred Stock at least twenty-five (25) days prior written notice thereof, and of the date as of or after which such reclassification, reorganization, consolidation, merger, dissolution, liquidation, winding up or sale, conveyance or transfer shall take place, as the case may be, and such notice shall also specify the date, not less than thirty (30) days after the giving of such notice, as of which holders of Common Stock shall be entitled to exchange their shares for stock, securities, property or rights pursuant to such reclassification, reorganization, merger or consolidation, or to receive their respective distributive shares in the event of such dissolution, liquidation, winding up or sale, conveyance or transfer, as the case may be, to the end that the holders of Convertible Preferred Stock may at their option surrender their shares for conversion and thereby be entitled in respect of the shares of Common Stock to which they shall be entitled upon such conversion to receive such stock, securities, property, rights or distributive shares to the extent that other holders of Common Stock may at the time be entitled to receive the same. The notice herein required to be given shall be sufficiently given if the Company shall mail a copy thereof to the holders of the Convertible Preferred Stock at their addresses as shown by the books of the Company, first class, postage prepaid.

In the event that during any of the conversion periods the Company shall effect any capital reorganization or reclassification of capital stock of the Company or shall consolidate or merge with or into any other corporation or corporations, or shall sell all or substantially all of its property as an entirety to another corporation, lawful provision shall (except as hereinafter otherwise provided) be made as part of the terms of such reorganization or reclassification of stock, consolidation, merger or sale that the holder of any shares of Convertible Preferred Stock may then or thereafter receive in lieu of each share of Common Stock otherwise issuable to him upon conversion of his shares of Convertible Preferred Stock, but at the conversion price which would otherwise be in effect at the time of conversion and with the same protection against dilution, all as herein provided, the same kind and amount of securities (including in such term stock of any class or classes) or assets as may be issuable, distributable or payable upon such reorganization or reclassification of stock, consolidation, merger or sale with respect to each share of Common Stock of the Company; and after such reorganization or reclassification of stock, consolidation, merger or sale, the conversion right evidenced by the Convertible Preferred Stock shall be to receive such securities or assets.

Anything herein to the contrary notwithstanding, upon any such consolidation, merger or sale in connection with which only cash shall be distributable to the holders of shares of Common Stock (whether or not such sale shall be attended or followed by dissolution of the Company), all conversion rights of the holders of shares of Convertible Preferred Stock shall terminate on the fifth day prior to the date fixed by the Company for such distribution. In any case of such termination of conversion rights the Company shall cause written notice thereof to be given to the holders of the Convertible Preferred Stock by mailing a copy thereof to their addresses as shown by the books of the Company, first class, postage prepaid, not less than twenty-five (25) days prior to such termination.

(e) If and when, and from time to time as, there shall be any issue of additional shares of Common Stock of the Company, as defined in paragraph (b) of this Section 5, or a new conversion period shall begin after any such additional shares shall have been issued, or there shall happen any other event as a consequence of which the conversion price or the then existing conversion right of the holders of shares of Convertible Preferred Stock, under the provisions of this Section 5, shall be altered or varied, the Company shall forthwith file with the [illegible] agent for the shares of Convertible Preferred Stock a statement [illegible] and the adjusted conversion price as changed by such issue of shares of Common Stock or other event, and the change, if any, in the securities or other assets issuable upon conversion. The transfer agent may receive and file such writings without responsibility on its part for the matters therein recited and as conclusive evidence of the facts therein stated.

(d) The Company shall not issue fractional shares of its Common Stock in satisfaction of the conversion privilege hereinbefore provided, but in lieu of fractional shares the Company may make cash settlement in respect thereof on the basis of the then existing conversion price of the Common Stock, or the Company may issue scrip certificates (exchangeable together with other scrip certificates aggregating one or more full shares for stock certificates representing such full share or shares) for any fraction of a share, in form and with provisions approved by the Board of Directors of the Company. Until the exchange thereof for certificates for full shares of Common Stock, the holders of such scrip certificates shall not be entitled to receive dividends thereon, to vote with respect thereto, or to have any other rights by virtue thereof as shareholders of the Company, except such rights, if any, as the Board of Directors may, in its absolute discretion, confer upon the holders of said scrip certificates in the event of the dissolution, liquidation or winding up of the Company. Such scrip certificates may by their terms be made void if not exchanged for full shares of Common Stock on or before the expiration of six months from and after their original issuance date.

(e) Any holder of shares of Convertible Preferred Stock desiring to exercise the above-mentioned right of conversion shall surrender to the Company at its then stock transfer agency for the shares of Convertible Preferred Stock the certificate(s) for the share or shares of Convertible Preferred Stock so to be converted, duly endorsed for transfer to the Company.

(f) The Company shall deliver, from time to time, to the respective holders of shares of Convertible Preferred Stock surrendered for conversion as herein provided, or to their respective assigns, and in exchange therefor (upon payment to the Company of all transfer taxes that may be payable in respect thereof as hereinafter provided) upon conversion thereof, at the rate then governing the conversion of such shares as hereinbefore provided, a stock certificate or stock certificates representing the number of full shares of Common Stock into which such shares of Convertible Preferred Stock shall have been so converted, together with scrip certificates or cash adjustments for fractional shares, as hereinbefore provided, all under suitable regulations to be prescribed by the Board of Directors of the Company. The issuance and delivery of said certificates, scrip or cash adjustments shall be as of the date of the surrender of such shares of Convertible Preferred Stock for conversion, and the holders of the Convertible Preferred Stock making the surrender in question shall be deemed to have become holders of record of shares of Common Stock for all purposes on the respective dates of such surrender, notwithstanding any delay in the delivery of certificates for Common Stock.

(g) The Company shall pay any and all issuance and transfer taxes which may be imposed in respect of the issuance and delivery of shares of Common Stock upon conversion of shares of Convertible Preferred Stock pursuant to the provisions of this Section 8; provided, however, that the Company shall not be required, in any event, to pay any transfer or other taxes by reason of the issuance of such shares of Common Stock in a name or names other than the name of the holder of the share or shares of Convertible Preferred Stock surrendered for conversion.

(h) The Company shall, during all of the conversion periods, reserve and keep available, out of its authorized and unissued stock, solely for the purpose of effecting a conversion of shares of Convertible Preferred Stock, such number of shares of Common Stock as shall from time to time be sufficient to effect the conversion of all shares of Convertible Preferred Stock then outstanding. The Company shall from time to time, in accordance with the laws of the State of Ohio, increase the authorized number of its shares of Common Stock at any time the number of shares of Common Stock remaining unissued and available for effecting conversion of shares of Convertible Preferred Stock shall not be sufficient to permit the conversion of all then outstanding shares of Convertible Preferred Stock.

(i) Upon conversion of shares of Convertible Preferred Stock under the provisions of this Section 8, the shares of Convertible Preferred Stock surrendered pursuant to such conversion shall be cancelled and not again issued.

SECTION 9. The holders of shares of Convertible Preferred Stock shall not be entitled as of right to purchase or have offered to them for purchase any shares or other securities of the Company other than by conversion as provided by Section 8 of this subdivision A relating to the Convertible Preferred Stock.

SECTION 10. Wherever reference is made in this subdivision A, relating to the Convertible Preferred Stock, to the doing of any act at the office of, or the filing of any statement with, the transfer agent for the shares of Convertible Preferred Stock, such act may be done or the statement may be filed at the principal office of the Company in the event it shall have no transfer agent for the said shares. All statements filed at the said office or with any transfer agent for the shares of Convertible Preferred Stock, pursuant to the provisions hereof, shall at all reasonable times be open to the inspection of holders of shares of Convertible Preferred Stock.

B. *Express Terms and Provisions of Common Stock*

SECTION 1. The Common Stock shall be subject to the terms and provisions hereinbefore set forth. The holders of shares of Common Stock shall have no preemptive right to purchase or have offered to them for purchase any shares of Common Stock which at any time shall be required for issuance in satisfaction of the conversion rights of the holders of outstanding shares of Convertible Preferred Stock or for scrip certificates issued in satisfaction of such rights.

SECTION 2. The holders of the shares of Common Stock shall be entitled to one vote for each share of such stock upon all questions presented to the shareholders.

FIFTH: As provided in a Certificate of Amendment to the Company's Articles of Incorporation filed in the office of the Secretary of State of Ohio on February 13, 1929, under which the authorized number of shares of Common Stock was increased to 200,000 shares without par value, 100,000 shares of Common Stock, without par value, were issued in lieu of and exchanged for the 10,000 shares of Common Stock then existing, on the basis of 10 shares, without par value, for each then existing share of $100 par value, and the aggregate amount of consideration received by the Company for said 100,000 shares of Common Stock, without par value, which were substituted and exchanged for said existing 10,000 shares of Common Stock was determined to be One Million Dollars ($1,000,000), or Ten Dollars ($10) for each share, without par value, so issued in exchange, and the stated capital of the Company applicable to said 100,000 shares of Common Stock, without par value, was thereby fixed at the sum of One Million Dollars ($1,000,000).

SIXTH: The Board of Directors shall be authorized to fix the amount of consideration to be received by the Company for the additional 100,000 shares of Common Stock, without par value, authorized in the Certificate of Amendment mentioned in Article FIFTH above, and the additional 50,000 shares of Common Stock without par value, herein authorized, as well as any Common Stock, without par value, which may hereafter be issued by virtue of any further increase in Common Stock of the Company subsequently authorized, and may determine

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the portion of such consideration which shall be allotted to stated capital in respect to the shares so issued.

SEVENTH: The amount of stated capital of the Company at the time of filing these Amended Articles of Incorporation is Three Million Three Hundred Forty-six Thousand Five Hundred and Twenty Dollars ($3,346,520).

EIGHTH: These Amended Articles of Incorporation shall supersede and take the place of the heretofore existing Articles of Incorporation of the Company and all amendments thereto.

IN WITNESS WHEREOF said W. J. Harshaw and D. T. Perry, President and Secretary, respectively, of THE HARSHAW CHEMICAL COMPANY, acting for and in behalf of said Company, have hereunto subscribed their names and caused the seal of said Company to be hereunto affixed this 31 day of January, 1941.

W. J. Harshaw
W. J. Harshaw, President

D. T. Perry
D. T. Perry, Secretary

(Corporate Seal)

STATE OF OHIO }
CUYAHOGA COUNTY } SS:

Personally appeared before me, a Notary Public in and for the State and County aforesaid, the above named W. J. Harshaw, President, and D. T. Perry, Secretary, of THE HARSHAW CHEMICAL COMPANY, who acknowledged that they did execute the foregoing Certificate of Adoption of Amended Articles of Incorporation for and in behalf of said Company by virtue of the authority therein stated, and for the uses and purposes therein set forth.

IN TESTIMONY WHEREOF I have hereunto set my hand and official seal at Cleveland, Ohio, this 31 day of January, 1941.

Robert W. Lowe
ROBERT W. LOWE Notary Public
NOTARY PUBLIC
My commission expires Jan. 15, 1943

(Notarial Seal)

From: 250 000 sh. N.P.V. Com.
1,000,000, Pref. Par 100.
2 000 000 Cum Pref Par 100.

To 250 000 sh. N.P.V. Com.
2 000.000. Pref. Par 100.

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Number 12181

AMENDMENT

OF

The Harshaw Chemical Company

Filed in the office of the Secretary of State at Columbus, Ohio on the 19th day of March A. D. 1945 and recorded in Volume 500 page 360 of the Records of Incorporations.

Edward J. Hummel

Secretary of State

Jones, Day, Cockley & Reavis
1759 Union Commerce Bldg
Cleveland 14 Ohio

APPROVED FOR FILING

A31 1796 12181

F. H. K.

DATE 3. 19. 4

Fer 25 '45

CERTIFICATE OF ADOPTION

OF

AMENDED ARTICLES OF INCORPORATION

OF

THE HARSHAW CHEMICAL COMPANY

W. J. Harshaw, President, and D. T. Perry, Secretary, of THE HARSHAW CHEMICAL COMPANY, an Ohio corporation with its principal office located at Elyria, Ohio, do hereby certify that a special meeting of the holders of the shares of Common Stock of said Company, being the only class of shares entitled to be voted on the proposals before said meeting to amend the Articles of the Company and to adopt Amended Articles of Incorporation of the Company as contained in the following resolution, was duly called for such purpose and held on March 16, 1945, at which meeting a quorum was present in person or by proxy, and that by the affirmative vote of the shareholders entitled under the Articles to exercise at least two-thirds of the voting power of the Company on such proposals (the Articles not requiring the exercise of a greater proportion of such voting power), the following resolution was adopted:

> RESOLVED, that an amendment to the Company's Articles of Incorporation providing for the release of preemptive rights as respects 48,000 shares of the presently authorized and unissued shares of Common Stock of the Company as embodied in Article Eighth of the Amended Articles of Incorporation below set forth is hereby adopted and, in addition to the adoption of such amendment, the following Amended Articles of Incorporation are hereby adopted in their entirety:

AMENDED ARTICLES OF INCORPORATION

OF

THE HARSHAW CHEMICAL COMPANY

FIRST: The name of the Company shall be THE HARSHAW CHEMICAL COMPANY.

SECOND: Said Company is to be located at Elyria, Lorain County, Ohio, and its principal business there transacted.

THIRD: Said Company is formed for the purpose of the manufacture and sale of oil and oil products and a general manufacturing and merchandising business.

FOURTH: The maximum number of shares which the Company is authorized to have outstanding shall be 270,000, which shall be classified as follows: 20,000 shares of Convertible Preferred Stock, of the par value of $100 each, and 250,000 shares of Common Stock, without par value.

The shares of said classes shall have the following express terms and provisions:

A. *Express Terms and Provisions of Convertible Preferred Stock*

SECTION 1. The holders of record of shares of Convertible Preferred Stock shall be entitled to receive, when and as declared by the Board of Directors of the Company, dividends at the rate of but not exceeding 4½% per annum, payable quarterly on the first day of March, June, September and December in each year in preference to and in priority over dividends upon the shares of any other class or classes of the Company. Such dividends shall be cumulative from the first day of the quarterly period beginning March 1, June 1, September 1 and December 1 in which such shares were originally issued; provided, however, that the quarterly dividend payable March 1, 1941, shall accrue and be cumulative only from January 15, 1941.

SECTION 2. All or any part or parts of the shares of Convertible Preferred Stock are subject to call for redemption and may be redeemed by the Company at any time or times at the option of the Company, upon notice mailed not less than thirty (30) days prior to the date fixed for such redemption, addressed to the holders of the shares of Convertible Preferred Stock to be redeemed as shown by the books of the Company, at the redemption price of $105 per share plus an amount equal to accrued unpaid dividends to the date fixed for redemption.

At any time after notice has been given as aforesaid, the Company may deposit the aggregate redemption price of the shares of Convertible Preferred Stock to be redeemed with any bank or trust company in the City of Cleveland, Ohio, having capital and surplus of more than Five Million Dollars ($5,000,000), named in such notice, directed to be paid to the respective holders of the shares of Convertible Preferred Stock so to be redeemed, in amounts equal to the redemption price of all shares of Convertible Preferred Stock so to be redeemed, on endorsement and surrender of the stock certificate or certificates held by such holders, and on the deposit of such redemption price such holders shall cease to be shareholders with respect to such shares, and thereafter such holders shall have no interest in or claim against the Company with respect to such shares but shall be entitled only to receive said moneys from such bank or trust company without interest; provided, however, that until, but not after, two o'clock P.M., Eastern Standard Time, on the fifth day next preceding the date fixed for redemption such holders shall have the right of conversion hereinafter set forth. In case less than all of the outstanding shares of Convertible Preferred Stock are to be redeemed, the Company shall select by lot the shares so to be redeemed in such manner as shall be prescribed by its Board of Directors.

All shares of Convertible Preferred Stock redeemed by call shall be cancelled and not again issued.

SECTION 3. Upon any dissolution, liquidation or winding up of the Company the holders of shares of Convertible Preferred Stock shall be entitled to receive out of the assets of the Company, whether from capital, surplus or from earnings, before any payment or distribution of any kind shall be made to the holders of shares of stock of the Company of any other class or classes, a distribution of cash in an amount which, in the case of involuntary dissolution, liquidation or winding up, shall be equal to $100 per share, and, in the case of a voluntary dissolution, liquidation or winding up, shall be equal to $105 per share, plus, in either case, all accrued and unpaid dividends upon such shares to the date fixed for distribution; but the holders of Convertible Preferred Stock shall be entitled to no further participation in any distribution.

SECTION 4. If the net earnings, as hereinafter defined, of the Company for any fiscal year ending in 1941 or thereafter shall be greater than $400,000, then on or before April 1st of each year next succeeding each such fiscal year in which such net earnings were made the Company shall use in the purchase or redemption of shares of Convertible Preferred Stock an amount which shall be not less than 5% of the excess of such net earnings for such fiscal year over $400,000, less all amounts which the Company theretofore shall have expended in the purchase or redemption of Convertible Preferred Stock in excess of the amounts theretofore required by this Section 4 to be so expended, to the extent such excess so expended has not theretofore been deducted in computing the amounts so required to be expended during any previous period. For this purpose the Company shall be deemed to have expended, in the case of shares which it purchases, an amount equal to the cost or par value of such shares, whichever is the greater, but not in excess of the redemption price of any thereof; and, in the case of shares converted into Common Stock, the Company shall be deemed to have expended in the purchase of such shares so converted an amount equal to the par value of the shares so converted.

The term "net earnings" whenever used herein in respect of the Company or any subsidiary thereof shall mean the gross earnings of the Company or such subsidiary, less all current and operating expenses of the Company or such subsidiary, including wages and compensation, fixed charges, all interest, sales and administration expenses, insurance, the amount of all yearly amortization and discount on funded debt, all state, federal and local taxes for such period, including income taxes, a reasonable reserve for credit losses and other losses of every nature, reasonable depreciation and any other items which under generally accepted accounting practice should be charged to expense. The "net earnings" of the Company as herein defined shall be computed by including the net earnings or net losses of its subsidiaries properly allocable to or upon the shares of stock or securities of such subsidiaries owned by the Company.

The term "subsidiary" whenever used herein shall mean a corporation at least 51% of whose stock or shares having voting power for the election of directors are owned by the Company.

The term "fiscal year" means the period of twelve calendar months ending September 30th.

On or before March 1st in each calendar year, beginning with March 1, 1942, the Company shall cause a firm of certified public accountants having an office in the City of Cleveland, Ohio, and in not less than four other cities located in the United States, to determine in writing the amount of the "net earnings" as herein defined of the Company for the preceding fiscal year, and the amount (if any) required to be expended by the Company prior to the succeeding April 1st pursuant to the provisions of this Section 4, and on or before the said date shall file a copy of such written determination with each Transfer Agent of the Convertible Preferred Stock. Each determination so made shall be binding and conclusive upon all shareholders of the Company. In each instance when written determination filed by the Company as hereinabove required by this paragraph shall disclose that the Company is required to expend funds pursuant to the provisions of this Section 4, the Company shall, on or before May 1st in the same calendar year, file with each Transfer Agent of the Convertible Preferred Stock a written statement, signed by the Treasurer or an Assistant Treasurer of the Company, disclosing the expenditures made by the Company in performance of such requirement, including information, in form approved by the Board of Directors of the Company, disclosing the manner and extent to which the Company shall have taken credit for shares converted or for the excess of par over cost of shares purchased in computing the amount of such expenditures.

All shares of Convertible Preferred Stock purchased or redeemed as provided in this Section 4, including shares purchased or redeemed by the expenditure of amounts which were deducted in computing the amount the Company is required to expend in any year pursuant to Section 4, shall be cancelled and not again issued.

SECTION 5. The holders of shares of Convertible Preferred Stock shall not be entitled to vote or participate in meetings of shareholders except as hereinafter provided. If the Company shall be in default in the payment of four quarterly dividends at the rate of 4½% per annum on the shares of Convertible Preferred Stock, whether or not earned or declared, each holder of Convertible Preferred Stock shall, in respect of each share thereof, be entitled to vote and participate in actions or business of shareholders to the same extent and in the same manner as if such holder held one share of Common Stock of the Company. Such special voting right each time it becomes effective shall continue until such time as all cumulative dividends upon the Convertible Preferred Stock shall have been paid for all previous

A3/ 1799

quarterly dividend periods and the then current quarterly dividend shall have been declared and surplus appropriated therefor.

The right to vote vested in the holders of shares of Convertible Preferred Stock upon the happening and continuance of default, or as provided hereinafter, shall not deprive such holders of the exercise of any right that they may have at law, in equity or by statute to enforce any provision with respect to the shares of Convertible Preferred Stock.

SECTION 6. Anything herein to the contrary notwithstanding, so long as any shares of Convertible Preferred Stock shall be outstanding the Company shall not, unless with the affirmative vote or written consent of the holders of record of at least a majority of the number of shares of Convertible Preferred Stock at the time outstanding (but, so far as the holders of shares of Convertible Preferred Stock are concerned, the Company may, with such affirmative vote or written consent):

(a) Issue, guarantee or assume or permit any of its subsidiaries (as defined in Section 4 hereof) to issue, guarantee or assume any bonds, notes, debentures, or other similar funded indebtedness the payment of which is postponed more than one year from the date of such issuance, guaranty or assumption; provided, however, that without such vote or consent the Company or any subsidiary thereof may issue, guarantee or assume any such indebtedness as a part of the purchase price paid by it for property acquired after December 31, 1940, but not in excess of 75% of such purchase price, or if the entire proceeds of such indebtedness are used to pay not in excess of 75% of the purchase price in any such acquisition, or if such indebtedness is or the proceeds thereof are used solely in the retirement of any such excepted indebtedness; or

(b) Create or issue any shares of stock having a parity with or priority over the shares of Convertible Preferred Stock as to dividends or liquidation rights, or any shares of stock (other than additional shares of Common Stock of the class now authorized) having a participation or parity with the Common Stock as to dividends, or change the terms or provisions of the outstanding shares of Convertible Preferred Stock or increase the authorized Convertible Preferred Stock beyond 20,000 shares; or

(c) Consolidate or merge with any other corporation on any basis other than one which provides for the payment to the holders of Convertible Preferred Stock of an amount equal to $105 per share, plus accrued unpaid dividends to the date of such payment.

SECTION 7. The Company shall not declare or pay any dividend on or purchase any shares of the Company of any class or classes other than Convertible Preferred Stock, or distribute any of its assets to the holders of shares of any such other class or classes as such holders, so long as—

(a) The Company shall be in default in the payment of all or any part of any quarterly dividend at the rate of 4½% per annum on the shares of Convertible Preferred Stock for any previous quarterly dividend period, whether or not earned or declared, or shall have failed to pay or declare and appropriate surplus for the payment of the dividend upon the shares of Convertible Preferred Stock for the current quarterly dividend period; or

(b) The Company shall be in default in expending in the retirement of shares of Convertible Preferred Stock the aggregate amount which is required to have been expended under the provisions of Section 4 above; or

(c) The net current assets of the Company are, or after such payment or distribution would be, less than 75% of the aggregate par value of Convertible Preferred Stock then outstanding and not held in the treasury of the Company.

The term "net current assets" whenever used herein in respect of the Company shall mean the excess of the current assets of the Company over the current liabilities thereof determined under generally accepted accounting practice. In computing the net current assets of the Company there shall be included the net current assets of its subsidiaries ("subsidiary" being defined in Section 4) less, in respect of each subsidiary, that portion of such subsidiary's net current assets which would be required for distribution upon voluntary dissolution of such subsidiary to the outstanding capital stock of such subsidiary not owned by the Company or another subsidiary; provided, however, that the portion of the net current assets of any subsidiary so included shall not exceed the amount which would be distributed or paid upon the capital stock, other securities, indebtedness or obligations of such subsidiary owned by the Company upon the voluntary liquidation of such subsidiary.

The Company, by action of its Board of Directors, may designate a firm of certified public accountants, having an office in the City of Cleveland, Ohio, and in not less than four other cities located in the United States, to determine the "net current assets" as herein defined of the Company as of any date, and any determination so made shall be binding upon and conclusive as to all shareholders of the Company.

SECTION 8. The Convertible Preferred Stock, at the option of the holders thereof, may at any time (but, in the case of Convertible Preferred Stock called for redemption then until, but not after, two o'clock P.M., Eastern Standard Time, on the fifth day next prior to the date fixed for redemption, unless default shall be made in such redemption) be converted in the manner hereinafter provided, into fully paid and non-assessable shares of Common Stock of the Company as constituted at the time of conversion, on the following terms and conditions:

(a) Unless and until an adjusted conversion price of such Common Stock is required to be computed as hereinafter provided, each share of Convertible Preferred Stock shall be convertible: On or before June 30, 1943 (hereinafter called the "First Conversion Period"), into 3½ shares of Common Stock; thereafter, and on or before December 31, 1945 (hereinafter called the "Second Conversion Period"), into 3⅓ shares of Common Stock; thereafter, and on or bfeore December 31, 1950 (hereinafter called the "Third Conversion Period"), into 3 shares of Common Stock; and thereafter (hereinafter called the "Fourth Conversion Period"), into 2½ shares of Common Stock; provided, however, that each of the First, Second and Third Conversion Periods shall end at two o'clock P.M., Eastern Standard Time, on the final day of such periods, and if any of the foregoing dates shall be a Sunday or a legal holiday the next succeeding business day shall be substituted therefor.

In the event that an adjusted conversion price of the Common Stock is required to be computed as hereinafter provided, then for the purposes thereof the value of the Convertible Preferred Stock shall be $100 per share, the basic conversion price of the Common Stock shall be $28.57 per share during the First Conversion Period, $30 per share during the Second Conversion Period, $33.33 per share during the Third Conversion Period, and $40 per share during the Fourth Conversion Period, and the number of shares of Common Stock issuable on conversion of one share of Convertible Preferred Stock shall be determined by dividing $100 by the adjusted conversion price of one share of Common Stock.

(b) In case at any time or from time to time the Company shall issue, in addition to the 134,652 shares of Common Stock now issued, any shares of Common Stock which are not excluded from "additional shares" by the terms of subparagraphs (i), (ii), (iii) or (iv) of this paragraph (b) of Section 8, then successively upon each such issue a computation is hereby required to be made for the purpose of ascertaining the adjusted conversion price, substantially in accordance with the following formula:

(1) Multiply 134,652 by the then basic conversion price.

(2) Add to the result obtained the aggregate consideration (determined as provided hereinafter) received by the Company upon the issue of any and all additional shares of Common Stock (as defined hereinafter).

(3) Divide the result by the sum of 134,652 plus the number of such additional shares of Common Stock, disregarding in the quotients obtained the fractions of one cent.

The result so obtained will represent the adjusted conversion price except in the event the adjusted conversion price so obtained would be greater than the then current basic conversion price, in which event the adjusted conversion price shall be the basic conversion price.

In making the foregoing computation the term "additional shares" shall mean all shares of Common Stock issued by the Company in addition to the 124,652 shares now issued, excluding the following:

(i) Common Stock issued in conversion of shares of Convertible Preferred Stock, or for scrip certificates issued in connection with such conversion.

(ii) Common Stock issued in exchange for or replacement of outstanding shares of Common Stock, except that shares of Common Stock so issued shall be included to the extent of the excess in number of such shares over the number of shares so exchanged or replaced.

(iii) Common Stock issued in exchange for property.

(iv) Common Stock issued upon any subdivision of, or as a dividend on, any shares specified in the foregoing subparagraphs (i), (ii) and (iii) as excluded from additional shares, and Common Stock issued successively as a subdivision of or as a dividend on shares so issued.

In making any computation of the adjusted conversion price as above provided, the considerations received by the Company upon the issue of any and all additional shares as above defined shall be determined as follows:

(1) Shares of Common Stock issued as a stock dividend upon any shares of stock, and shares of Common Stock issued in exchange for or replacement of, outstanding shares of Common Stock, to the extent of the excess in number of the shares so issued over the number of the shares so exchanged or replaced, shall be deemed to have been issued for a consideration of no value.

(2) Common Stock issued for money shall be deemed to have been issued for a consideration equal to the money received by the Company, plus such reasonable commissions and discounts for the underwriting or marketing thereof as may have been deducted from money which otherwise would have been received by the Company.

(3) Common Stock issued in conversion of or exchange for obligations, stock or other securities of the Company (other than shares of Convertible Preferred Stock) shall be deemed to have been issued for cash equal to the consideration received by the Company for the issuance of such obligations, stocks or other securities (or the part thereof) converted into or exchanged for Common Stock, plus such reasonable commissions or discounts for the underwriting or marketing thereof as may have been deducted from money which otherwise would have been received by the Company.

(4) After the First Conversion Period there shall be added to the consideration received upon the issue of any additional shares during a prior conversion period a percentage thereof necessary to give effect to the increase of the basic conversion price in the Second, Third or Fourth Conversion Period, as the case may be, over that fixed for the conversion period during which such consideration was received; that is to say, for and during the Second Conversion Period there shall be added to the consideration so received during the First Conversion Period 5% thereof; and for and during the Third Conversion Period there shall be added to the consideration so received during the First Conversion Period 16.66% thereof, and to the consideration so received during the Second Conversion Period 11% thereof; and for and during the Fourth Conversion Period 40% of the consideration so received in the First Conversion Period, 33⅓% of the consideration so received in the Second Conversion Period, and 20% of the consideration so received in the Third Conversion Period. The adjustment provided above in this subparagraph (4) shall be made on the first day of each conversion period subsequent to any conversion period or periods in which additional shares shall have been issued, and shall be in addition to the computations hereinabove provided to be made in the event of issuing additional shares during any conversion period.

No adjustment shall be made upon any such conversion for any dividends on such shares of Convertible Preferred Stock or for any dividends upon any shares of Common Stock.

In the event that during any of the conversion periods there is any capital reorganization or reclassification of capital stock of the Company, or the Company shall consolidate or merge with or into any other corporation or corporations, involving in any such case the issuance or delivery to the holders of Common Stock of other stock, securities, property or rights, or the Company shall dissolve, liquidate or wind up, or sell, convey or transfer all or substantially all of its assets, then in any one or more of such events the Company shall give to the holders of the Convertible Preferred Stock at least twenty-five (25) days prior written notice thereof, and of the date as of or after which such reclassification, reorganization, consolidation, merger, dissolution, liquidation, winding up or sale, conveyance or transfer shall take place, as the case may be, and such notice shall also specify the date, not less than thirty (30) days after the giving of such notice, as of which holders of Common Stock shall be entitled to exchange their shares for stock, securities, property or rights pursuant to such reclassification, reorganization, merger or consolidation, or to receive their respective distributive shares in the event of such dissolution, liquidation, winding up or sale, conveyance or transfer, as the case may be, to the end that the holders of Convertible Preferred Stock may at their option surrender their shares for conversion and thereby be entitled in respect of the shares of Common Stock to which they shall be entitled upon such conversion to receive such stock, securities, property, rights or distributive shares to the extent that other holders of Common Stock may at the time be entitled to receive the same. The notice herein required to be given shall be sufficiently given if the Company shall mail a copy thereof to the holders of the Convertible Preferred Stock at their addresses as shown by the books of the Company, first class, postage prepaid.

In the event that during any of the conversion periods the Company shall effect any capital reorganization or reclassification of capital stock of the Company or shall consolidate or merge with or into any other corporation or corporations, or shall sell all or substantially all of its property as an entirety to another corporation, lawful provision shall (except as hereinafter otherwise provided) be made as part of the terms of such reorganization or reclassification of stock, consolidation, merger or sale that the holder of any shares of Convertible Preferred Stock may then or thereafter receive in lieu of each share of Common Stock otherwise issuable to him upon conversion of his shares of Convertible Preferred Stock, but at the conversion price which would otherwise be in effect at the time of conversion and with the same protection against dilution, all as herein provided, the same kind and amount of securities (including in such term stock of any class or classes) or assets as may be issuable, distributable or payable upon such reorganization or reclassification of stock, consolidation, merger or sale with respect to each share of Common Stock of the Company; and after such reorganization or reclassification of stock, consolidation, merger or sale, the conversion right evidenced by the Convertible Preferred Stock shall be to receive such securities or assets.

Anything herein to the contrary notwithstanding, upon any such consolidation, merger or sale in connection with which only cash shall be distributable to the holders of shares of Common Stock (whether or not such sale shall be attended or followed by dissolution of the Company), all conversion rights of the holders of shares of Convertible Preferred Stock shall terminate on the fifth day prior to the date fixed by the Company for such distribution. In any case of such termination of conversion rights the Company shall cause written notice thereof to be given to the holders of the Convertible Preferred Stock by mailing a copy thereof to their address as shown by the books of the Company, first class, postage prepaid, not less than twenty-five (25) days prior to such termination.

(e) If and when, and from time to time as, there shall be any issue of additional shares of Common Stock of the Company, as defined in paragraph (b) of this Section 8, or a new conversion period shall begin after any such additional shares shall have been issued, or there shall happen any other event as a consequence of which the conversion price or the then existing conversion right of the holders of shares of Convertible Preferred Stock, under the provisions of this Section 8, shall be altered or varied, the Company shall forthwith file with the transfer agent for the shares of Convertible Preferred Stock a statement describing specifically such issue of additional shares of Common Stock, or such other event (and in the case of a capital reorganization or reclassification of capital stock, or a consolidation, merger or sale, the terms thereof) and the adjusted conversion price as changed by such issue of shares of Common Stock or other event, and the change, if any, in the securities or other assets issuable upon conversion. The transfer agent may receive and file such writings without responsibility on its part for the [illegible] therein stated and as conclusive evidence of the facts therein stated.

(d) The Company shall not issue fractional shares of its Common Stock in satisfaction of the conversion privilege hereinbefore provided, but in lieu of fractional shares the Company may make cash settlement in respect thereof on the basis of the then existing conversion price of the Common Stock, or the Company may issue scrip certificates (exchangeable together with other scrip certificates aggregating one or more full shares for stock certificates representing such full share or shares) for any fraction of a share, in form and with provisions approved by the Board of Directors of the Company. Until the exchange thereof for certificates for full shares of Common Stock, the holders of such scrip certificates shall not be entitled to receive dividends thereon, to vote with respect thereto, or to have any other rights by virtue thereof as shareholders of the Company, except such rights, if any, as the Board of Directors may, in its absolute discretion, confer upon the holders of said scrip certificates in the event of the dissolution, liquidation or winding up of the Company. Such scrip certificates may by their terms be made void if not exchanged for full shares of Common Stock on or before the expiration of six months from and after their original issuance date.

(e) Any holder of shares of Convertible Preferred Stock desiring to exercise the above-mentioned right of conversion shall surrender to the Company at its then stock transfer agency for the shares of Convertible Preferred Stock the certificate(s) for the share or shares of Convertible Preferred Stock so to be converted, duly endorsed for transfer to the Company.

(f) The Company shall deliver, from time to time, to the respective holders of shares of Convertible Preferred Stock surrendered for conversion as herein provided, or to their respective assigns, and in exchange therefor (upon payment to the Company of all transfer taxes that may be payable in respect thereof as hereinafter provided) upon conversion thereof, at the rate then governing the conversion of such shares, as hereinbefore provided, a stock certificate or stock certificates representing the number of full shares of Common Stock into which such shares of Convertible Preferred Stock shall have been so converted, together with scrip certificates or cash adjustments for fractional shares, as hereinbefore provided, all under suitable regulations to be prescribed by the Board of Directors of the Company. The issuance and delivery of said certificates, scrip or cash adjustments shall be as of the date of the surrender of such shares of Convertible Preferred Stock for conversion, and the holders of the Convertible Preferred Stock making the surrender in question shall be deemed to have become holders of record of shares of Common Stock for all purposes on the respective dates of such surrender, notwithstanding any delay in the delivery of certificates for Common Stock.

(g) The Company shall pay any and all issuance and transfer taxes which may be imposed in respect of the issuance and delivery of shares of Common Stock upon conversion of shares of Convertible Preferred Stock pursuant to the provisions of this Section 8; provided, however, that the Company shall not be required, in any event, to pay any transfer or other taxes by reason of the issuance of such shares of Common Stock in a name or names other than the name of the holder of the share or shares of Convertible Preferred Stock surrendered for conversion.

(h) The Company shall, during all of the conversion periods, reserve and keep available, out of its authorized and unissued stock, solely for the purpose of effecting a conversion of shares of Convertible Preferred Stock, such number of shares of Common Stock as shall from time to time be sufficient to effect the conversion of all shares of Convertible Preferred Stock then outstanding. The Company shall from time to time, in accordance with the laws of the State of Ohio, increase the authorized number of its shares of Common Stock at any time the number of shares of Common Stock remaining unissued and available for effecting conversion of shares of Convertible Preferred Stock shall not be sufficient to permit the conversion of all then outstanding shares of Convertible Preferred Stock.

(i) Upon conversion of shares of Convertible Preferred Stock under the provisions of this Section 8, the shares of Convertible Preferred Stock surrendered pursuant to such conversion shall be cancelled and not again issued.

SECTION 9. The holders of shares of Convertible Preferred Stock shall not be entitled as of right to purchase or have offered to them for purchase any shares or other securities of the Company other than by conversion as provided by Section 8 of this subdivision A relating to the Convertible Preferred Stock.

SECTION 10. Wherever reference is made in this subdivision A, relating to the Convertible Preferred Stock, to the doing of any act at the office of, or the filing of any statement with, the transfer agent for the shares of Convertible Preferred Stock, such act may be done or the statement may be filed at the principal office of the Company in the event it shall have no transfer agent for the said shares. All statements filed at the said office or with any transfer agent for the shares of Convertible Preferred Stock, pursuant to the provisions hereof, shall at all reasonable times be open to the inspection of holders of shares of Convertible Preferred Stock.

B. Express Terms and Provisions of Common Stock

SECTION 1. The Common Stock shall be subject to the terms and provisions hereinbefore set forth. The holders of shares of Common Stock shall have no preemptive right to purchase or have offered to them for purchase any shares of Common Stock which at any time shall be required for issuance in satisfaction of the conversion rights of the holders of outstanding shares of Convertible Preferred Stock or for scrip certificates issued in satisfaction of such rights.

SECTION 2. The holders of the shares of Common Stock shall be entitled to one vote for each share of such stock upon all questions presented to the shareholders.

FIFTH: As provided in a Certificate of Amendment to the Company's Articles of Incorporation filed in the office of the Secretary of State of Ohio on February 18, 1929, under which the authorized number of shares of Common Stock was increased to 200,000 shares without par value, 100,000 shares of Common Stock, without par value, were issued in lieu of and exchanged for the 10,000 shares of Common Stock then existing, on the basis of 10 shares, without par value, for each then existing share of $100 par value, and the aggregate amount of consideration received by the Company for said 100,000 shares of Common Stock, without par value, which were substituted and exchanged for said existing 10,000 shares of Common Stock was determined to be One Million Dollars ($1,000,000), or Ten Dollars ($10) for each share, without par value, so issued in exchange, and the stated capital of the Company applicable to said 100,000 shares of Common Stock, without par value, was thereby fixed at the sum of One Million Dollars ($1,000,000).

SIXTH: The Board of Directors shall be authorized to fix the amount of consideration to be received by the Company for the additional 100,000 shares of Common Stock, without par value, authorized in the Certificate of Amendment mentioned in Article FIFTH above, and the additional 50,000 shares of Common Stock without par value, herein authorized, as well as any Common Stock, without par value, which may hereafter be issued by virtue of any further increase in Common Stock of the Company subsequently authorized, and may determine the portion of such consideration which shall be allotted to stated capital in respect to the shares so issued.

SEVENTH: The amount of stated capital of the Company at the time of filing these Amended Articles of Incorporation is Three Million Three Hundred Thirty-one Thousand Five Hundred and Twenty Dollars ($3,331,520).

EIGHTH: A total of 43,000 of the presently authorized and unissued shares of Common Stock of the Corporation hereby are released from preemptive rights of the holders of shares of Common Stock now or hereafter outstanding and such holders shall have no preemptive right to purchase or have offered to them for purchase any of such 43,000 presently authorized and unissued shares of Common Stock; provided, however, that none of such shares shall hereby be freed of such preemptive rights for the purpose of [illegible] issuance or sale thereof by the Corporation to any officer or director of the Corporation. This provision is not intended

A31 1806

Page 131 Line 74

Number 2184

Subsequent Appointment of Agent

The Harshaw Chemical Company
Name of Corporation

.... Agent

....

...., Ohio.

Filed in the office of the Secretary of State

on the 20 day of

March, 1947

Edward J. Hummel
Secretary of State.

REMARKS

Agent must have residence in same county as corporation's principal place of business.

FILING FEE: $1.00.

Harshaw Chemical Co.
1945 E. 97th St.
Cleveland, O
C.O.

794

A31 1807

12181

Subsequent Appointment of Agent

RECEIVED
1947

Ohio Corporation

Section 8623-129, General Code

KNOW ALL MEN BY THESE PRESENTS, That Samuel Stevenson
Name of Agent

of 113 John Street in Elyria
Street or Avenue City or Town

Lorain County, Ohio, a natural person and resident of said county,

being the county in which the principal office of THE HARSHAW CHEMICAL COMPANY
Name of Corporation

is located, is hereby appointed as the person on whom process, tax notices and demands against said

THE HARSHAW CHEMICAL COMPANY may be served, to succeed
Name of Corporation

Paul R. Hines, heretofore appointed as such agent, which appointment is
Name of Former Agent

hereby made pursuant to resolution of the board of directors passed on the 7th day

of March, 1947.

THE HARSHAW CHEMICAL COMPANY
Name of Corporation

By [signature] Vice President.

By [signature] Secretary.

APPROVED FOR FILING

DATE 3-20-47

Elyria, Ohio.

March 13, 1947, 194...

THE HARSHAW CHEMICAL COMPANY
Name of Corporation

1945 E. 97th St., Cleveland, Ohio

Gentlemen: I hereby accept the appointment as the representative of your company upon whom process, tax notices, or demands may be served.

Samuel Stevenson
Agent.

STATE OF OHIO,
COUNTY OF Lorain ss.

Personally appeared before me, the undersigned, a Notary Public in and for said county, this 13th day of March, 1947, the above named Samuel Stevenson (Name of Agent) who acknowledged the signing of the foregoing to be his free act and deed for the uses and purposes therein mentioned.

Notary Public in and for Lorain County, Ohio.

FILING FEE:
$1.00.

N. B. This form to be used only when there has been a previous appointment of agent.

A31 1808

Page 230 Line 23

Number 12181

AMENDMENT

The Harshaw Chemical Company

Filed in the office of the Secretary of State at Columbus, Ohio on the 4 day of June A. D 1947 and recorded in Volume 535 page 144 of the Records of Incorporations

Secretary of State

Jones, Day, Cockley & Reavis
Commerce Bldg
Cleveland, O

[illegible] 1989

12191

RECEIVED
JUN - 1 1947
EDWARD J. HUMMEL
SECRETARY OF STATE

APPROVED
FOR FILING
[illegible]
DATE 6-4-47
[illegible]

CERTIFICATE OF REDUCTION OF [illegible]
PURSUANT TO SUB-DIVISION 11 OF SECTION [illegible] OF
GENERAL CORPORATION ACT

VOL 535 PAGE 144

We, W. J. Harshaw, President, and D. T. Perry, Secretary, of THE HARSHAW CHEMICAL COMPANY, an Ohio corporation with its principal office located at Elyria, Lorain County, Ohio, do hereby certify that:

(1) The Company has from time to time acquired a total of 18,080 shares of its Convertible Preferred Stock upon conversion of such shares into Common Stock pursuant to its Amended Articles of Incorporation.

(2) The Company has from time to time acquired a total of 1,920 shares of its Convertible Preferred Stock by redemption pursuant to its Amended Articles of Incorporation.

(3) All of the shares of Convertible Preferred Stock acquired upon conversion and by redemption as above stated are required by their express terms and provisions to be cancelled, and may not be reissued.

(4) The number of shares which the Company is authorized to have outstanding is hereby reduced by the number of shares so acquired, thus eliminating the Convertible Preferred Stock from the authorized capital of the Company.

IN WITNESS WHEREOF, said W. J. Harshaw, President, and D. T. Perry, Secretary, of THE HARSHAW CHEMICAL COMPANY, acting for and on behalf of said Company, have hereunto subscribed their names and caused the seal of said Company to be hereunto affixed this 24th day of May, 1947.

[illegible]

[illegible]

RECEIVED
MAY 31 1947
EDWARD J. HUMMEL
SECRETARY OF STATE

To 250,000 sh. NPV Com
1,808,000, Pref $ Pa. 100.

A31 1810

Page 75 Line 1

Number 2111

Certificate of Reduction of Stated Capital

Filed in the office of the Secretary of State, at Columbus, Ohio, in the 13 day of [illegible] A. D. 19[illegible] and recorded in volume 547 Page 539 of the Records of Incorporations.

Secretary of State.

A31 1511

Filing Fee $25.00

Mail to:—

Name JONES, DAY, COCKLEY & REAVIS

Address 1755 Union Commerce Bldg.

APPROVED FOR FILING Filed Final 1-5-51

Date 1-15 WP 7-5-52

Certificate of Reduction

OF STATED CAPITAL

G. C. 8623-39.

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W. J. HARSHAW President, and D. L. PERRY

Secretary, of The HARSHAW CHEMICAL COMPANY

an Ohio corporation, with its principal place of business located at Cleveland, Ohio

Ohio, do hereby certify that:

(1) Said corporation has authorized the reduction of its Stated Capital pursuant to subdivision 5 of Section 8623-39 General Code of Ohio, and in accordance with the resolution of its Board of Directors hereinafter set forth.

(2) The amount of said corporation's Stated Capital now is $ 3,584,520 and, upon effecting such reduction, will be $ 2,344,480

(3) The following resolution was duly adopted by the Board of Directors of said corporation at a meeting thereof, called and duly held on December 5, 1947, at which a quorum was present, said action of the Board of Directors remaining fully effective on this date:

RESOLVED, that the stated capital of the Company be reduced by the amount of $1,240,040, which reduction shall be effected by reducing and writing down the stated capital represented by the outstanding shares of the Company's Common Stock without par value from $3,584,520 to $2,344,480, and that the excess of assets in the amount of $1,240,040 resulting from such reduction shall be added to the surplus of the Company and shall be subject to disposition by the Board of Directors in all respects as capital surplus.

(4) *"The adoption of said resolution by the Board of Directors was approved by the vote of the holders of ... two-thirds ....(1) of the outstanding shares of each class, regardless of limitations or other restrictions on the voting power of such class, which vote was cast at a meeting of the shareholders of said corporation, duly called and held on ....January 13, ... 1948..., at which a quorum was present; said action of the shareholders remaining fully effective on this date.

IN WITNESS WHEREOF, said ....W. J. HARSHAW .... President, and .... D. T. PERRY .... Secretary of The HARSHAW CHEMICAL COMPANY .... acting for and on behalf of said corporation, have hereunto subscribed their names and caused the seal of said corporation to be hereunto affixed this ....13th.... day of .... January.... 19 48...

W. J. Harshaw
President

D. T. Perry
Secretary

* To be used only in case the reduction is to be effected under subdivision 5 of 8623-39 G. C., otherwise strike out all of (4).

(1) Two-thirds, or by such other vote as may be prescribed in the Articles though not less than a majority

A31 1513

Page 22 Line 17

Number 12181

AMENDMENT

OF

Company

d in the office of the Secretary of State Columbus, Ohio on the 13th day January A.D. 1948 recorded in Volume 547 page 340 the Records of Incorporations.

Secretary of State

Filed Second

1/21/51

APPROVED
FOR FILING
HGT
DATE 1-13-48
#775.00

A31 1814

VOL 547 PAGE 240

CERTIFICATE OF ADOPTION
OF
AMENDED ARTICLES OF INCORPORATION
OF
THE HARSHAW CHEMICAL COMPANY

W. J. Harshaw, President, and D. T. Perry, Secretary, of THE HARSHAW CHEMICAL COMPANY, an Ohio corporation with its principal office located at Elyria, Ohio, do hereby certify that a special meeting of the holders of the shares of said Company entitled to be voted on the proposals before said meeting to amend the Articles of the Company and to adopt Amended Articles of Incorporation of the Company as contained in the following resolution, was duly called for such purpose and held on January 13, 1948, at which meeting a quorum was present in person or by proxy, and that by the affirmative vote of the shareholders entitled under the Articles to exercise at least two-thirds of the voting power of the Company on such proposals (the Articles not requiring the exercise of a greater proportion of such voting power), the following resolution was adopted:

RESOLVED, that amendments to the Company's Articles of Incorporation are hereby adopted so that, as amended, the Articles of Incorporation shall read as set forth below, and, in addition to the adoption of such amendments, the following Amended Articles of Incorporation are hereby adopted in their entirety:

AMENDED ARTICLES OF INCORPORATION
OF
THE HARSHAW CHEMICAL COMPANY

FIRST: The name of the Company shall be THE HARSHAW CHEMICAL COMPANY.

SECOND: The place in Ohio where the principal office of the Company is to be located is Cleveland, Cuyahoga County.

THIRD: Said Company is formed for the purpose of the manufacture and sale of oil and oil products and a general manufacturing and merchandising business.

FOURTH: The maximum number of shares which the Company is authorized to have outstanding shall be 400,000 shares of Common Stock, par value $10 a share. Each share of Common Stock without par value heretofore authorized and now outstanding is hereby changed into one share of Common Stock, par value $10, so that upon the filing of these Amended Articles of Incorporation there shall be outstanding 284,448 shares of Common Stock, par value $10.

FIFTH: The amount of stated capital of the Company at the time of filing these Amended Articles of Incorporation is $2,844,480.

A31 1815

SIXTH: These Amended Articles of Incorporation shall supersede and take the place of the heretofore existing Articles of Incorporation of the Company and all amendments thereto.

IN WITNESS WHEREOF said W. J. Harshaw and D. T. Perry, President and Secretary, respectively, of THE HARSHAW CHEMICAL COMPANY, acting for and on behalf of said Company, have hereunto subscribed their names and caused the seal of said Company to be hereunto affixed this 13th day of January, 1948.

W. J. Harshaw
President

D. T. Perry
Secretary

(Corporate Seal)

Doc ID --> V547_0239

A31 1816

Page 22 Line 18

Number 12181

Subsequent Appointment of Agent

THE HARSHAW CHEMICAL COMPANY
Name of Corporation

D. T. Perry Agent

Cleveland Ohio.

Filed in the office of the Secretary of State on the 13th day of January, 1948

[illegible]
Secretary of State.

REMARKS

Agent must have residence in same county as corporation or principal place of business.

FILING FEE $1.00.

[illegible]

FOR [illegible]

Subsequent Appointment of Agent

Ohio Corporation

DATE 1-13-48 Section 8623-129, General Code

1/00

KNOW ALL MEN BY THESE PRESENTS, That D. T. Perry (Name of Agent)

of 1945 East 97th Street (Street or Avenue) in Cleveland (City or Town)

Cuyahoga County, Ohio, a natural person and resident of said county,

being the county in which the principal office of The Harshaw Chemical Company (Name of Corporation)

is located, is hereby appointed as the person on whom process, tax notices and demands against said

The Harshaw Chemical Company (Name of Corporation) may be served, to succeed

Frank R. Parnelius (Name of Former Agent), heretofore appointed as such agent, which appointment is

hereby made pursuant to resolution of the board of directors passed on the 5th day

of December, 1947.

THE HARSHAW CHEMICAL COMPANY (Name of Corporation)

By [signature], President.

By [signature], Secretary.

Cleveland, Ohio,

January 10, 1948

The Harshaw Chemical Company (Name of Corporation)

Gentlemen: I hereby accept the appointment as the representative of your company upon whom process, tax notices, or demands may be served.

[signature] Agent.

STATE OF OHIO,

COUNTY OF CUYAHOGA, ss.

Personally appeared before me, the undersigned, a Notary Public in and for said county, this 10th day of January, 1948, the above named D. T. Perry (Name of Agent) who acknowledged the signing of the foregoing to be his free act and deed for the uses and purposes therein mentioned.

[signature]

Notary Public in and for Cuyahoga County, Ohio.

FILING FEE: $1.00.

R. L. PEABODY, Notary Public
My Commission [illegible]

N.B. This form to be used only when there has been a previous appointment of agent.

DC[illegible] RPORATION

PAGE 339 LINE 18

CORP. No 12181

NAME The [illegible]

[illegible] A.31 1515

ATION

Amendment

F[illegible] of St.

at C[illegible] 1 day

[illegible] 1951 [illegible] corded

Vol. 619 [illegible] Records

Incorp[illegible]

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194[illegible]

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12181

A31 1819

APPROVED FOR FILING 339-H DATE 10/8/51 $25.00

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CERTIFICATE OF ADOPTION

OF

AMENDED ARTICLES OF INCORPORATION

OF

THE HARSHAW CHEMICAL COMPANY

W. J. Harshaw, President, and D. T. Perry, Secretary, of THE HARSHAW CHEMICAL COMPANY, an Ohio corporation with its principal office located at Cleveland, Ohio, do hereby certify that a special meeting of the holders of the shares of said Company entitled to be voted on the proposals before said meeting to amend the Articles of the Company and to adopt Amended Articles of Incorporation of the Company as contained in the following resolution, was duly called for such purpose and held on October 8, 1951, at which meeting a quorum was present in person or by proxy, and that by the affirmative vote of the shareholders entitled under the Articles to exercise at least two-thirds of the voting power of the Company on such proposals (the Articles not requiring the exercise of a greater proportion of such voting power), the following resolution was adopted:

RESOLVED, that amendments to the Company's Articles of Incorporation are hereby adopted so that, as amended, the Articles of Incorporation shall read as set forth below, and, in addition to the adoption of such amendments, the following Amended Articles of Incorporation are hereby adopted in their entirety:

AMENDED ARTICLES OF INCORPORATION

OF

THE HARSHAW CHEMICAL COMPANY

FIRST: The name of the Company shall be THE HARSHAW CHEMICAL COMPANY.

SECOND: The place in Ohio where the principal office of the Company is to be located is Cleveland, Cuyahoga County.

THIRD: Said Company is formed for the purpose of the manufacture and sale of oil and oil products and a general manufacturing and merchandising business.

FOURTH: The number of shares which the Company is authorized to have outstanding shall be 640,000, which shall be classified as follows: 40,000 shares of Convertible Preferred Stock, of the par value of $100 each, and 600,000 shares of Common Stock, of the par value of $10 each.

The shares of said classes shall have the following express terms and provisions:

SECTION 1. The holders of record of Convertible Preferred Stock shall be entitled to receive, when and as declared by the Board of Directors of the Company, dividends at the rate of but not exceeding 4½% per annum, payable quarterly on the first day of January, April, July and October in each year in preference to and in priority over dividends upon the shares of any other class. Such dividends shall be cumulative from the first day of the quarterly period in which such shares were originally issued.

SECTION 2. All or any part of the shares of Convertible Preferred Stock are subject to call for redemption and may be redeemed by the Company at any time or times at the option of the Company, upon notice mailed not less than 30 days prior to the date fixed for such redemption, addressed to the holders of the shares of Convertible Preferred Stock to be redeemed as shown by the books of the Company, at the redemption price of $105 per share if the date fixed for redemption is on or before October 1, 1953; $104.50 per share if such date is after October 1, 1953 but on or before October 1, 1954; $104 per share if such date is after October 1, 1954 but on or before October 1, 1955; $103.50 per share if such date is after October 1, 1955 but on or before October 1, 1956; and $103 per share if such date is after October 1, 1956, plus in each case an amount equal to accrued unpaid dividends to the date fixed for redemption.

At any time before or after notice has been given as above provided, the Company may deposit the aggregate redemption price of the shares of Convertible Preferred Stock to be redeemed with any bank or trust company in the City of Cleveland, Ohio, having capital and surplus of more than $5,000,000, named in such notice, directed to be paid to the respective holders of the shares of Convertible Preferred Stock so to be redeemed, in amounts equal to the redemption price of all shares of Convertible Preferred Stock so to be redeemed, on endorsement and surrender of the stock certificate or certificates held by such holders, and upon deposit of such redemption price such holders shall cease to be shareholders with respect to such shares, and after such notice shall have been given and such deposit shall have been made such holders shall have no interest in or claim against the Company with respect to such shares and shall be entitled only to receive said moneys from such bank or trust company without interest; provided, however, that until, but not after, two o'clock P.M., Eastern Standard Time, on the fifth day next preceding the date fixed for redemption such holders shall have the right of conversion, if any, then in effect as hereinafter set forth.

In case less than all of the outstanding shares of Convertible Preferred Stock are to be redeemed, the Company shall select by lot the shares so to be redeemed in such manner as shall be prescribed by the Board of Directors.

If the holders of shares of Convertible Preferred Stock which shall have been called for redemption shall not, within ten years after such deposit, claim the amount deposited for the redemption thereof, any such bank or trust company shall, upon demand, pay over to the Company such unclaimed amounts and thereupon such bank or trust company and the Company shall be relieved of all responsibility in respect thereof and to such holders.

All shares of Convertible Preferred Stock redeemed by call shall be cancelled and not again issued.

SECTION 3. Upon any dissolution, liquidation or winding up of the Company the holders of Convertible Preferred Stock shall be entitled to receive, or to have deposited in trust for them as provided in Section 2 hereof, out of the assets of the Company, whether from capital, surplus or from earnings, before any distribution of any assets shall be made to the holders of Common Stock or other shares junior to the Convertible Preferred Stock, an amount which, in the case of involuntary dissolution, liquidation or winding up shall be equal to $100 per share plus accrued unpaid dividends to the date fixed for distribution, and in the case of voluntary dissolution, liquidation or winding up shall be equal to the respective redemption price specified in such Section 2 in effect at the date upon which the first distribution is made upon Convertible Preferred Stock in connection with such voluntary dissolution, liquidation or winding up, as the case may be, including accrued unpaid dividends upon such shares computed to the date of distribution in lieu of the date fixed for redemption. The holders of Convertible Preferred Stock shall be entitled to no further participation in any distribution.

SECTION 4. As long as any Convertible Preferred Stock shall remain outstanding, the Company, on or before April 1 of each year, beginning with April 1, 1954, shall expend in the purchase or redemption of Convertible Preferred Stock an amount of funds equal to the sum of:

(i) $80,000; and

(ii) either $100,000 or an amount equal to 7½% of the excess of the net earnings of the Company (as hereinafter defined) for the preceding fiscal year (ending September 30) over $1,000,000, whichever shall be the lesser, less, however,

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(iii) all amounts which the Company theretofore shall have expended in the purchase or redemption of Convertible Preferred Stock in excess of the amounts required as aforesaid to be theretofore so expended, and an amount equal to the aggregate par value of the Convertible Preferred Stock theretofore converted into Common Stock, to the extent that said amounts shall not previously have been deducted.

Convertible Preferred Stock redeemed pursuant to this Section shall be redeemed in the same manner and at the same applicable price as is provided for in Section 2.

On or before February 15 in each year, beginning in 1954, the Company shall cause a firm of independent certified public accountants of recognized national standing, selected by the Board of Directors of the Company, to determine in writing the amount of the net earnings of the Company for the preceding fiscal year (ending September 30), and the amount of funds, if any, required to be expended by the Company by the succeeding April 1 pursuant to the above provision, and on or before said February 15 the Company shall file a copy of such written determination with the Transfer Agent of the Convertible Preferred Stock, and on or before May 1 in the same year shall file with said Transfer Agent a written statement signed by the Treasurer or the Assistant Treasurer of the Company disclosing the expenditures made pursuant to said determination, if any are so required to be made. Each determination made as aforesaid shall be binding and conclusive upon all shareholders of the Company.

At any time when the Company is in default in the payment of any accrued quarterly dividend on the Convertible Preferred Stock, the Company shall not purchase or redeem, and no subsidiary shall purchase, any Convertible Preferred Stock outstanding, except that the Company may redeem all of the Convertible Preferred Stock outstanding. When and if this restriction becomes applicable, the failure of the Company to expend in the purchase or redemption of Convertible Preferred Stock the amount hereinabove specified to be expended shall nevertheless constitute a default within the meaning of clause (2) of Section 6 hereof, until the Company shall cure the default by expending the specified amount.

Convertible Preferred Stock purchased or redeemed by the Company shall be cancelled and not again issued.

SECTION 5. A.

The Company shall not, unless with the affirmative vote or written consent of the holders of at least two-thirds of the Convertible Preferred Stock at the time outstanding (but so far as the holders of the Convertible Preferred Stock are concerned, the Company may, with such affirmative vote or written consent):

1. Increase the authorized number of shares of Convertible Preferred Stock or create any shares of any class having parity with or priority over the Convertible Preferred Stock as to dividends or assets.

2. Change the express terms and provisions of the Convertible Preferred Stock or the express terms and provisions of shares of any class having parity with or priority over the Convertible Preferred Stock as to dividends or assets, in any manner substantially prejudicial to the holders of the Convertible Preferred Stock.

3. Mortgage, pledge or otherwise encumber, or create any lien on, any assets of the Company, or permit any subsidiary to take any such action, except (i) the lien of taxes or assessments not at the time due and payable, or payable without penalty, or the validity of which is being contested in good faith; (ii) pledges to secure obligations under workmen's compensation laws; (iii) mechanics', carriers', or warehousemen's liens incurred in the ordinary course of business; (iv) judgments or awards, the operation of which has been stayed; (v) deposits to secure surety and appeal bonds to which the Company is a party; (vi) good faith or other deposits in connection with leases in which the Company is lessee; (vii) deposits to secure the faithful performance of contracts between the Company and governmental bodies; (viii) deposits to secure the payment of any tax, assessment or similar charge demanded by any public authority or to obtain any stay or discharge in any legal or administrative proceeding; and (ix) mortgages, pledges or encumbrances to secure the payment of any V Loan Debt of the Company or any subsidiary; provided, that without said vote the Company or a subsidiary may give a purchase

money lien on real property, machinery or equipment not theretofore owned by the Company or the subsidiary, or may acquire such real property, machinery or equipment subject to a lien thereon; if in any case the principal amount of indebtedness secured by such purchase money lien shall not exceed 75% of the cost of such property to the Company or the subsidiary (including in such cost the amount of the lien).

4. Issue, guarantee, assume or become obligated for, or permit any subsidiary to issue, guarantee, assume or become obligated for, any funded debt (except funded debt issued by a subsidiary to, and thereafter owned by, the Company or another subsidiary and except funded debt constituting part of the purchase price of real property, machinery or equipment and secured by a purchase money lien as provided in paragraph (3) above), unless after giving effect to the issue, guarantee or assumption of such funded debt and the application of the proceeds thereof as of a date not more than 60 days prior to such action, the consolidated net tangible assets (as hereinafter defined) of the Company and its subsidiaries shall be at least 200% of the sum of the aggregate principal amount of the consolidated funded debt of the Company and its subsidiaries and the total amount that would be payable on involuntary liquidation of the Company on all outstanding Convertible Preferred Stock and on all shares ranking on a parity with or having priority over the Convertible Preferred Stock as to dividends or assets and on all shares of each subsidiary not owned by the Company or another subsidiary having priority over the common shares of said subsidiary as to dividends or assets.

5. Permit any subsidiary to issue any shares having priority over the common shares of said subsidiary as to dividends or assets other than shares issued to or thereafter owned by the Company or one or more other subsidiaries, or transfer or sell to others, or permit any subsidiary to transfer or sell to others, any funded debt or shares of a subsidiary unless all funded debt and shares of said subsidiary then owned by the Company or another subsidiary shall be disposed of at the same time.

6. Liquidate, dissolve or wind up the Company or sell, lease or convey all, or substantially all, of the property or business of the Company or consolidate or merge into or with any other corporation, on any basis other than one which provides for the payment in cash to the holders of the Convertible Preferred Stock of an amount equal to the redemption price thereof in effect upon the date of payment thereof, including accrued unpaid dividends to the date of such payment; provided, that without such vote the Company may cause a wholly-owned subsidiary to be merged into the Company if such merger will not result in the Company's having authorized or outstanding, contrary to the provisions of paragraphs 1, 2, 3, or 4 above, any shares of any class having parity with or priority over the Convertible Preferred Stock as to dividends or assets, or any mortgage, pledge or other lien or any funded debt.

B.

Whenever the Company shall be in default in the payment of four quarterly dividends accrued on the Convertible Preferred Stock, whether or not earned or declared, the holders of the Convertible Preferred Stock shall as a class be entitled, at the next meeting of the shareholders for the election of directors and at each such meeting thereafter until all accrued dividends shall have been paid, to elect one-third of the members of the Board of Directors of the Company, except that if the number of directors to be elected when divided by three shall result in a fraction, a fraction of one-third shall be disregarded and a fraction of two-thirds shall be considered as equivalent to one. The term of office of all persons who may be directors of the Company at any time when the right to elect one-third of the directors shall accrue to the holders of the Convertible Preferred Stock as herein provided shall terminate upon the election of new directors at the first meeting of the shareholders for the election of directors held after the accrual of such right. If on or before the date fixed by the Code of Regulations of the Company as the date for the first annual meeting of the shareholders to be held after the accrual of such right no meeting shall have been held for the election of directors, then a meeting for the election of directors may be called (upon like notice as that required for the annual meeting) and, upon written request of the holders of not less than 10% of the then outstanding Convertible Preferred Stock, shall be called by the Secretary of the Company. For the purposes of the election of directors by the holders of the Convertible Preferred Stock at any meeting of the shareholders, the holders of

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35% of the outstanding Convertible Preferred Stock shall constitute a quorum. At any such meeting the election of directors to be elected by the Convertible Preferred Stock or by the other class or classes of shares of the Company, as the case may be, shall be valid notwithstanding that a quorum of the outstanding shares of the other class or classes shall not be present or represented thereat. If a vacancy occurs among members of the Board of Directors while such right of the holders of Convertible Preferred Stock to elect directors shall continue, such vacancy shall be filled by the remaining director or directors, if any, representing the same class of shares as originally elected the director whose office has become vacant, or, if such vacancy shall not have been filled previously, then by vote of such class of shares at a special meeting of shareholders called as aforesaid or at the next annual meeting of the shareholders. If and when all accrued quarterly dividends on the Convertible Preferred Stock shall thereafter be paid, the Convertible Preferred Stock shall then be divested of such right to elect directors but always subject to the same provisions for the vesting of such voting right in the Convertible Preferred Stock in case of any similar future default.

C.

Except as otherwise provided in this section or as indefeasibly vested by statute, the Convertible Preferred Stock shall have no voting rights.

SECTION 6. The Company shall not declare or pay any dividend (other than dividends payable in shares of the Company junior to the Convertible Preferred Stock as to dividends and assets) on the Common Stock or on shares of any other class authorized after the issuing of the Convertible Preferred Stock which shall be junior to the Convertible Preferred Stock as to dividends or assets, or purchase, redeem or retire, or permit any subsidiary to purchase, redeem or retire, any Common Stock or such other shares junior to the Convertible Preferred Stock as to dividends or assets, or distribute any of its assets to the holders thereof as such holders at any time (1) when the Company is in default in the payment of any accrued quarterly dividend on the Convertible Preferred Stock: or (2) when the Company is in default in expending funds in the purchase or redemption of Convertible Preferred Stock as required by Section 4 above; or (3) if after giving effect to such action the aggregate amount of such dividends, purchases, redemptions, retirements and distributions after June 30, 1951 (not including dividends payable in shares junior to the Convertible Preferred Stock as to dividends and assets) would exceed the sum of:

(i) the consolidated net earnings (as hereinafter defined) of the Company and its subsidiaries for the period commencing July 1, 1951 and terminating as of a date not more than sixty (60) days prior to such action, taken as one accounting period, less all dividends accrued during such period (whether declared or paid or not) on the Convertible Preferred Stock and on all shares of any class having parity with or priority over the Convertible Preferred Stock as to dividends; plus

(ii) the aggregate net proceeds received by the Company after June 30, 1951 in respect of the issue and sale of Common Stock of the Company or of shares of any other class ranking junior to the Convertible Preferred Stock as to dividends and assets (but excluding therefrom any Common Stock or shares of any other class issued upon conversion of any Convertible Preferred Stock), which net proceeds to the extent that any thereof may consist of property other than cash shall be taken for the purposes hereof at the fair value of such property as of the time of the receipt thereof, as determined by the Board of Directors of the Company; plus

(iii) $1,000,000;

or (4) if after giving effect to such action as of a date not more than sixty (60) days prior to such action the excess of the consolidated current assets of the Company and its subsidiaries (as hereinafter defined) over the consolidated liabilities of the Company and its subsidiaries would be less than $2,000,000.

SECTION 7. The Convertible Preferred Stock, at the option of the holders thereof, may at any time to and including October 1, 1961, (but in the case of Convertible Preferred Stock called for redemption on a redemption date on or before October 1, 1961, then only until, but not after, two o'clock P.M., Eastern Standard Time, on the fifth day next prior to the date fixed for redemption, unless default shall be made in such redemption) be converted, in the manner hereinafter provided, into fully paid and non-assessable shares of Common Stock of the Company as constituted at the time of conversion, on the following terms and conditions:

(a) Unless and until an adjusted conversion price of such Common Stock is required to be computed as hereinafter provided, each share of Convertible Preferred Stock shall be convertible on or before October 1, 1961 into two shares of Common Stock. In the event that an adjusted conversion price of the Common Stock is required to be computed as hereinafter provided, then for the purposes thereof the value of the Convertible Preferred Stock shall be $100 per share, the basic conversion price of the Common Stock shall be $50 per share, and the number of shares of Common Stock issuable on conversion of one share of Convertible Preferred Stock shall be determined by dividing $100 by the adjusted conversion price of one share of Common Stock.

(b) In case at any time or from time to time the Company shall issue, in addition to the 293,060 shares of Common Stock now issued, any shares of Common Stock which are not excluded from "additional shares" by the terms of subparagraphs (i), (ii), (iii) or (iv) of this paragraph (b), then successively upon each such issue a computation is hereby required to be made for the purpose of ascertaining the adjusted conversion price, substantially in accordance with the following formula:

(1) Multiply 293,060 by the basic conversion price.

(2) Add to the result obtained the aggregate consideration (determined as provided hereinafter) received by the Company upon the issue of any and all additional shares of Common Stock (as defined hereinafter).

(3) Divide the result by the sum of 293,060 plus the number of such additional shares of Common Stock, disregarding in the quotients obtained the fractions of one cent.

The result so obtained will represent the adjusted conversion price except in the event the adjusted conversion price so obtained would be greater than the basic conversion price, in which event the adjusted conversion price shall be the basic conversion price.

In making the foregoing computation the term "additional shares" shall mean all shares of Common Stock issued by the Company in addition to the 293,060 shares now issued, excluding the following:

(i) Common Stock issued in conversion of shares of Convertible Preferred Stock, or for scrip certificates issued in connection with such conversion.

(ii) Common Stock issued in exchange for or replacement of outstanding shares of Common Stock, except that shares of Common Stock so issued shall be included to the extent of the excess in number of such shares over the number of shares so exchanged or replaced.

(iii) Common Stock issued in exchange for property.

(iv) Common Stock issued upon any subdivision of, or, as a dividend on, any shares specified in the foregoing subparagraphs (i), (ii) and (iii) as excluded from additional shares, and Common Stock issued successively as a subdivision of or as a dividend on shares so issued.

If the Company at any time shall grant any option to purchase from it any shares of Common Stock at a price which is less than the conversion price in effect immediately prior to the granting of such option, the computation aforesaid shall be made at that time and in the same manner as though the shares issuable upon exercise of said option had been issued at the price provided for in said option. In the event that any such option shall be terminated or shall expire without being fully exercised, a computation as aforesaid shall again be made in the same manner as though the option to the extent that it remains unexercised had not been granted.

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In making any computation of the adjusted conversion price as above provided, the considerations received by the Company upon the issue of any and all additional shares as above defined shall be determined as follows:

(1) Shares of Common Stock issued as a stock dividend upon any shares of stock, and shares of Common Stock issued in exchange for or replacement of, outstanding shares of Common Stock, to the extent of the excess in number of the shares so issued over the number of the shares so exchanged or replaced, shall be deemed to have been issued for a consideration of no value.

(2) Common Stock issued for money shall be deemed to have been issued for a consideration equal to the money received by the Company, plus such reasonable commissions and discounts for the underwriting or marketing thereof as may have been deducted from money which otherwise would have been received by the Company.

(3) Common Stock issued in conversion of or exchange for obligations, stock or other securities of the Company (other than shares of Convertible Preferred Stock) shall be deemed to have been issued for cash equal to the consideration received by the Company for the issuance of such obligations, stocks or other securities (or the part thereof) converted into or exchanged for Common Stock, plus such reasonable commissions or discounts for the underwriting or marketing thereof as may have been deducted from money which otherwise would have been received by the Company.

No adjustment shall be made upon any such conversion for any dividends on such shares of Convertible Preferred Stock or for any dividends upon any shares of Common Stock.

In the event that during the conversion period there is any capital reorganization or reclassification of capital stock of the Company, or the Company shall consolidate or merge with or into any other corporation or corporations, involving in any such case the issuance or delivery to the holders of Common Stock of other stock, securities, property or rights, or the Company shall dissolve, liquidate or wind up, or sell, convey or transfer all or substantially all of its assets, then in any one or more of such events the Company shall give to the holders of the Convertible Preferred Stock at least 30 days prior written notice thereof, and of the date as of or after which such reclassification, reorganization, consolidation, merger, dissolution, liquidation, winding up or sale, conveyance or transfer shall take place, as the case may be, and such notice shall also specify the date, not less than 30 days after the giving of such notice, as of which holders of Common Stock shall be entitled to exchange their shares for stock, securities, property or rights pursuant to such reclassification, reorganization, merger or consolidation, or to receive their respective distributive shares in the event of such dissolution, liquidation, winding up or sale, conveyance or transfer, as the case may be, to the end that the holders of Convertible Preferred Stock may at their option surrender their shares for conversion and thereby be entitled in respect of the shares of Common Stock to which they shall be entitled upon such conversion to receive such stock, securities, property, rights or distributive shares to the extent that other holders of Common Stock may at the time be entitled to receive the same. The notice herein required to be given shall be sufficiently given if the Company shall mail a copy thereof to the holders of the Convertible Preferred Stock at their addresses as shown by the books of the Company, first class, postage prepaid.

In the event that during the conversion period the Company shall effect any capital reorganization or reclassification of capital stock of the Company or shall consolidate or merge with or into any other corporation or corporations, or shall sell all or substantially all of its property as an entirety to another corporation, lawful provision shall (except as hereinafter otherwise provided) be made as part of the terms of such reorganization or reclassification of stock, consolidation, merger or sale that the holder of any shares of Convertible Preferred Stock may then or thereafter receive in lieu of each share of Common Stock otherwise issuable to him upon conversion of his shares of Convertible Preferred Stock, but at the conversion price which would otherwise be in effect at the time of conversion and with the same protection against dilution, all as herein provided, the same kind and amount of securities (including in such term stock of any class

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or classes) or assets as may be issuable, distributable or payable upon such reorganization or reclassification of stock, consolidation, merger or sale with respect to each share of Common Stock of the Company; and after such reorganization or reclassification of stock, consolidation, merger or sale, the conversion right evidenced by the Convertible Preferred Stock shall be to receive such securities or assets.

Anything herein to the contrary notwithstanding, upon any such consolidation, merger or sale in connection with which only cash shall be distributable to the holders of shares of Common Stock (whether or not such sale shall be attended or followed by dissolution of the Company), all conversion rights of the holders of shares of Convertible Preferred Stock shall terminate on the fifth day prior to the date fixed by the Company for such distribution. In any case of such termination of conversion rights the Company shall cause written notice thereof to be given to the holders of the Convertible Preferred Stock by mailing a copy thereof to their address as shown by the books of the Company, first class, postage prepaid, not less than ten days prior to such termination.

(c) If and when, and from time to time as, there shall be any issue of additional shares of Common Stock of the Company, as defined in paragraph (b) of this Section, or there shall happen any other event as a consequence of which the conversion price or the then existing conversion right of the holders of shares of Convertible Preferred Stock, under the provisions of this Section, shall be altered or varied, the Company shall forthwith file with the Transfer Agent for the Convertible Preferred Stock a statement describing specifically such issue of additional shares of Common Stock, or such other event (and in the case of a capital reorganization or reclassification of capital stock, or a consolidation, merger or sale, the terms thereof) and the adjusted conversion price as changed by such issue of shares of Common Stock or other event, and the change, if any, in the securities or other assets issuable upon conversion. The Transfer Agent may receive and file such statements without responsibility on its part for the matters therein recited and as conclusive evidence of the facts therein stated.

(d) The Company shall not issue fractional shares of its Common Stock in satisfaction of the conversion privilege hereinbefore provided, but in lieu of fractional shares the Company may make cash adjustment in respect thereof on the basis of the then existing conversion price of the Common Stock, or the Company may issue scrip certificates (exchangeable together with other scrip certificates aggregating one or more full shares for stock certificates representing such full share or shares) for any fraction of a share, in form and with provisions approved by the Board of Directors of the Company. Until the exchange thereof for certificates for full shares of Common Stock, the holders of such scrip certificates shall not be entitled to receive dividends thereon, to vote with respect thereto, or to have any other rights by virtue thereof as shareholders of the Company, except such rights, if any, as the Board of Directors may, in its absolute discretion, confer upon the holders of said scrip certificates in the event of the dissolution, liquidation or winding up of the Company. Such scrip certificates may by their terms be made void if not exchanged for full shares of Common Stock on or before the expiration of such period not less than one year from and after their original issuance date as the Board of Directors of the Company may determine.

(e) Any holder of Convertible Preferred Stock desiring to exercise the above-mentioned right of conversion shall surrender to the Company at the office of the Transfer Agent for the Convertible Preferred Stock the certificate(s) for the Convertible Preferred Stock so to be converted, duly endorsed for transfer to the Company.

(f) The Company shall deliver, from time to time, to the respective holders of Convertible Preferred Stock surrendered for conversion as herein provided, or to their respective assigns, and in exchange therefor (upon payment to the Company of all transfer taxes that may be payable in respect thereof as hereinafter provided) upon conversion thereof, at the rate then governing the conversion of such shares, as hereinbefore provided, a stock certificate or stock certificates representing the number of full shares of Common Stock into which such Convertible Preferred Stock shall have been so converted, together with scrip certificates or cash adjustments for fractional shares, as hereinbefore provided, all under suitable regulations to be prescribed by the Board of Directors of the Company. The issuance and delivery of said certificates, scrip or cash adjustments shall be as of the date of the surrender of such Convertible Preferred Stock for conversion, and the holders of the Convertible Preferred Stock making the surrender in question shall be deemed to have become holders of record of shares of Common Stock for all purposes on the respective dates of such surrender, notwithstanding any delay in the delivery of certificates for Common Stock.

(g) The Company shall pay any and all issuance and transfer taxes which may be imposed in respect of the issuance and delivery of Common Stock upon conversion of Convertible Preferred Stock pursuant to the provisions of this Section; provided, however, that the Company shall not be required, in any event, to pay any transfer or other taxes by reason of the issuance of Common Stock in a name or names other than the name of the holder of the Convertible Preferred Stock surrendered for conversion.

(h) The Company shall reserve and keep available, out of its authorized and unissued stock, solely for the purpose of effecting a conversion of Convertible Preferred Stock, such number of shares of Common Stock as shall from time to time be sufficient to effect the conversion of all shares of Convertible Preferred Stock then outstanding. The Company shall from time to time, in accordance with the laws of the State of Ohio, increase the authorized number of its shares of Common Stock at any time the number of shares of Common Stock remaining unissued and available for effecting conversion of Convertible Preferred Stock shall not be sufficient to permit the conversion of all then outstanding shares of Convertible Preferred Stock.

(i) Upon conversion of Convertible Preferred Stock under the provisions of this Section, the shares of Convertible Preferred Stock surrendered pursuant to such conversion shall be cancelled and not again issued.

SECTION 8. The holders of shares of Convertible Preferred Stock shall not be entitled as of right to purchase or have offered to them for purchase any shares or other securities of the Company other than by conversion as provided by Section 7 of this Article Fourth.

SECTION 9. Wherever reference is made to the doing of any act at the office of, or the filing of any statement with, the Transfer Agent for the Convertible Preferred Stock, such act may be done or the statement may be filed at the principal office of the Company in the event it shall have no such Transfer Agent. All statements filed at the said office or with any Transfer Agent for the Convertible Preferred Stock, pursuant to the provisions hereof, shall at all reasonable times be open to the inspection of holders of Convertible Preferred Stock.

SECTION 10. For all purposes of this Article Fourth, the following terms shall have the following meanings:

"Subsidiary" shall mean any corporation in which the Company or another subsidiary owns directly or through one or more intermediaries a majority of the outstanding stock or shares having voting power in the election of directors.

"Funded debt" shall mean any and all bonds, debentures, notes or similar debt which shall be payable after twelve months from the date as of which determination of funded debt is made. If the term of any such debt shall be subject to an option in the Company or any subsidiary, as the case may be, to extend (by way of renewal, refunding or otherwise) its maturity on any condition, the maturity thereof shall be deemed to be the last date to which the maturity may be so extended. Without intending hereby otherwise to characterize debt which constitutes funded debt, such term shall in no case include any V Loan Debt or debt arising out of any lease or any contract for funding taxes or for making refunds to the Federal or any State Government, or any contract for the purchase or sale of materials, commodities or supplies in the ordinary course of business.

"V Loan Debt" shall mean notes or other debt issued or incurred by the Company or by any subsidiary pursuant to the provisions of any credit or loan agreement or arrangement the principal purpose of which is to provide funds in connection with war or defense production or the carrying of receivables, inventories or claims with respect to terminated contracts relating to such production.

"Net earnings" shall mean gross earnings (including non-operating revenue) less all current and operating expenses, including wages and compensation, fixed charges, all interest, sales and administrative expenses, insurance, the amount of amortization of discount and expense on funded debt, all state, federal and local taxes, including income taxes of all kinds, and reasonable provisions for credit losses and other losses of every nature, depreciation and amortization of facilities, and any other items which under generally accepted accounting principles should be charged against earnings.

"Net tangible assets" shall mean all assets at their net book values (after deducting related depreciation and other valuation reserves) including, without limitation, indebtedness and securities owned and prepaid expenses, but excluding treasury stock, rights in patents, trade-marks, good will, unamortized debt discount and expense and other items not herein mentioned treated as intangibles in accordance with generally accepted accounting principles, less current liabilities.

"Current assets" shall mean such assets as may properly be so classified in accordance with generally accepted accounting principles.

"Current liabilities" shall mean and include V Loan Debt and all other indebtedness termed current liabilities in accordance with generally accepted accounting principles.

In computing "consolidated funded debt", "consolidated net tangible assets", "consolidated net earnings" and "consolidated current assets" principles of consolidation conforming to generally accepted accounting principles shall be applied.

The Company, by action of its Board of Directors, may designate a firm of independent certified public accountants to determine the consolidated funded debt, consolidated net tangible assets, consolidated net earnings, or consolidated current assets, as herein defined, of the Company and its subsidiaries as of any date, and any determination so made shall be binding upon and conclusive as to all shareholders of the Company.

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FIFTH: The amount of stated capital of the Company at the time of adopting these Amended Articles of Incorporation is $2,930,600.

SIXTH: These Amended Articles of Incorporation shall supersede and take the place of the heretofore existing Articles of Incorporation of the Company and all amendments thereto.

IN WITNESS WHEREOF said W. J. Harshaw and D. T. Perry, President and Secretary respectively of THE HARSHAW CHEMICAL COMPANY, acting for and in behalf of said Company, have hereunto subscribed their names and caused the seal of said Company to be hereunto affixed this 8th day of October, 1951.

THE HARSHAW CHEMICAL COMPANY

W. J. Harshaw
W. J. Harshaw, President

D. T. Perry
D. T. Perry, Secretary

A31 1829

PAGE 366 2

No. 12181

NAME The Harshaw

Chemical Company

Filed in the ...

at Columbus, ... 9 ...

Vol. 711-626

Incorporat...

Filed by Jones, Day, Cockley & Reavis

1759 Union Comm. Bldg.

Cleveland, O.

1-6203-1
7-19-55

VOL 711 PAGE 626

A31 18:30

12181

APPROVED FOR FILING
8-9-55 25.00
DATE 366-3

CERTIFICATE OF ADOPTION
OF
AMENDED ARTICLES OF INCORPORATION
OF
THE HARSHAW CHEMICAL COMPANY

W. J. Harshaw, President, and D. T. Perry, Secretary, of THE HARSHAW CHEMICAL COMPANY, an Ohio corporation with its principal offices located at Cleveland, Ohio, hereby certify that a meeting of the Board of Directors of said Company was duly held on the 4th day of August, 1955, at which meeting a quorum of such Directors was present, and that at such meeting the following resolution was duly adopted under authority of subdivision (3) of Paragraph (B) of Section 1701.18 of the Ohio Revised Code:

> RESOLVED, that Amendments to the Company's Articles of Incorporation are hereby adopted so that, as amended, the Articles of Incorporation shall read as set forth below, and, in addition to the adoption of such Amendments, the following Amended Articles of Incorporation are hereby adopted in their entirety:
>
> AMENDED ARTICLES OF INCORPORATION
> OF
> THE HARSHAW CHEMICAL COMPANY
>
> ---
>
> FIRST: The name of the Company shall be THE HARSHAW CHEMICAL COMPANY.
>
> SECOND: The place in Ohio where the principal office of the Company is to be located is Cleveland, Cuyahoga County.
>
> THIRD: Said Company is formed for the purpose of the manufacture and sale of oil and oil products and a general manufacturing and merchandising business.

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A31 1831

FOURTH: The number of shares which the Company is authorized to have outstanding is 600,000 shares of Common Stock of the par value of $10 a share.

FIFTH: The amount of stated capital of the Company at the time of adopting these Amended Articles of Incorporation is $4,796,240.

SIXTH: These Amended Articles of Incorporation shall supersede and take the place of the heretofore existing Articles of Incorporation of the Company and all amendments thereto.

IN WITNESS WHEREOF, said W. J. Harshaw and D. T. Perry, President and Secretary, respectively, of THE HARSHAW CHEMICAL COMPANY, acting for and in behalf of said Company, have hereunto subscribed their names and caused the seal of said Company to be hereunto affixed this 4th day of August, 1955.

W. J. Harshaw
W. J. Harshaw, President

D. T. Perry
D. T. Perry, Secretary

THE HARSHAW CHEMICAL COMPANY

A31 1832

DOMESTIC CORPORATION

PAGE 18 LINE 30

CORP. No 12181

NAME The Harshaw Chemical Company

ARTICLES OF INCORPORATION

✓ AMENDMENT

CONSOLIDATION

MERGER

DISSOLUTION

REINSTATEMENT

Filed in the office of the Secretary of State at Columbus, Ohio, on the 11 day of Feb A.D. 1896, and recorded in Vol 58 Page 11 of the Records of Incorporation.

Secretary of State

Filed by Jones, Day, Cockley & Reavis 1759 Union Commerce Bldg Cleveland 14, O.

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11-15-55

VOL 726 PAGE 541

12181

CERTIFICATE OF ADOPTION
OF
AMENDED ARTICLES OF INCORPORATION
OF
THE HARSHAW CHEMICAL COMPANY

18'30 21750 1-11-56 2:30pm

A31 1833

W. J. Harshaw, President, and D. T. Perry, Secretary, of THE HARSHAW CHEMICAL COMPANY, an Ohio corporation with its principal office located at Cleveland, Ohio, hereby certify that a meeting of the holders of shares of said Company entitling them to vote on the proposals before such meeting to amend the Articles of Incorporation and to adopt Amended Articles of Incorporation as contained in the following resolution, was duly held on the 10th day of January, 1956, at which meeting a quorum was present in person or by proxy, and that by the affirmative vote of the shareholders entitled to exercise at least two-thirds of the voting power of the Company on such proposals, the following resolution was adopted:

RESOLVED, that Amendments to the Company's Articles of Incorporation are hereby adopted so that, as amended, the Articles of Incorporation shall read as set forth below, and, in addition to the adoption of such Amendments, the following Amended Articles of Incorporation are hereby adopted in their entirety:

AMENDED ARTICLES OF INCORPORATION
OF
THE HARSHAW CHEMICAL COMPANY

FIRST: The name of the Company shall be THE HARSHAW CHEMICAL COMPANY.

SECOND: The place in Ohio where the principal office of the Company is to be located is Cleveland, Cuyahoga County.

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A31 1834

THIRD: Said Company is formed for the purpose of the manufacture and sale of oil and oil products and a general manufacturing and merchandising business.

FOURTH: The number of shares which the Company is authorized to have outstanding is 1,500,000 shares of Common Stock of the par value of $5 a share. Each of the 479,624 issued and outstanding shares of Common Stock of the par value of $10 a share is hereby changed into and exchanged for two shares of Common Stock of the par value of $5 a share.

FIFTH: These Amended Articles of Incorporation shall supersede and take the place of the heretofore existing Articles of Incorporation of the Company and all amendments thereto.

IN WITNESS WHEREOF, said W. J. Harshaw and D. T. Perry, President and Secretary, respectively, of THE HARSHAW CHEMICAL COMPANY, acting for and in behalf of said Company, have hereunto subscribed their names and caused the seal of said Company to be hereunto affixed this 10th day of January, 1956.

W. J. Harshaw
W. J. Harshaw, President

D. T. Perry
D. T. Perry, Secretary

(CORPORATE SEAL)

B 293 1071

RECEIPT AND CERTIFICATE Nº 18254

THE HARSHAW CHEMICAL COMPANY
NAME

12181
NUMBER

DOMESTIC CORPORATIONS

ARTICLES OF INCORPORATION
AMENDMENT
MERGER/CONSOLIDATION
DISSOLUTION
AGENT
RE-INSTATEMENT
CERTIFICATES OF CONTINUED EXISTENCE
MISCELLANEOUS

FOREIGN CORPORATIONS

LICENSE
AMENDMENT
SURRENDER OF LICENSE
APPOINTMENT OF AGENT
CHANGE OF ADDRESS OF AGENT
CHANGE OF PRINCIPAL OFFICE
RE-INSTATEMENT
FORM 7
PENALTY

MISCELLANEOUS FILINGS

ANNEXATION: INCORPORATION—CITY OR VILLAGE
RESERVATION OF CORPORATE NAMES
REGISTRATION OF NAME
REGISTRATION OF NAME RENEWALS
REGISTRATION OF NAME—CHANGE OF REGISTRANTS ADDRESS
TRADE MARK
TRADE MARK RENEWAL
SERVICE MARK
SERVICE MARK RENEWAL
MARK OF OWNERSHIP
MARK OF OWNERSHIP RENEWAL
EQUIPMENT CONTRACT/CHATTEL MORTGAGE
POWER OF ATTORNEY
SERVICE OF PROCESS
MISCELLANEOUS
ASSIGNMENT—TRADE MARK, MARK OF OWNERSHIP, SERVICE MARK, REGISTRATION OF NAME

I certify that the attached document was received and filed in the office of TED W. BROWN, Secretary of State, at Columbus, Ohio, on the 9th day of Feb. A. D. 19 63, and recorded on Roll B293 at Frame 1071 of the RECORDS OF INCORPORATION and MISCELLANEOUS FILINGS.

Ted W. Brown
TED W. BROWN,
Secretary of State

Filed by and Returned To: The Harshaw Chemical Company
Att: W. H. Brown
1945 E. 97th St., Cleveland 6, Ohio

FEE RECEIVED: $ 25.00

2 CKS.

NAME: THE HARSHAW CHEMICAL COMPANY

39.41

51-enc-30
46203-1
1-9-63

B 293 1072

CERTIFICATE OF ADOPTION
OF
AMENDED ARTICLES OF INCORPORATION
OF
THE HARSHAW CHEMICAL COMPANY

12181
APPROVED
By:
Date 2-9-63
Amount 25.00
39-4

C. S. Parke, President, and W. H. Brown, Secretary, of THE HARSHAW CHEMICAL COMPANY, an Ohio corporation with its principal office located at Cleveland, Ohio, hereby certify that a meeting of the holders of shares of said Company entitling them to vote on the proposal before such meeting to amend the Articles of Incorporation and to adopt Amended Articles of Incorporation as contained in the following resolution, was duly held on the 22nd day of January, 1963, at which meeting a quorum was present in person or by proxy, and that by the affirmative vote of the shareholders entitled to exercise at least two-thirds of the voting power of the Company on such proposals, the following resolution was adopted:

> RESOLVED, that amendments to the Company's Articles of Incorporation are hereby adopted so that, as amended, the Articles of Incorporation shall read as set forth below, and, in addition to the adoption of such amendments, the following Amended Articles of Incorporation are hereby adopted in their entirety:

AMENDED ARTICLES OF INCORPORATION
OF
THE HARSHAW CHEMICAL COMPANY

FIRST: The name of the Company shall be THE HARSHAW CHEMICAL COMPANY.

SECOND: The place in Ohio where the principal office of the Company is to be located is Cleveland, Cuyahoga County.

THIRD: Said Company is formed for the purpose of the manufacture and sale of oil and oil products and a general manufacturing and merchandising business.

FOURTH: The number of shares which the Company is authorized to have outstanding is 1,500,000 shares of Common Stock of the par value of $5 a share.

FIFTH: The Company may from time to time, pursuant to authorization by the Board of Directors and without action by the shareholders, purchase or otherwise acquire shares of the Company of any class or classes in such manner, upon such terms and in such amounts as the Board of Directors shall determine.

SIXTH: These Amended Articles of Incorporation shall supersede and take the place of the heretofore existing Articles of Incorporation of the Company and all amendments thereto.

IN WITNESS WHEREOF, said C. S. Parke and W. H. Brown, President and Secretary, respectively, of THE HARSHAW CHEMICAL COMPANY, acting for and in behalf of said Company, have hereunto subscribed their names and caused the seal of said Company to be hereunto affixed this 22nd day of January, 1963.

C. S. Parke, President

(CORPORATE SEAL)

W. H. Brown, Secretary

B484 104

RECEIPT AND CERTIFICATE Nº 13659

THE HARSHAW CHEMICAL COMPANY

NAME

12101

NUMBER

DOMESTIC CORPORATIONS

- ARTICLES OF INCORPORATION
- AMENDMENT
- ✓ MERGER/[redacted]
- DISSOLUTION
- AGENT
- RE-INSTATEMENT
- CERTIFICATES OF CONTINUED EXISTENCE
- MISCELLANEOUS

FOREIGN CORPORATIONS

- LICENSE
- AMENDMENT
- SURRENDER OF LICENSE
- APPOINTMENT OF AGENT
- CHANGE OF ADDRESS OF AGENT
- CHANGE OF PRINCIPAL OFFICE
- RE-INSTATEMENT
- FORM 7
- PENALTY

MISCELLANEOUS FILINGS

- ANNEXATION/INCORPORATION—CITY OR VILLAGE
- RESERVATION OF CORPORATE NAMES
- REGISTRATION OF NAME
- REGISTRATION OF NAME RENEWALS
- REGISTRATION OF NAME—CHANGE OF REGISTRANTS ADDRESS
- TRADE MARK
- TRADE MARK RENEWAL
- SERVICE MARK
- SERVICE MARK RENEWAL
- MARK OF OWNERSHIP
- MARK OF OWNERSHIP RENEWAL
- EQUIPMENT CONTRACT/CHATTEL MORTGAGE
- POWER OF ATTORNEY
- SERVICE OF PROCESS
- MISCELLANEOUS
- ASSIGNMENT—TRADE MARK, MARK OF OWNERSHIP, SERVICE MARK, REGISTRATION OF NAME

I certify that the attached document was received and filed in the office of TED W. BROWN, Secretary of State, at Columbus, Ohio, on the 9th day of December A. D. 19 66, and recorded on Roll B484 at Frame 104 of the RECORDS OF INCORPORATION and MISCELLANEOUS FILINGS.

Ted W. Brown

TED W. BROWN,
Secretary of State

Filed by and Returned To: Schnader, Harrison, Segal & Lewis
Attn: Thomas G. Meeker
1719 Packard Building
Philadelphia, Pennsylvania 19102

FEE RECEIVED $ 25.00

NAME THE HARSHAW CHEMICAL COMPANY

B484 105

13187
APPROVED
By [illegible]
Date 12/9/66

AGREEMENT AND PLAN OF MERGER
BETWEEN
KEWANEE OIL COMPANY
AND
THE HARSHAW CHEMICAL COMPANY

THIS AGREEMENT AND PLAN OF MERGER, dated as of September 22, 1966, by and between KEWANEE OIL COMPANY, a Delaware corporation (herein referred to as "Kewanee"), and a majority of the directors thereof, and THE HARSHAW CHEMICAL COMPANY, an Ohio corporation (herein referred to as "Harshaw") (said corporations being herein collectively referred to as the "Constituent Corporations"),

WITNESSETH:

WHEREAS, Kewanee is a corporation duly organized and existing under the laws of Delaware and has an authorized capital stock consisting of 1,000,000 shares of Convertible Voting Common Stock of the par value of $10 per share (hereinafter called "Convertible Common Stock"), of which as of September 16, 1966, 582,921 shares were issued and outstanding, 55,078 shares were held in treasury and 6,450 shares were reserved for issuance upon the exercise of outstanding stock options, and 5,000,000 shares of Ordinary Voting Common Stock of the par value of $10 per share (hereinafter called "Kewanee Common Stock"), of which as of September 16, 1966, 2,782,312 shares were issued and outstanding, 130,272 shares were held in treasury, 16,637 shares were reserved for issuance upon the exercise of outstanding stock options, and 647,449 shares were reserved for issuance upon the conversion of shares of Convertible Common Stock, each outstanding share of Convertible Common Stock being entitled to 10 votes per share and each outstanding share of Kewanee Common Stock being entitled to 1 vote per share; and

WHEREAS, Harshaw is a corporation duly organized and existing under the laws of Ohio and has an authorized capital stock (all of one class) consisting of 1,500,000 shares of Common Stock of the par value of $5 per share (hereinafter called "Harshaw Common Stock"), of which as of September 13, 1966, 1,003,131 shares were issued and outstanding, 51,800 shares were held in treasury, 46,625 shares were reserved for issuance upon the exercise of outstanding stock options and 49,453 shares were held in its Deferred Bonus Fund, each outstanding share being entitled to 1 vote; and

WHEREAS, the Board of Directors of each of the Constituent Corporations deems it advisable and for the best interests of said corporations that Harshaw be merged into Kewanee with Kewanee as the Surviving Corporation, as authorized by the statutes of the states of Delaware and Ohio under and pursuant to the terms and conditions hereinafter set forth; and

WHEREAS, the Board of Directors of each Constituent Corporation has approved this Agreement and Plan of Merger and Appendix A and Appendix B attached hereto and made a part hereof;

NOW, THEREFORE, in consideration of the premises and the mutual covenants and agreements herein contained, and for the purpose of prescribing the terms and conditions of said merger, the mode of carrying the same into effect, the manner and basis of converting the shares of each of the Constituent Corporations into shares of the Surviving Corporation and such other details and provisions as are deemed necessary or proper, the parties hereto have agreed and do hereby agree, subject to the adoption of this Agreement and Plan of Merger by the requisite statutory vote of the stockholders of each of the Constituent Corporations, and subject to the conditions hereinafter set forth, as follows:

ARTICLE I

Harshaw shall be merged with and into Kewanee, which is hereby designated as the Surviving Corporation, and said Surviving Corporation shall continue to be governed by the laws of the State of Delaware.

ARTICLE II

From and after the date upon which the merger provided for herein becomes effective under the laws of the States of Delaware and Ohio (hereinafter called "the effective date of the merger"), the Certificate of Incorporation of Kewanee, as originally filed and recorded on July 1, 1937, and as thereafter from time to time amended, shall be further amended as set forth in Appendix A and Appendix B, hereto attached and made a part of this Agreement and Plan of Merger and incorporated herein with the same force and effect as if herein set forth in full. On and after the effective date of the merger, said Certificate of Incorporation, as so amended, shall become and be the Certificate of Incorporation of the Surviving Corporation. The Surviving Corporation, in addition to the powers conferred upon it by the laws of the State of Delaware, shall have the powers set forth in said Certificate of Incorporation as so amended and shall be governed by the provisions thereof.

The Surviving Corporation reserves the right to amend, alter, change or repeal any provisions contained in said amended Certificate of Incorporation in the manner now or hereafter set forth therein or as is or may be prescribed by the laws of the State of Delaware, and all of the rights, powers and privileges of the stockholders are granted and shall be held and enjoyed subject to such reserved rights. Until so amended, altered, changed or repealed, the Surviving Corporation's Certificate of Incorporation amended as set forth in Appendix A and Appendix B hereto shall constitute its Certificate of Incorporation separate and apart from this Agreement and Plan of Merger and may be separately certified as the Surviving Corporation's Certificate of Incorporation.

ARTICLE III

The By-Laws of Kewanee in existence on the effective date of the merger shall remain the By-Laws of the Surviving Corporation until thereafter duly altered, amended or repealed.

ARTICLE IV

On and after the effective date of the merger, the number of directors of the Surviving Corporation shall initially be 9 and the directors of the Surviving Corporation shall be the following individuals until their respective successors are duly elected and qualified:

J. A. Carlson	Edgar Scott, Sr.
G. Morris Dorrance, Jr.	Wm. Wikoff Smith
J. M. Harbison	James T. Bolan
Richard K. Page	W. A. Harshaw, II

Robert A. Lucht

The number of directors of the Surviving Corporation may be changed at any time or from time to time in the manner provided in the By-Laws of the Surviving Corporation, and any vacancies from time to time in the Board of Directors may be filled in the manner provided in the By-Laws of the Surviving Corporation.

On and after the effective date of the merger, and subject to the authority of the Board of Directors as provided by law and the By-Laws of the Surviving Corporation (including the filling of any vacancy existing at the effective date of the merger), the following shall be officers of the Surviving Corporation holding the offices designated opposite their respective names:

Wm. Wikoff Smith	President
W. A. Harshaw, II	Executive Vice President
James T. Bolan	Executive Vice President
R. W. Champion	Vice President
J. M. Harbison	Vice President
E. O. Ray	Vice President
R. A. Lucht	Vice President
Percy A. Rowland	Vice President
Richard K. Page	Vice President—Treasurer
H. C. Homberg	Assistant Treasurer
James E. Briley, Jr.	Secretary
R. Q. Burnor	Assistant Vice President—Assistant Secretary
Robert J. Williamson	Controller—Assistant Treasurer
F. S. Cox	Assistant Controller, Assistant Secretary
W. Perry Dornaus	Assistant Secretary
Charles R. Fellows	Assistant Secretary

Addresses of directors and officers are set forth in Appendix C hereto.

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ARTICLE V

From and after the date of this Agreement and Plan of Merger and prior to the effective date of the merger, neither of the Constituent Corporations will, without prior written consent of the other, except as otherwise specifically provided herein:

(a) amend its Certificate or Articles of Incorporation or its By-Laws or Regulations;

(b) engage in any material activity or transaction or incur any material obligation (by contract or otherwise) except in the ordinary course of business and except that Kewanee may enter into contracts to acquire oil properties;

(c) issue rights or options to purchase or subscribe to any shares of its capital stock, or subdivide any such shares;

(d) issue or sell any shares of its capital stock or securities convertible into shares of its capital stock except that (i) each Constituent Corporation may issue shares of its common stock upon the exercise of options outstanding as of the date of this Agreement and Plan of Merger, (ii) Kewanee may issue shares of its Common Stock in connection with conversion of shares of its Convertible Common Stock and its stock dividend already declared, and (iii) Kewanee may sell any shares of Kewanee Common Stock held in its treasury, for the purpose of either the foregoing clause (i) or (ii);

(e) declare or pay any dividends on, or make any distributions in respect of, or purchase or redeem any shares of its capital stock, except that (i) Kewanee may pay, on or about the dates already fixed by its Board, such dividends as have been declared for 1966, and (ii) if the effective date of the merger shall be subsequent to December 10, 1966, Harshaw may declare and pay cash dividends on the outstanding shares of Harshaw's Common Stock at the quarterly rate of 30¢ per share (including in each case the payment of dividend equivalents on shares held by Harshaw in its Deferred Bonus Fund).

Each of the Constituent Corporations shall prepare and deliver to the other, prior to the effective date of the merger, a consolidated statement of its financial position as of September 30, 1966, and consolidated statements of its income and retained earnings for the period from the end of its last fiscal year to September 30, 1966, certified by its chief executive officer and its chief financial officer as fairly presenting its consolidated financial position and the consolidated results of its operations at such date and for such period in accordance with generally accepted accounting principles applied on a basis consistent with prior years.

Each of the Constituent Corporations shall permit the other's representatives to examine its properties, books, records and those of its subsidiaries and shall furnish such representatives with all such information concerning its affairs and those of its subsidiaries as each may reasonably request.

From and after the date of this Agreement and Plan of Merger and prior to the effective date of the merger, Harshaw shall not increase the rate of remuneration to any of its directors, officers, employees or other representatives, except for increases required by collective bargaining agreements, and merit wage or salary increases to other non-management employees in the ordinary and usual course of business in amounts in keeping with the practice of prior years. Harshaw may during such period grant awards under Harshaw's Profit Sharing Plan in aggregate amount not exceeding $450,000 and grant awards under its bonus arrangement for employees not participating in the Profit Sharing Plan in individual amounts which do not exceed the percentage of salary limitations applied for the calendar year 1965 to the various employee classifications involved.

ARTICLE VI

The manner and basis of converting the shares of the Constituent Corporations into shares of the Surviving Corporation and the mode of carrying the merger into effect shall be as follows:

(a) Each share of Kewanee Common Stock and of Convertible Common Stock issued and outstanding on the effective date of the merger shall remain outstanding as one fully paid and nonassessable share of Kewanee Common Stock and Convertible Common Stock, par values $10 per share, of the

Surviving Corporation, without any action on the part of the holder thereof, and each share of Kewanee Common Stock and Convertible Common Stock issued and held in the treasury of Kewanee on such date shall remain as one share of such Common Stock and Convertible Common Stock of, and held in the treasury of, the Surviving Corporation.

(b) Except as provided in paragraph (c) below, each share of Harshaw Common Stock issued and outstanding on the effective date of the merger, and each share of Harshaw Common Stock held by Harshaw for the accounts of participants in Harshaw's Deferred Bonus Fund, shall, by virtue of the merger and, without any action on the part of the holder, be converted into one fully paid and non-assessable share of Series A $2 Cumulative Convertible Preferred Stock, without par value, of the Surviving Corporation, being the Series A $2 Cumulative Convertible Preferred Stock authorized by the Certificate of Incorporation of the Surviving Corporation, amended as set forth in Appendix A and Appendix B hereto, and being hereinafter called "Series A Convertible Preferred Stock".

(c) Each share of Harshaw Common Stock held by or for Kewanee on the effective date of the merger, and each share of Harshaw Common Stock held in the treasury of Harshaw on such date (excepting such shares held in the accounts of participants under Harshaw's Deferred Bonus Fund) shall be cancelled, and no shares of Series A Convertible Preferred Stock shall be issued in respect thereof. Shares of Series A Convertible Preferred Stock issued in respect of Harshaw Common Stock under option to Kewanee on the effective date of the merger shall be restored to the status of authorized but unissued shares, upon Kewanee's exercise of any such option.

(d) After the effective date of the merger, each holder of an outstanding certificate or certificates which prior thereto represented shares of Harshaw Common Stock (excepting certificates representing shares cancelled in the merger pursuant to clause (c) above) shall surrender the same in Cleveland, Ohio, to the Exchange Agent (hereinafter referred to) for such holders of Harshaw Common Stock, and each such holder shall be entitled upon such surrender to receive in exchange therefor a certificate or certificates representing the number of shares of Series A Convertible Preferred Stock of the Surviving Corporation into which the shares of Harshaw Common Stock theretofore represented by the certificate or certificates so surrendered shall have been converted as aforesaid. The Cleveland Trust Company shall be the Exchange Agent for such stockholders to effect such exchange on their behalf. Adoption of this Agreement and Plan of Merger by stockholders of Harshaw shall constitute ratification of the appointment of said bank as such Exchange Agent. Until so surrendered, each such outstanding certificate shall be deemed for all corporate purposes, subject to the further provisions of this Article VI, to evidence the ownership of the shares of the Surviving Corporation's Series A Convertible Preferred Stock into which Harshaw Common Stock has been so converted. Unless and until any such certificate shall be so surrendered, no dividend payable to holders of record of shares of Series A Convertible Preferred Stock of the Surviving Corporation shall be paid to the holder of such certificate, but upon such surrender there shall be paid to the holder of record of the certificate for shares of Series A Convertible Preferred Stock of the Surviving Corporation issued in exchange therefor the amount of dividends which theretofore shall have become payable with respect to the number of shares of Series A Convertible Preferred Stock of the Surviving Corporation represented by the certificate issued upon such surrender and exchange.

(e) All shares of the Surviving Corporation's Series A Convertible Preferred Stock into which shares of Harshaw Common Stock have been converted pursuant to this Article VI shall be deemed to have been issued in full satisfaction of all rights pertaining to such converted shares, subject, however, to the Surviving Corporation's obligation to pay such dividends, if any, as may have been declared by Harshaw (within the limitations provided in this Agreement and Plan of Merger) on such shares of Harshaw Common Stock and remain unpaid at the effective date of merger.

ARTICLE VII

(a) At the effective date of the merger the Surviving Corporation's capital shall be:

$10 for each share of Common Stock and Convertible Common Stock remaining outstanding or held in its treasury, as a share of the Surviving Corporation's Common Stock and Convertible Common Stock; and

$15 for each share of the Surviving Corporation's Series A Convertible Preferred Stock to be issued in accordance with this Agreement and Plan of Merger.

(b) At the effective date of the merger the Surviving Corporation's retained earnings shall be the sum of Kewanee's retained earnings plus Harshaw's retained earnings reduced as may be indicated by generally accepted accounting principles to reflect the transactions described in paragraphs (b) and (c) of Article VI, and the Surviving Corporation's capital in excess of par value shall be the capital in excess of par value of Kewanee at such effective date. The excess of the assets of the Surviving Corporation taken at their fair value to the Surviving Corporation, over the sum of its liabilities, including liabilities derived from the Constituent Corporations or resulting from the merger, is at least equal to the Surviving Corporation's retained earnings determined as aforesaid.

(c) The assets and liabilities of the Constituent Corporations at the effective date of the merger shall be continued or taken upon the Surviving Corporation's books at the amounts at which they are respectively recorded at such effective date on the books of the Constituent Corporations, appropriately adjusted as required to place them on a uniform basis.

ARTICLE VIII

(a) At and after the effective date of the merger the then outstanding options to purchase shares of Kewanee Common Stock and Convertible Common Stock and the Stock Option Plan and agreements of Kewanee under which any such options are outstanding and which are in effect at the effective date of the merger shall continue thereafter as options and as a plan and agreements of the Surviving Corporation, subject to amendment, abandonment or termination as provided therein respectively; and at and after the effective date of the merger references to Kewanee in such plan and agreements and in the options outstanding thereunder shall be deemed to refer to the Surviving Corporation.

(b) At the effective date of the merger the obligations of Harshaw under the then outstanding options to purchase shares of Harshaw Common Stock which have theretofore been granted under Harshaw's Stock Option Plan adopted by its Board of Directors on November 5, 1964 and approved by its shareholders on January 26, 1965, shall be assumed by the Surviving Corporation. Kewanee shall substitute for the stock options granted under Harshaw's Stock Option Plan, options to purchase shares of Series A Convertible Preferred Stock in lieu of Harshaw's Common Stock, on a basis which will comply with Section 425(a) of the Internal Revenue Code of 1954, as amended, and which, subject to compliance with said Section, will on the effective date be as favorable to the holders of such options as their options with respect to Harshaw's Common Stock.

(c) After the effective date of the merger, Harshaw's Stock Option Plan and the agreements referred to in paragraph (b) of this Article VIII shall be continued in effect, subject to amendment, abandonment or termination as provided therein, said Plan as so continued to relate solely to options granted by Harshaw and outstanding at the effective date of the merger, and references to Harshaw in said Plans, agreements and options shall be construed as references to the Surviving Corporation.

(d) Kewanee agrees that it will either (A) adopt and continue in effect, after the effective date of the merger, The Harshaw Chemical Company Retirement Plan for Salaried Employees ("Harshaw Plan") and related Trust Agreement for the benefit of those employees who were covered by the Plan on the date of the merger or (B) if Kewanee does not then continue such Plan in effect or if it should discontinue such Plan at any time in the future (whether by merger of the Harshaw Plan into any existing plan of Kewanee or otherwise), it will forthwith take such action as may be necessary (i) to provide for the payment of annuities to all existing annuitants under the Harshaw Plan and to provide for annuities payable to persons who are entitled thereto by reason of the termination of their employment with The Matheson Company, Inc., a New Jersey corporation (or any subsidiary, affiliate or successor thereof), under the terms of the Harshaw Plan (and/or any agreement between The Matheson Company, Inc., and Harshaw), and (ii) to include each such person covered by the Harshaw Plan on the date of the merger in a retirement plan or plans of Kewanee under which the benefits provided for each such person with respect to service rendered prior to the date of discontinuance of the Harshaw Plan shall not be less than the benefits accrued for such employee under the Harshaw Plan as of such date (taking into consideration service with Kewanee for the purpose of determining eligibility for a benefit as distinguished from the amount thereof) and under which benefits for service rendered subsequent to the discontinuance of the Harshaw Plan shall be the same as the benefits provided for other employees of Kewanee similarly situated (taking into consideration service with Harshaw for the purpose of determining eligibility for a benefit as distinguished from the amount thereof).

(g) Kewanee agrees that it will either (A) continue in effect the profit sharing and deferred compensation plan, known as "The Harshaw Chemical Company Profit-Sharing and Deferred Compensation Plan," as to key employees of Kewanee in its Harshaw Chemical Company Division, the terms of such Plan to be no less favorable to such employees covered thereby than those now in existence or (B) if Kewanee does not continue such Plan in effect or if Kewanee should discontinue such Plan at any time in the future, it shall (i) take such action as may be necessary to provide for the continuation and preservation of the profit sharing reserve theretofore allocated to each officer and employee under such Plan and for the distribution thereof to such person, or in the event of his death to his beneficiary, generally in accordance with the provisions of such Plan as it now exists, and (ii) provide for the inclusion of such key employees of Kewanee in its Harshaw Chemical Company Division, as to service subsequent to the termination of such Plan, under any profit sharing or deferred compensation plan maintained by Kewanee for its other employees.

ARTICLE IX

(a) Harshaw represents and warrants to Kewanee that:

(i) Harshaw is a corporation duly organized and validly existing in good standing under the laws of the State of Ohio with an authorized capital stock consisting of 1,500,000 shares of Harshaw Common Stock, of which 1,003,131 shares are issued and outstanding, 51,800 shares are held in treasury, 46,625 shares are reserved for issuance upon the exercise of outstanding stock options, and 49,453 shares are held under its Deferred Bonus Fund, and all the aforementioned outstanding shares are validly issued and outstanding, fully paid and nonassessable, with no liability attaching to the ownership thereof for any obligations of Harshaw.

(ii) The consolidated statement of financial condition of Harshaw as of September 30, 1965, and the consolidated statement of income and retained earnings of Harshaw for the year ended on that date, accompanied by the report thereon of Ernst & Ernst, independent accountants, and the unaudited consolidated statement of financial condition of Harshaw as of July 31, 1966, and the unaudited consolidated statement of income and retained earnings of Harshaw for the ten months ended on that date, prepared by Harshaw, which have previously been delivered by Harshaw to Kewanee, fairly present the consolidated financial position and the consolidated results of operations of Harshaw at such date and for such periods in accordance with generally accepted accounting principles applied on a basis consistent with prior years (subject, in the case of the unaudited statements, to normal year-end adjustments); and Harshaw at July 31, 1966, had no liabilities, absolute or contingent, except as disclosed in said statement of financial condition as of July 31, 1966 and the notes thereto, or as disclosed in this Agreement and Plan of Merger or as Harshaw may have advised Kewanee in writing.

(iii) Except for the outstanding stock options referred to in subsection (i) above, no warrants, rights or options of any kind to purchase shares of capital stock of Harshaw or any of its subsidiaries from any of said corporations are outstanding; no security convertible into or exchangeable for shares of capital stock of any of said corporations is outstanding; and neither Harshaw nor any of its subsidiaries is a party to any agreement under which it is or may be bound to purchase any outstanding securities.

(iv) The subsidiaries of Harshaw, their respective jurisdictions of incorporation, and the percentage of their outstanding shares or ownership interests which are owned by Harshaw are as shown in the following table:

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Name	Jurisdiction of Incorporation	Percentage
Hammer Electronics Co., Inc.	New Jersey	94.5% Common 78.6% Class B 73.4% Class C
PanAura Corporation	Delaware	86%
Molechem, Inc.	New Jersey	100%
Fermco Laboratories, Inc.	Illinois	100%
Harshaw Chemical Limited	Great Britain	100%
Harshaw Engineering Limited	Great Britain	60%
Harshaw van der Hoorn N.V.	Netherlands	100%
Harshaw Chemie GmbH	Federal Republic of Germany	100%
Harshaw Cabo & Cia. S.A.	Colombia	95%
Harshaw Galvano Tecnica, S.A.	Spain	60%

Each of said subsidiaries is duly organized, validly existing and in good standing under the laws of its jurisdiction of incorporation, and all of the outstanding shares of each of said subsidiaries are validly issued and outstanding, fully paid and nonassessable. Harshaw is under contract to sell substantially all of the assets of Fermco Laboratories, Inc.

(v) Since July 31, 1966 (A) there has been no material adverse change in the business or financial condition of Harshaw and its subsidiaries taken on a consolidated basis; and (B) there has been no interruption or indication of any interruption in the operations of Harshaw or any of its subsidiaries which might reasonably be expected to have a material adverse effect on their business or financial condition taken on a consolidated basis.

(vi) Except as Harshaw has otherwise advised Kewanee in writing, there is no action, suit or proceeding (whether or not purportedly on behalf of Harshaw) pending or, to the knowledge of Harshaw, threatened against or affecting Harshaw or any of its subsidiaries, in any court or before or by any governmental department, commission, board, bureau, agency, or instrumentality, domestic or foreign, which, in the opinion of Harshaw, involves a substantial possibility of materially and adversely affecting the business, operations, properties, assets or condition of Harshaw and its subsidiaries taken on a consolidated basis; and neither Harshaw nor any of its subsidiaries is in default with respect to any regulation, order, writ, injunction or decree of any court or governmental department, commission, board, bureau, agency or instrumentality, domestic or foreign, which involves any such substantial possibility.

(vii) Except (A) for dispositions of property in the ordinary course of business, and (B) as Harshaw has otherwise advised Kewanee in writing, Harshaw and its subsidiaries have good and marketable title, free and clear of any material lien, claim, encumbrance, charge or equity, to all of the property reflected in Harshaw's consolidated statement of financial condition as of July 31, 1966, and except for certain sales offices, laboratories for solid-state operations, motor vehicles and trailers, tank cars, business machines, and communications equipment which are leased, to all other tangible and intangible property used by Harshaw and its subsidiaries in their respective businesses.

(viii) Except as Harshaw has otherwise advised Kewanee in writing, all of the properties and assets, both tangible and intangible, of Harshaw, wherever located, including its contract rights and patents, will pass to Kewanee when the merger becomes effective.

(ix) Harshaw has not incurred any liability for finders' fees in connection with this Agreement and Plan of Merger or any transaction contemplated hereby, but the foregoing shall not apply to Harshaw's obligation to make payments to Morgan Stanley & Co. and McDonald & Company in the aggregate amount of $100,000 for financial consulting services in connection therewith.

(x) This Agreement and Plan of Merger and Appendix A and Appendix B attached hereto have been duly authorized by the Board of Directors of Harshaw, and the execution of this Agreement and

Plan of Merger by Harshaw and the observance and performance by Harshaw of its obligations hereunder will not conflict with or constitute a default under any agreement or commitment binding upon Harshaw.

(b) Kewanee represents and warrants to Harshaw that:

(i) Kewanee is a corporation duly organized and validly existing in good standing under the laws of the State of Delaware, with an authorized capital stock consisting of 1,000,000 shares of Convertible Common Stock, of which as of September 16, 1966, 582,921 shares were issued and outstanding, 68,078 shares were held in treasury, and 6,450 shares were reserved for issuance upon the exercise of outstanding stock options, and 5,000,000 shares of Kewanee Common Stock, of which as of September 16, 1966, 2,782,312 shares were issued and outstanding, 130,272 shares were held in treasury, 16,6[illegible] shares were reserved for issuance upon the exercise of outstanding stock options, and 617,449 shares were reserved for issuance upon the conversion of shares of Convertible Common Stock; and all of the aforementioned outstanding shares are validly issued and outstanding, fully paid and nonassessable, with no liability attaching to the ownership thereof for any obligations of Kewanee.

(ii) The consolidated statement of financial condition of Kewanee as of December 31, 1965, and the consolidated statements of income and retained earnings of Kewanee for the year ended on that date, accompanied by the report thereon of Main Lafrentz & Co., independent certified public accountants, and the consolidated unaudited statement of financial condition of Kewanee as of July 31, 1966, and the unaudited consolidated statement of income and retained earnings of Kewanee for the seven months ended on that date prepared by Kewanee, which have previously been delivered by Kewanee to Harshaw, fairly present the consolidated financial position and the consolidated results of operations of Kewanee at such dates and for such periods in accordance with generally accepted accounting principles applied on a basis consistent with prior years (subject, in the case of unaudited statements, to normal year-end adjustments); and Kewanee at July 31, 1966, had no liabilities, absolute or contingent, except as disclosed in said statement of financial condition as of July 31, 1966 and the notes thereto, or as disclosed in this Agreement and Plan of Merger or as Kewanee may have advised Harshaw in writing.

(iii) Except for the outstanding Convertible Voting Common Stock and the outstanding stock options referred to in subsection (i) above, no warrants, rights or options of any kind to purchase shares of capital stock of Kewanee or any of its subsidiaries from any of said corporations are outstanding, no security convertible into or exchangeable for shares of capital stock of any of said corporations is outstanding; and neither Kewanee nor any of its subsidiaries is a party to any agreement under which it is or may be bound to purchase any of Kewanee's outstanding securities.

(iv) The subsidiaries of Kewanee, their respective jurisdictions of incorporation and the percentage of their outstanding shares or ownership interests which are owned by Kewanee are as shown in the following table:

Name	Jurisdiction of Incorporation	Percentage
Canadian Kewanee Limited	Delaware	100%
Cankee Gas Company	Delaware	100%
Double Eagle Corporation	New Mexico	100%
Gobles Oil and Gas Limited	Dominion of Canada	100%
Kewanee Overseas Oil Company	Delaware	100%
Mathiasen's Tanker Industries, Inc.	Delaware	100%
McCall Drilling Company, Inc.	Delaware	100%
North Penn Gas Company	Pennsylvania	57.22%

Each of said subsidiaries is duly organized, validly existing and in good standing under the laws of its jurisdiction of incorporation, and all of the outstanding shares of each of said subsidiaries are validly issued and outstanding, fully paid and nonassessable.

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(v) Since July 31, 1966 (A) there has been no material adverse change in the business or financial condition of Kewanee and its subsidiaries taken on a consolidated basis, and (B) there has been no interruption or cessation of any interruption in the operations of Kewanee or any of its subsidiaries which might reasonably be expected to have a material adverse effect on their business or financial condition taken on a consolidated basis.

(vi) Except as Kewanee has otherwise advised Harshaw in writing, there is no action, suit or proceeding, whether or not purportedly on behalf of Kewanee, pending or, to the knowledge of Kewanee, threatened against or affecting Kewanee or any of its subsidiaries in any court or before or by any governmental department, commission, board, bureau, agency or instrumentality, domestic or foreign, which in the opinion of Kewanee involves a substantial possibility of materially and adversely affecting the business, operations, properties, assets or condition of Kewanee and its subsidiaries taken on a consolidated basis, and neither Kewanee nor any of its subsidiaries is in default with respect to any regulation, order, writ, injunction or decree of any court or governmental department, commission, board, bureau, agency or instrumentality, domestic or foreign, which involves any such substantial possibility.

(vii) Except [illegible] dispositions of property in the ordinary course of business and [illegible] Kewanee has otherwise advised Harshaw in writing, Kewanee and its subsidiaries have good and marketable title free and clear of any material lien, claim, encumbrance, charge or equity to all of the property reflected on Kewanee's consolidated statement of financial condition as of July 31, 1966, and except for [illegible] operations offices, oil and gas [illegible] leases, [illegible] machines and other [illegible] drilling rigs, [illegible] equipment and lease [illegible] oil field equipment, to all other tangible and intangible property used by Kewanee and its subsidiaries in their respective businesses.

(viii) Kewanee has not incurred any liability for finders' fees in connection with this Agreement and Plan of Merger or any transaction contemplated hereby.

(ix) This Agreement and Plan of Merger and Appendix A and Appendix B attached hereto have been duly authorized by the Board of Directors of Kewanee, and the execution of this Agreement and Plan of Merger by Kewanee and the observance and performance by Kewanee of its obligations hereunder will not conflict with or constitute a default under any agreement or instrument binding upon Kewanee.

ARTICLE X

(a) Subject to the provisions of paragraph (b) of this Article X, this Agreement and Plan of Merger shall be submitted to the stockholders of the Constituent Corporations at meetings or adjournments thereof called to be held as soon as practicable after the date hereof, and failing adoption by the requisite statutory vote of the stockholders of each Constituent Corporation upon submission thereof as aforesaid, this Agreement and Plan of Merger shall be deemed terminated.

(b) This Agreement and Plan of Merger may be terminated at any time prior to the effective date of the merger, whether before or after action thereon by the stockholders of the Constituent Corporations:

(i) by action of the Board of Directors of Kewanee if in the judgment of such Board the merger would be impracticable because of the amount of cash payments which might be required to be made to holders of shares of Convertible Common Stock and/or shares of Kewanee Common Stock who shall be entitled to demand payment (pursuant to Section 262 of the Delaware General Corporation Law) payment of the value of such shares or to holders of shares of Harshaw Common Stock who shall have demanded or shall be entitled to demand pursuant to Section 1701.85 of the Ohio General Corporation Law the fair cash value of such shares.

(ii) by action of the Board of Directors of either of the Constituent Corporations if the properties of the other Constituent Corporation shall have suffered damage by fire or other casualty, whether or not insured, and in the judgment of such Board the same materially and adversely affects the business of the other Constituent Corporation to such extent as to make it inadvisable to proceed with the merger.

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(iii) by action of the Board of Directors of Kewanee, if (A) Kewanee is unable after the use of all reasonable [illegible] modifications of the provisions of the Indenture under which Harshaw's outstanding [illegible] issued, as may reasonably be deemed necessary by such Board in order to consummate the merger [illegible]; (B) Kewanee shall not have received, prior to the effective date of the merger, the opinion of Schrader, Harrison, Segal & Lewis to the effect that (i) all proceedings [illegible] to effectuate the merger have been duly taken in accordance with law and (ii) upon the due [illegible] of this Agreement and Plan of Merger and of a Certificate of Merger [illegible] this Agreement and Plan of Merger, Harshaw will be duly merged into Kewanee pursuant to this Agreement and Plan of Merger, and [illegible] opinion of Jones, Day, Cockley & Reavis referred to in sub[illegible] (C) the representations and warranties of Harshaw set forth in Article IX [illegible] in all material respects both on the date of this Agreement and Plan of Merger and on the effective date of the merger as if made again at and as of such date, subject to any [illegible] after the date of this Agreement and Plan of Merger [illegible] this Agreement and Plan of Merger; (D) Harshaw shall not have observed or performed all of the obligations which are required to be observed or performed by it prior to the effective date of the merger; or (E) Harshaw shall not have furnished to Kewanee a certificate dated the effective date of the merger signed by the President and Treasurer of Harshaw to the effect that to the best of their knowledge and belief no event as specified in paragraph (b)(iii) [illegible] and clauses (C) and (D) of this paragraph (b)(iii) have been complied with.

(iv) by action of the Board of Directors of Harshaw, if (A) Harshaw shall not receive [illegible] from the Internal Revenue Service a ruling [illegible] acceptable to Harshaw [illegible] of such ruling, in form and substance satisfactory to said Board to the effect that [illegible] the merger will constitute a reorganization within the meaning of Section 368(a)(1)[illegible] of the Internal Revenue Code [illegible] Section [illegible] of said Code no gain or loss will be recognized to the stockholders of Harshaw [illegible] Harshaw Common Stock [illegible] of Series A [illegible] Plan of Merger [illegible] Series A Convertible Preferred Stock will [illegible] 306 [illegible] as defined in Section 306 [illegible] of the Internal Revenue Code [illegible] Series A Convertible Preferred Stock [illegible] 306 [illegible] of the Internal Revenue Code [illegible] with respect to sale or dispositions of such [illegible] Surviving Corporation; (B) Harshaw shall not have [illegible] the opinion of Jones, Day, Cockley & Reavis to the effect that (i) all proceedings [illegible] to effectuate the merger have been duly taken in accordance with law and (ii) upon the [illegible] of this Agreement and Plan of Merger and of a Certificate of Merger incorporating this Agreement and Plan of Merger Harshaw will be duly merged into Kewanee pursuant to this Agreement and Plan of Merger, and [illegible] the opinion of Schrader, Harrison, Segal & Lewis referred to in subparagraph (iii) above; (C) the representations and warranties of Kewanee set forth in Article IX [illegible] in all material respects both on the date of this Agreement and Plan of Merger and on the effective date of the merger as if made again at and as of such date, subject to [illegible] transactions which may have taken place after the date of this Agreement and Plan of Merger contemplated or permitted by this Agreement and Plan of Merger; (D) Kewanee shall not have observed or performed all of the obligations which are required to be observed or performed by it prior to the effective date of the merger, or (E) Kewanee shall not have furnished to Harshaw a certificate, dated the effective date of the merger, signed by the President and Treasurer of Kewanee to the effect that to the best of their knowledge and belief no event as specified in paragraphs [illegible] and clauses (C) and (D) of this paragraph (b)(iv) have been complied with.

(c) [illegible] Boards of Directors of the Constituent Corporations if any suit, action [illegible] any court or governmental agency [illegible] the consummation of the merger contemplated hereby [illegible] Boards of Directors [illegible] and [illegible] materially and adversely [illegible] of the Constituent Corporations.

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(ii) by mutual consent of the Constituent Corporations expressed by action of their respective Boards of Directors.

(c) Any action by the Board of Directors of either Constituent Corporation [illegible] of this Article X shall be by vote of a majority of all the members of such Board of Directors [illegible] in office.

(d) If the merger shall become effective, all expenses in [illegible] with the merger shall be borne by the Surviving Corporation. If the merger shall not become effective, Kewanee and Harshaw shall each bear and pay the expenses incurred by it in preparation for the merger, [illegible] that Kewanee and Harshaw shall each pay 50% of all printing expenses incurred in connection therewith.

(e) Each Constituent Corporation agrees to use its best efforts to make this Agreement and Plan of Merger effective as soon as practicable after the stockholders' meetings referred to in paragraph (a) of this Article X, unless terminated as hereinabove provided.

ARTICLE XI

The effective date of the merger shall be and such term as used herein shall mean the time when all the following action shall first have been taken: (a) this Agreement and Plan of Merger shall have been authorized, adopted, approved, signed and acknowledged on behalf of each Constituent Corporation in accordance with the General Corporation Law of the State of Delaware and the Ohio General Corporation Law; (b) this Agreement and Plan of Merger so authorized, adopted, approved, signed and [illegible] shall have been filed in the office of the Secretary of State of the State of Delaware and a [illegible] thereof certified by said Secretary of State shall have been recorded as provided by the General Corporation Law of the State of Delaware and (c) an appropriate certificate [illegible] Agreement and Plan of Merger and a statement as to the adoption thereof therein called a [illegible] of Merger [illegible] on behalf of Harshaw and filed in the office of the Secretary of the State of Ohio.

On the effective date of the merger:

(i) except to the extent otherwise provided in this Agreement and Plan of Merger [illegible] the separate existence of Harshaw shall cease;

(ii) Harshaw shall be merged in accordance with the provisions of this Agreement and Plan of Merger with and into Kewanee, which shall continue as the Surviving Corporation [illegible] subject to the laws of the State of Delaware and to the jurisdiction of its courts; and

(iii) the rights, privileges, powers and franchises [illegible] of each of the Constituent Corporations shall be vested in and possessed by the Surviving Corporation subject to all the restrictions, disabilities and duties of each of the Constituent Corporations; and all and singular the rights, privileges, powers and franchises of each of the Constituent Corporations, and all property, real, personal and mixed, of each of the Constituent Corporations and all debts due to each of the Constituent Corporations on whatever account, as well for stock subscriptions as all other things in action or belonging to each of the Constituent Corporations, shall be vested in the Surviving Corporation; and all property, rights, privileges, powers and franchises, and all and every other interest shall be thereafter as effectually the property of the Surviving Corporation as they were of the several and respective Constituent Corporations, and the title to any real estate vested by deed or otherwise under the laws of the State of Delaware, the State of Ohio [illegible] in either of the Constituent Corporations, shall not revert or in any way be impaired by reason of the merger herein provided for; provided, however, that all rights of creditors and all liens upon any property of either of the Constituent Corporations shall be preserved unimpaired, limited in lien to the property affected by such liens at the time of such merger, and all debts, liabilities and duties of the respective Constituent Corporations shall thenceforth attach to the Surviving Corporation, and may be enforced against it to the same extent as if said debts, liabilities and duties had been incurred or contracted by it; and provided, further, that the transfer to the Surviving Corporation of any property, rights, privileges, powers and franchises requiring the consent of others prior to transfer thereof is made expressly subject to the procurement of such consents unless waived by Kewanee.

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ARTICLE XII

The Surviving Corporation shall, pursuant to Section 1701.81(C) of the Ohio General Corporation Law, as soon as practicable after the effective date of the merger cause a copy of this Agreement of Merger, certified by the Secretary of State of Ohio, to be filed in the office of the county recorder of each county in the State of Ohio in which real property of Harshaw is situated and in such other office of such county or State. If at any time the Surviving Corporation shall consider or be advised that any further assignment or assurance in law or other action is necessary or desirable to vest, perfect, or confirm, of record or otherwise, in the Surviving Corporation, the title to any property or rights of Harshaw acquired or to be acquired by or as a result of the merger provided for herein, the proper officers and directors of Kewanee, Harshaw and the Surviving Corporation, respectively, shall be and they hereby are severally and fully authorized to execute and deliver such proper deeds, assignments and assurances in law and take such other action as may be necessary or proper in the name of Kewanee, Harshaw or the Surviving Corporation to vest, perfect or confirm title to such property or rights in the Surviving Corporation and otherwise carry out the purposes of this Agreement and Plan of Merger.

As promptly as practicable after the merger becomes effective, the Surviving Corporation shall exercise its best efforts to cause the Series A Convertible Preferred Stock issued in the merger to be registered on Form S-14 under the Securities Act of 1933 on behalf of all former shareholders of Harshaw who are, or might be deemed to be, affiliates of Harshaw at the time of the merger, and shall maintain such registration in effect for a period of at least nine months from the effective date thereof, provided that the Surviving Corporation shall first have received (1) an opinion from Jones, Day, Cockley & Reavis with respect to holders of Harshaw Common Stock who may be deemed "affiliates" of Harshaw as that term is defined in Rule 133 under the Securities Act of 1933 and (2) an agreement from each such "affiliate" holder satisfactory to counsel for the Surviving Corporation relating to notice of and information concerning any proposed offering and distribution of any such shares to be registered, other than on a national securities exchange.

As promptly as practicable after the merger becomes effective, the Surviving Corporation shall exercise its best efforts to cause the Series A Convertible Preferred Stock issued in the merger to be registered under the Securities Exchange Act of 1934 and to be listed on the American Stock Exchange.

ARTICLE XIII

Pursuant to Section 1701.82 of the Ohio General Corporation Law, the Surviving Corporation does hereby:

(1) Consent that it may be sued and served with process in the State of Ohio in any proceeding for the enforcement of any obligation of Harshaw and in any proceeding for the enforcement of the rights of a dissenting shareholder of Harshaw against the Surviving Corporation;

(2) Irrevocably appoint the Secretary of State of Ohio as its agent to accept service of process in any such proceeding; and

(3) Agree that it will promptly pay to dissenting shareholders of Harshaw the amount, if any, to which they are entitled under Section 1701.85 of the Ohio General Corporation Law.

The Surviving Corporation desires to transact business in the State of Ohio as a foreign corporation, with its principal office in the State of Ohio to be located in Cleveland, Cuyahoga County, and, accordingly, does hereby:

(A) Appoint CT Corporation System, Union Commerce Building, Cleveland, Cuyahoga County, Ohio, as statutory agent of the Surviving Corporation in the State of Ohio; and

(B) Irrevocably consent (i) that service of any process, notice, or demand against, to or upon the Surviving Corporation may be served within the State of Ohio upon such statutory agent so long as the authority of such agent continues and (ii) to service of process upon the Secretary of State of Ohio in the events provided for in Section 1703.19 of the Ohio Revised Code.

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ARTICLE XIV

Any of the terms or conditions of this Agreement and Plan of Merger may be waived at any time by the one of the Constituent Corporations which is, or the stockholders of which are, entitled to the benefit thereof by action taken by a majority of the Directors of such party, or may be amended or modified in whole or in part at any time prior to the vote of the shareholders of the Constituent Corporations thereon by an agreement in writing executed in the same manner as this Agreement and Plan of Merger after authorization to do so by a majority of the Directors of the Constituent Corporations; provided, however, that such actions shall be taken only if, in the judgment of the Board of Directors taking the action, such waiver or amendment will not have a materially adverse effect on the benefits intended under this Agreement and Plan of Merger to the shareholders of its corporation.

ARTICLE XV

For the convenience of the parties and to facilitate the filing and recording of this Agreement and Plan of Merger, any number of counterparts hereof may be executed, and each such counterpart shall be deemed to be an original instrument.

IN WITNESS WHEREOF, this Agreement and Plan of Merger has been signed by a majority of the Directors of Kewanee under the corporate seal of that corporation in accordance with the requirements of Section 252 of Title 8 of the Delaware Code of 1953, and Harshaw has caused this Agreement and Plan of Merger to be signed by its President and its Secretary in accordance with the requirements of Section 1701.82 of the Ohio Revised Code, and each of the Constituent Corporations has caused its corporate seal to be hereunto affixed, all on the day and year first above written.

James T. Bolan	Richard K. Page
J. A. Carlson	Edgar Scott, Sr.
G. Morris Dorrance, Jr.	Wm. Wikoff Smith
J. M. Harrison	

[Corporate Seal]

A majority of the Directors of
Kewanee Oil Company

Attest:
J. E. Bailey, Jr.
Secretary

[Corporate Seal]

The Harshaw Chemical Company

W. A. Harshaw, II
President

Attest:
R. G. Bursch
Secretary

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APPENDIX A

to Agreement and Plan of Merger
Between Kewanee Oil Company and The Harshaw Chemical Company

Amendments to Articles Third and Fourth of Certificate of Incorporation of Kewanee Oil Company

Articles Third and Fourth of the Certificate of Incorporation of Kewanee Oil Company are amended to read as follows:

"Third: The nature of the business, or objects or purposes to be transacted, promoted or carried on are:

To contract for the lease of, and to lease, hold, purchase and own, oil and gas lands situated above deposits of subterranean supplies of oil and gas and either of them; to bore, drill and sink wells in such lands for petroleum oil and natural gas, or either of them, and to receive the same at the surface of such lands, and to store and hold the same and to transport the same by pipe line or otherwise; to prospect for petroleum oil, gas, water, salt, brine and other mineral solutions and liquefied minerals; to construct and operate private pipe lines for the private transportation of crude oil, natural gas, water, salt, brine and other mineral solutions and liquefied minerals; to sell crude oil, natural gas, water, salt, brine and other mineral solutions and liquefied minerals obtained by such drilling and sinking of wells, and to buy and sell crude oil and natural gas generally; to build oil refineries and to operate the same and to sell the products thereof; to buy, erect, own and operate buildings, derricks, tanks, power plants, pump stations, connections, fixtures, storage tanks and storage houses and all other structures, appurtenances and equipment necessary to the development of oil and natural gas properties and the production of crude oil and natural gas; to buy, own and operate private tank cars for the transportation of oil; to sell natural gas and to pipe the same to points of delivery; to own, hold, use and occupy such lands, rights of way, easements, franchises, buildings and structures as may be necessary to the purposes of such corporation; to make contracts for the sale and delivery of natural gas, and generally to do all and every lawful kind of business connected or growing out of the production and sale of oil, natural gas, salt, brine and other mineral solutions and liquefied minerals and the manufacture and sale of the products and by-products thereof.

To purchase or otherwise acquire, own, hold, sell and deal in oil, gas and mineral leases, rents and royalties.

To engage in the production, manufacture and sale of crystals, instruments, catalysts, ceramic materials, pigments, dyes and electroplating products and related products and materials of every kind and character.

To engage in a general chemical business in all of its branches and to manufacture, buy, sell and deal in chemicals and chemical products of every kind and character.

To manufacture, purchase or otherwise acquire, own, mortgage, pledge, sell, assign and transfer or otherwise dispose of, to invest, trade, deal in and deal with goods, wares and merchandise and personal property of every class and description.

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To acquire, and pay for in cash, stock or bonds of this corporation or otherwise, the good will, rights, assets and property, and to undertake or assume the whole or any part of the obligations or liabilities of any person, firm, association or corporation.

To acquire, hold, use, sell, assign, lease, grant licenses in respect of, mortgage or otherwise dispose of letters patent of the United States or any foreign country, patent rights, licenses and privileges, inventions, improvements and processes, copyrights, trade-marks and trade names, relating to or useful in connection with any business of this corporation.

To guarantee, purchase, hold, sell, assign, transfer, mortgage, pledge or otherwise dispose of shares of the capital stock of, or any bonds, securities or evidences of indebtedness created by any other corporation or corporations organized under the laws of this state or any other state, country, nation or government, and while the owner thereof to exercise all the rights, powers and privileges of ownership, including the right to vote thereon.

To enter into, make and perform contracts of every kind and description with any person, firm, association, corporation, municipality, county, state, body politic or government or colony or dependency thereof.

To borrow or raise moneys for any of the purposes of the corporation and, from time to time, without limit as to amount, to draw, make, accept, endorse, execute and issue promissory notes, drafts, bills of exchange, warrants, bonds, debentures and other negotiable or non-negotiable instruments and evidences of indebtedness, and to secure the payment of any thereof and of the interest thereon by mortgage upon or pledge, conveyance or assignment in trust of the whole or any part of the property of the corporation, whether at the time owned or thereafter acquired and to sell, pledge or otherwise dispose of such bonds or other obligations of the corporation for its corporate purposes.

To purchase, hold, sell and transfer the shares of its own capital stock; provided it shall not use its funds or property for the purchase of its own shares of capital stock when such use would cause any impairment of its capital except as otherwise permitted by law; and provided further that shares of its own capital stock belonging to it shall not be voted directly or indirectly.

To have one or more offices, to carry on all or any of its operations and business and without restriction or limit as to amount to purchase or otherwise acquire, hold, own, mortgage, sell, convey, or otherwise dispose of real and personal property of every class and description in any of the States, Districts, Territories or Colonies of the United States, and in any and all foreign countries, subject to the laws of such State, District, Territory, Colony or Country.

In general, to carry on any other business in connection with the foregoing, and to have and exercise all the powers conferred by the laws of Delaware upon corporations formed under the act hereinafter referred to, and to do any or all of the things hereinbefore set forth to the same extent as natural persons might or could do.

The objects and purposes specified in the foregoing clauses shall, except where otherwise expressed, be in nowise limited or restricted by reference to, or inference from, the terms of any other clause in this Certificate of Incorporation, but the objects and purposes specified in each of the foregoing clauses of this article shall be regarded as independent objects and purposes.

"FOURTH: The total number of shares of stock which the corporation shall have authority to issue is eight million five hundred thousand (8,500,000), consisting of one million five hundred thousand (1,500,000) shares of Preference Stock without par value, one million (1,000,000) shares of Convertible Voting Common Stock having a par value of Ten Dollars ($10.00) per share and six million (6,000,000) shares of Ordinary Voting Common Stock having a par value of Ten Dollars ($10.00) per share, the total par value of all classes having par value amounting in the aggregate to Seventy Million Dollars ($70,000,000).

"The Preference Stock may be issued in one or more series and with such voting powers, full or limited, or without voting powers, and with such designations, preferences and relative, participating, optional or other special rights, and qualifications, limitations or restrictions thereof, as shall be stated or expressed in the resolution or resolutions providing for the issue of such stock adopted by the Board of Directors, except with respect to the Series A $2.00 Cumulative Convertible Preferred Stock, the terms of which are established by Appendix B to the Agreement and Plan of Merger dated as of September 22, 1966 between the corporation and The Harshaw Chemical Company. Authority is hereby expressly granted to and vested in the Board of Directors at any time, or from time to time, to authorize the issue of shares of Preference Stock of one or more series and in connection with the issue of each such series, to fix by resolution or resolutions the terms thereof, including without limitation the following:

a. The number of shares to constitute each such series and the distinctive designations thereof;

b. The rates, preferences, conditions and times applicable to the payment of dividends for each series and whether the dividends shall be cumulative or noncumulative;

c. The terms and conditions on which, and the price or prices at which, stock of any series may be made subject to redemption;

d. The rights of the holders of stock of any series upon the voluntary or involuntary dissolution of, or upon any other distribution of the assets of, the corporation; and

e. Whether or not stock of any series shall be made convertible into, or exchangeable for, shares of any other class or classes or of any other series of the same or any other class or classes of stock of the corporation, and if made so convertible or exchangeable, the conversion price or prices, or the rates of exchange, and the adjustments, if any, at which, and the other terms and conditions upon which any such conversion or exchange may be made.

Any shares of Preference Stock of any series which are redeemed by the corporation pursuant to any provisions for the redemption thereof established for shares of such series, and any shares of Preference Stock which are converted pursuant to any provisions for the conversion thereof established for shares of such series, shall be cancelled and not reissued. Any shares of Preference Stock of any series otherwise acquired by the corporation in a manner consistent with this Certificate of Incorporation, the resolution or resolutions providing for the issue of shares of such series, and applicable law, shall resume the status of authorized but unissued shares of Preference Stock without serial designation.

Except as otherwise specifically required by law or as specifically provided in the resolutions of the Board of Directors authorizing the issue of Preference Stock or in Appendix B referred to above, the exclusive voting power of the corporation shall be vested in the Convertible Voting Common Stock and in the Ordinary Voting Common Stock of the corporation. Each of the shares of Convertible Voting Common Stock shall entitle the holder thereof to cast ten (10) votes on any matter on which shareholders shall be entitled to vote. Each of the shares of Ordinary Voting Common Stock shall entitle the holder thereof to cast one (1) vote on any matter on which shareholders shall be entitled to vote.

If the corporation shall subdivide or combine either class of Common Stock, the other class of Common Stock shall also be subdivided or combined in the same proportion.

Each of the shares of Convertible Voting Common Stock shall entitle the holder thereof to receive such cash dividends as may be declared and paid thereon (subject, however, to the restriction that no such cash dividend shall be greater than two-thirds (2/3) of the amount declared and paid at the same time to the holder of a share of Ordinary Voting Common Stock) and to receive distributions on liquidation of the corporation equal in amount to the distributions paid on liquidation of each share of Ordinary Voting Common Stock. Shares of Convertible Voting Common Stock are convertible at any time into shares of Ordinary Voting Common Stock, on a share for share basis, upon surrender to the corporation at the office of its transfer agent of the certificate for shares of Convertible Voting Common Stock to be thus converted.

Each of the shares of Ordinary Voting Common Stock shall entitle the holder thereof to receive cash dividends in an amount not less than one and one-half (1½) times the amount of any cash dividends paid on a share of Convertible Voting Common Stock and to receive distributions upon liquidation of the corporation equal in amount to the distributions paid on liquidation on each share of Convertible Voting Common Stock.

No stockholder of this corporation shall by reason of his holding shares of any class have any preemptive or preferential right to purchase or subscribe to any shares of any class of this corporation, now or hereafter to be authorized, or any notes, debentures, bonds, or other securities convertible into or carrying options or warrants to purchase shares of any class, now or hereafter to be authorized, whether or not the issuance of any such shares, or such notes, debentures, bonds or other securities would adversely affect the dividend or voting rights of such stockholder, other than such rights, if any, as the board of directors, in its discretion from time to time may grant and at such price as the board of directors in its discretion may fix; and the board of directors may issue shares of any class of this corporation, or any notes, debentures, bonds, or other securities convertible into or carrying options or warrants to purchase shares of any class without offering any such shares of any class, either in whole or in part, to the existing stockholders of any class.

APPENDIX B

to Agreement and Plan of Merger
Between Kewanee Oil Company and The Harshaw Chemical Company

DESIGNATION OF VOTING POWERS, PREFERENCES, RIGHTS, QUALIFICATIONS, LIMITATIONS AND RESTRICTIONS OF SERIES A $2.00 CUMULATIVE CONVERTIBLE PREFERRED STOCK

1. *Designation of Series.*

The series shall be designated as Series A $2.00 Cumulative Convertible Preferred Stock (referred to herein as "Series A Convertible Preferred Stock").

2. *Number of Shares.*

The number of shares of Series A Convertible Preferred Stock is 879,[illegible], which number from time to time may be increased or decreased (but not below (i) the number of shares of the series then outstanding, (ii) shares reserved for issuance upon the exercise of options granted by The Harshaw Chemical Company prior to the date of the Agreement and Plan of Merger to which this Designation is appended and (iii) shares held by the corporation for the accounts of participants in the Deferred Bonus Fund of The Harshaw Chemical Company) by the Board of Directors.

3. *Dividend Rights of Preferred Stock.*

Each share of Series A Convertible Preferred Stock shall entitle the holder of record thereof to receive out of funds legally available therefor, when and as declared by the Board of Directors, dividends in cash at the annual rate of $2.00 per share, which shall be payable in equal quarterly installments on the tenth day or if not a business day, the first business day thereafter, of March, June, September, and December in each year, beginning with the full quarterly installment payable on such dividend payment date next following issuance of each share. Cash dividends in respect of each share of Series A Convertible Preferred Stock shall be cumulative, whether or not earned or declared, and shall commence to accumulate from the first dividend payment date following the issuance thereof, such accumulation to include, if not paid, the full quarterly dividend payable on such first dividend payment date. Cash dividends on the Series A Convertible Preferred Stock, including any unpaid accumulated dividends on such stock, shall be declared and set apart or paid before any dividends (other than dividends payable in shares of Ordinary Voting Common Stock) shall be declared or paid on any other series or class of stock and before any payment is made for the purchase, redemption or retirement of shares of any other series or class of stock. An accumulation of dividends on the Series A Convertible Preferred Stock shall not bear interest.

4. *Liquidation Rights.*

In the event of any dissolution, liquidation or winding up of the affairs of the corporation, after payment or provision for payment of the debts and other liabilities of the corporation, the holders of the Series A Convertible Preferred Stock shall be entitled to receive, out of the net assets of the corporation, $45.00 per share plus an amount equal to all unpaid accumulated dividends on each such share up to the date fixed for distribution, and no more. Payment to the holders of the Series A Convertible Preferred Stock shall be made before any distribution is made to the holders of any other series or class of stock.

Neither the merger or consolidation of the corporation, nor the sale, lease or conveyance of all or a part of its assets, shall be deemed to be a liquidation, dissolution or winding up of the affairs of the corporation within the meaning of this Section 4.

5. *Redemption.*

The Series A Convertible Preferred Stock shall not be redeemable by the corporation prior to January 1, 1972. Thereafter, shares of such stock shall be redeemable, in whole or in part, at the option of the corporation by resolution of its Board of Directors. The redemption date shall be fixed by the Board of Directors. The redemption prices for each share at which shares may be redeemed at the option of the corporation at any time after December 31, 1971, shall be as follows (in addition to accrued and unpaid dividends to the redemption date):

$17.50 if the redemption date is in 1972,
17.00 if the redemption date is in 1973,
16.50 if the redemption date is in 1974,
16.00 if the redemption date is in 1975,
15.50 if the redemption date is in 1976, or
15.00 if the redemption date is after 1976.

If fewer than all the outstanding shares of Series A Convertible Preferred Stock are to be redeemed, the shares to be redeemed shall be chosen by lot or pro rata in such manner as the Board of Directors may determine.

Not fewer than thirty (30) nor more than sixty (60) days prior to the date fixed for redemption, a notice specifying the time and place thereof shall be given by mail to the holders of record of the shares of Series A Convertible Preferred Stock to be redeemed. The notice shall be addressed to each such shareholder at his post office address as shown on the stock books of the corporation and in the absence of an address in the stock books of the corporation, to the place where the registered office of this corporation is located in the State of Delaware. The notice shall state the date fixed for redemption, the redemption price and the address of the bank or trust company where payment is to be made. Any notice which was made in the manner herein provided shall be conclusively presumed to have been duly given, whether or not the holder receives the notice. The failure to mail such notice or any defect therein or in the mailing thereof shall not affect the validity of the proceedings for redemption except as to the holder to whom the corporation has failed to mail said notice or except as to the holder whose notice was defective.

On or after the date fixed for redemption as stated in the notice of redemption, the holder of shares of Series A Convertible Preferred Stock called for redemption shall surrender (and endorse, if required by the Board of Directors) his certificate for such shares to the corporation at the place designated in the notice and shall thereupon be entitled to receive payment of the redemption price. In case fewer than all of the shares represented by any such surrendered certificate are redeemed, a new certificate shall be issued representing the unredeemed shares. Upon the date fixed for redemption, then notwithstanding that the certificates representing shares of Series A Convertible Preferred Stock called for redemption may not have been surrendered (and endorsed, if required by the Board of Directors), each holder of shares of Series A Convertible Preferred Stock to be redeemed shall cease to be a shareholder with respect to such shares and shall have no interest in, or claim against, the corporation and shall have no voting or other rights with respect to such shares, except only the right to receive the redemption price applicable to such shares, without interest, upon surrender of the certificates representing such shares.

If on or prior to any date fixed for redemption of shares of Series A Convertible Preferred Stock, the corporation deposits with any bank or trust company in the City of Philadelphia, Commonwealth of Pennsylvania, having capital, surplus and undivided profits aggregating at least $10,000,000, a sum sufficient to redeem the shares called for redemption on the date fixed for redemption, with instructions and authority to the bank or trust company to give the notice of redemption if such notice shall not previously have been given by the corporation, or to complete the giving of such notice theretofore commenced, and to pay, on and after the date fixed for redemption or prior thereto, the redemption price to the respective holders of the shares to be redeemed upon surrender of their share certificates, the deposit shall be deemed to constitute full payment to the holders in redemption of their shares. From and after the date fixed for redemption, the holders of the shares to be redeemed shall cease to be shareholders with respect to such shares and shall have no interest in, or claim against, the corporation and shall have no voting or other rights with respect to such shares except the right to receive the redemption price from such bank or trust company, without interest, upon the surrender of the certificates representing such shares. In the event the holder of any shares of Series A Convertible Preferred Stock called for redemption shall not, within six (6) years after deposit as specified in this paragraph, claim the redemption price applicable to such shares, the depository shall, upon demand, pay over to the corporation the applicable unclaimed redemption price, and the depository shall thereupon be relieved of any responsibility to such holder.

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The privilege of conversion (specified in Section 7) with respect to shares of Series A Convertible Preferred Stock called for redemption shall terminate at the close of business on the fifth business day prior to the date fixed for redemption. No dividends shall accrue or be payable with respect to any period after the date fixed for redemption.

The corporation may, provided it is not in default in the payment of any dividend on the Series A Convertible Preferred Stock, purchase from time to time all or part of the Series A Convertible Preferred Stock, except that after January 1, 1972, the price at which any such purchase may be effected shall not exceed the applicable redemption price.

6. *Voting Rights.*

Each of the shares of Series A Convertible Preferred Stock shall entitle the holder thereof to cast one (1) vote on any matter upon which stockholders shall be entitled to vote. Except as otherwise specifically required by law or by the terms of Section [illegible], the shares of Series A Convertible Preferred Stock and of all classes of common stock shall vote together as one class and the shares of Series A Convertible Preferred Stock shall not have any special class voting rights.

7. *Conversion Rights.*

At the option of the record holder on the stock books of the corporation, shares of Series A Convertible Preferred Stock shall be convertible into shares of Ordinary Voting Common Stock of the corporation upon the following terms and conditions:

(a) Shares of Series A Convertible Preferred Stock shall be convertible at the office of the transfer agent for such shares into fully paid and nonassessable shares of Ordinary Voting Common Stock at the rate of one and one-half (1½) shares of Ordinary Voting Common Stock for each share of Series A Convertible Preferred Stock, subject to adjustment as provided in Section [illegible]. The corporation shall make no payment or adjustment on account of any unpaid accumulated dividends on the shares of Series A Convertible Preferred Stock surrendered for conversion, but any such unpaid accumulated dividends shall be payable to the last holders of record of such shares surrendered for conversion, notwithstanding any subsequent transfers of the shares of Ordinary Voting Common Stock into which such shares shall have been converted, proportionately with payment of corresponding unpaid accumulated dividends on shares of Series A Convertible Preferred Stock then remaining outstanding. The privilege of conversion with respect to shares of Series A Convertible Preferred Stock called for redemption shall terminate at the close of business on the fifth business day prior to the date fixed for redemption.

(b) In order to convert shares of Series A Convertible Preferred Stock into shares of Ordinary Voting Common Stock, the holder of shares of Series A Convertible Preferred Stock shall surrender his certificates, duly endorsed to the corporation or in blank, at the office of any transfer agent for such shares. The certificates shall be accompanied by written notice that the holder elects to convert the shares represented by the certificates. If the shares of Ordinary Voting Common Stock are to be issued in a name other than that of the record holder of the shares of Series A Convertible Preferred Stock to be converted, the notice shall also state the name and address in which the certificate for shares of Ordinary Voting Common Stock is to be issued. The expense of any required stock transfer stamp or taxes shall be borne by the record holder of the shares of Series A Convertible Preferred Stock under arrangements satisfactory to the transfer agent. Conversion shall be deemed to have been effected on the date of surrender of the shares for conversion, and as of that date the holder shall have the full rights of a holder of shares of Ordinary Voting Common Stock resulting from the conversion. The corporation will, as soon as practicable thereafter, deliver at the office of the transfer agent for delivery, or mailing to the holder who shall have converted shares of Series A Convertible Preferred Stock, or to his nominee, a certificate for the number of full shares of Ordinary Voting Common Stock to which he shall be entitled.

(c) The corporation shall not be required to issue fractional shares of Ordinary Voting Common Stock. The number of full shares of Ordinary Voting Common Stock issuable upon conversion shall be computed on the basis of the aggregate number of shares of Series A Convertible Preferred Stock surrendered at one time by the holder thereof. If any fractional interest in a share of Ordinary Voting Common Stock would be deliverable upon such conversion, the corporation shall, in lieu of delivering the fractional share, make an adjustment therefor in cash at the market value thereof

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[illegible] For the purposes of this subsection [illegible] the [illegible] to [illegible] the [illegible] issuance or sale of such additional shares [illegible] sale of such additional shares of such common stock.

[illegible] rights [illegible] issuance [illegible] rights offered or granted to [illegible] stock [illegible] issuable [illegible] exchange [illegible] less than the current market [illegible] conversion rate applicable to shares of Series A Convertible Preferred Stock [illegible] such issuance [illegible] Section 8 [illegible]

[illegible] in the conversion rate applicable to Series A Convertible [illegible] rights [illegible] described in subsection [illegible] this Section 8.

[illegible] rights [illegible] entitled [illegible]

[illegible] issuance of options, rights or convertible securities [illegible]

[illegible] consideration [illegible] corporation for the issuance of such options, rights [illegible] additional consideration, if any, received or receivable [illegible] for the exercise of such options, rights or conversion or exchange privileges; and

[illegible] the consideration per share shall be [illegible] consideration as specified in [illegible] above.

[illegible] If [illegible] exchange privileges with respect to convertible securities [illegible] shares of such common stock issuable pursuant to such [illegible] or conversion or exchange privileges shall be increased [illegible] of this Section or the aggregate [illegible] conversion rate applicable to shares of Series A Convertible Preferred Stock [illegible] to the extent [illegible] obtained [illegible]

[illegible] applicable to shares of Series A Convertible Preferred Stock [illegible] Series A Convertible Preferred Stock shall be adjusted [illegible] conversion [illegible] rate that would have obtained had such adjustment been made on the basis of the issuance of only the number of additional shares of common stock actually issued plus the number of additional shares issuable pursuant to unexpired options, rights or conversion or exchange privileges. For this purpose, the aggregate consideration shall be the sum of the consideration received or the minimum consideration receivable by the corporation for the issuance of options, rights or convertible securities the issuance of which effected an adjustment of such conversion rate, plus the additional consideration, if any, received or the minimum additional consideration receivable by the corporation pursuant to the exercise of such options, rights or conversion or exchange privileges actually exercised, plus the additional consideration, if any, received or the minimum additional consideration receivable upon the exercise of any such unexpired option, right or conversion or exchange privilege.

(g) For the purposes of subsection (e) through (f) of this Section 8, the following provisions shall be applicable to the determination of the consideration for the issue of additional shares of common stock, the issue of options or rights to subscribe for additional shares of common stock or the issue of securities convertible into additional shares of common stock (herein "the issue"):

(i) to the extent the issue shall be for a cash consideration, the consideration therefor shall be the amount of cash received by the corporation; if the issue shall be offered by the corporation for subscription, the consideration shall be the subscription price; if the issue shall be sold to underwriters or dealers for public offering without a subscription offering, the consideration shall be the initial public offering price; in any such case the consideration shall be computed by excluding any amounts paid or receivable for accrued interest or accrued dividends but without excluding any compensation, discounts or expenses paid or incurred by the corporation for and in the underwriting of, or otherwise in connection with, the issue; and

(ii) to the extent the issue shall be for a consideration other than as specified in subsection (g)(i), the consideration shall be the fair value of such consideration as determined by the Board of Directors for the purposes of subsections (e) through (f) of this Section 8, irrespective of any accounting treatment.

(h) For the purposes of subsections (e) through (f) of this Section 8, current market price at the date therein specified or applicable thereto shall be the average of the daily market prices for 30 consecutive days prior to such date. The market price for each such business day shall be the last sale price on the principal stock exchange on which such stock is then listed or admitted to trading, or, if no sale takes place on such day on any such exchange, the average of the closing bid and asked prices on such day as officially quoted on any such exchange, or, if such stock is not then listed or admitted to trading on any stock exchange, the market price for each such business day shall be the average of the reported closing bid and asked inside market prices on such day in the over-the-counter market as furnished by the National Quotation Bureau, Inc. or, if such firm at the time is not engaged in the business of reporting such prices, as furnished by any similar firm then engaged in such business and selected by the Board of Directors, or if there is no such firm, as furnished by any member of the National Association of Securities Dealers, Inc. selected by the Board of Directors.

(i) For the purposes of this Section 8, "additional shares of common stock" of the corporation shall mean all shares of any class of common stock of the corporation except:

(i) all shares outstanding immediately prior to the date on which the merger of The Harshaw Chemical Company into the corporation becomes effective except to the extent reacquired by the corporation after such date;

(ii) all shares of Ordinary Voting Common Stock issuable upon conversion of Convertible Voting Common Stock on a share-for-share basis;

(iii) all shares issuable upon conversion of Series A Convertible Preferred Stock;

(iv) all shares issuable pursuant to restricted or qualified stock options now or hereafter granted to employees (including such options under The Harshaw Chemical Company's Stock

Option Plan granted to employes prior to the date of the Agreement and Plan of Merger to which this Designation is appended);

(v) all shares held in the corporation's treasury for the accounts of employees as the result of the corporation's assumption in such merger of the obligations of The Harshaw Chemical Company under the latter's Deferred Bonus Fund;

(vi) subject to the provisions of Section 10, all shares issuable upon a consolidation or merger to which the corporation is a party or upon a purchase of substantially all of the assets of another corporation; and

(vii) all shares issued or sold in connection with an offering or grant of stock options or other rights to subscribe to stock to all holders of any class or all classes of common stock, if concurrently such options or rights shall also be offered or granted to the then holders of the Series A Convertible Preferred Stock on a pro rata basis as though such shares of Series A Convertible Preferred Stock had at that time been converted.

(j) Any adjustment of the conversion rate applicable to the shares of Series A Convertible Preferred Stock pursuant to this Section 8 shall be made to the nearest 1/100th of a full share.

(k) Upon each adjustment of the conversion rate pursuant to this Section 8, the corporation shall notify the transfer agent for the Series A Convertible Preferred Stock in writing and publish notice of such adjustment once in each of two successive weeks in the Wall Street Journal, or if it should no longer be published, then in some other daily newspaper, printed in the English language, of general circulation in the financial community of New York, New York.

(l) No adjustment of the conversion rate applicable to the Series A Convertible Preferred Stock shall be made if the amount of such adjustment shall be less than 1/50th of a share per share of Series A Convertible Preferred Stock, but in such case any adjustment that would otherwise be required then to be made shall be carried forward and shall be made at the time of and together with the next subsequent adjustment, which, together with all adjustments so carried forward, shall amount to not less than 1/50th. In case the corporation shall at any time subdivide or combine the outstanding shares of any class of its common stock, said amount of 1/50th (as theretofore decreased or increased) shall forthwith be proportionately decreased in the case of a subdivision or increased in the case of a combination so as proportionately to reflect the same.

(m) The corporation shall give written notice to the transfer agent for the Series A Convertible Preferred Stock and to each holder thereof at his post office address as shown by the stock books of the corporation (and in the absence of an address on the stock books of the corporation, to the place where the registered office of the corporation is located in the State of Delaware):

(i) Not less than 15 days in advance of each record date or closing of the stock transfer books in connection with (A) each dividend payable on shares of Ordinary Voting Common Stock in shares of any class of common stock of the corporation which would be equivalent to more than 3% on the shares of Ordinary Voting Common Stock outstanding on such record date or date upon which the transfer books are first closed, (B) each cash dividend payable on shares of Ordinary Voting Common Stock which is at a rate per share exceeding by more than 25% the rate per share associated with the last previous cash dividend, (C) each other dividend and distribution payable on shares of Ordinary Voting Common Stock otherwise than in cash or in shares of any class of common stock of the corporation, and (D) each granting to holders of Ordinary Voting Common Stock of options, rights or warrants entitling the holder thereof to subscribe for or purchase any securities or other property.

(ii) Not less than 30 days in advance of the date upon which conversion rights of the Series A Convertible Preferred Stock will terminate pursuant to Section 7(d) on account of the voluntary dissolution, liquidation or winding up of the corporation.

(n) The transfer agents for the Series A Convertible Preferred Stock shall accept the certificate of an independent accountant or firm of independent accountants selected by the corporation (who may be the independent accountant or firm of independent accountants regularly employed by the corporation to audit its books and records) as evidence of the correctness of any adjustment in the conversion rate or as to the method to be employed in making the same or as to the kind and amount of securities or other property into which the Series A Convertible Preferred Stock shall be convertible at any time; and the transfer agents may conclusively rely thereon and they shall not be responsible or accountable to any holder of Series A Convertible Preferred Stock for any action taken in conformity therewith.

9. *Reservation of Ordinary Voting Common Stock.*

The corporation shall at all times reserve and keep available out of its authorized but unissued Ordinary Voting Common Stock, solely for the purpose of effecting the conversion of shares of Series A Convertible Preferred Stock, the full number of shares of Ordinary Voting Common Stock then deliverable upon the conversion of all shares of Series A Convertible Preferred Stock at the time outstanding, including shares reserved as provided in Section 2 hereof.

10. *Protective Provisions Applicable to the Series A Convertible Preferred Stock.*

(a) If, and as often as, the corporation shall be in default in the payment of six (6) full quarterly dividends (whether or not consecutive) on Series A Convertible Preferred Stock, the holders of Series A Convertible Preferred Stock shall have the additional right, voting separately as a class (without losing any other voting rights), to elect, as herein provided, two (2) members of the Board of Directors. Such additional right shall continue in the Series A Convertible Preferred Stock until such time as all unpaid accumulated dividends on Series A Convertible Preferred Stock have been paid or declared and set aside for payment, whereupon such right shall terminate forthwith until such time, if any, as such right shall again accrue as hereinabove provided.

In the event of default entitling the holders of Series A Convertible Preferred Stock to elect two directors as above specified or in the event of any vacancy occurring in the case of directors elected by the holders of such stock as provided herein, the corporation shall promptly call a special meeting of the holders of Series A Convertible Preferred Stock to elect such directors or to fill such vacancy; provided, however, that the corporation shall not be required to call such special meeting if the annual meeting of shareholders is to be held within ninety (90) days after the right to elect such directors shall arise as herein provided or within ninety (90) days after such vacancy shall occur, in which case the right of the holders of Series A Convertible Preferred Stock voting as a class to elect such directors or to fill such vacancy shall be exercised at the annual meeting of shareholders. As to each such meeting held as aforesaid while the Series A Convertible Preferred Stock have the right, voting separately as a class, to vote for the election of directors or to fill any vacancy as herein provided, a majority of the outstanding shares of Series A Convertible Preferred Stock shall be required to constitute a quorum for the election of any such director or to fill any such vacancy at any such meeting. Any director so elected shall serve until the next annual meeting or until his successor shall be elected and shall qualify; provided, however, whenever, during the term of office of any such director all accumulated dividends shall have been paid or declared and set apart for payment, the term of office of such director shall forthwith terminate.

(b) As long as any shares of Series A Convertible Preferred Stock are outstanding, the corporation shall not, without the affirmative vote at a meeting or the written consent with or without a meeting of the holders of at least two-thirds (⅔) of the then outstanding shares of Series A Convertible Preferred Stock:

(i) amend or repeal any provision of, or add any provision to the corporation's certificate of incorporation if such act would alter or change the preferences, rights, privileges or powers of or the restrictions provided for the benefit of said Series A Convertible Preferred Stock.

(ii) amend or repeal any provision of or add any provision to this Designation.

(iii) increase the authorized shares of Preference Stock or authorize, create or issue any new class of stock having any preference or priority as to dividends or assets on a parity with or superior to the Series A Convertible Preferred Stock.

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... authorize or [illegible] any [illegible] bonds, debentures, notes or other obligations convertible into or exchangeable for, or having option rights to purchase, any shares of stock of the corporation [illegible] would require the [illegible] written consent of the holders of Series A Convertible Preferred Stock pursuant to the preceding subparagraph [illegible].

(v) As long as any shares of Series A Convertible Preferred Stock are outstanding, the corporation shall not, without the prior written consent [illegible] or without a meeting, of the holders of at least a majority of the shares of Series A Convertible Preferred Stock, effect a consolidation with [illegible] any other [illegible] all its assets to any other corporation. The [illegible] shall not include any merger in which the corporation is the surviving [illegible].

(vi) In the event of a recapitalization of the corporation, [illegible] consolidation or merger to which the corporation is a party, or any sale or transfer of substantially all of the assets of the corporation [illegible] the terms of such recapitalization, consolidation, merger [illegible] whereby the holders of Series A Convertible Preferred Stock outstanding immediately [illegible] such conversion rights with respect to the securities and property [illegible] from such recapitalization, consolidation, merger, sale or transfer as shall be substantially equivalent to the conversion rights herein provided.

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APPENDIX C

Addresses of Directors and Officers Designated in Article IV of Agreement and Plan of Merger Between Kewanee Oil Company and The Harshaw Chemical Company

J. A. Carlson	1618 Sweetbriar Road, Gladwyne, Pennsylvania
G. Morris Dorrance, Jr.	1204 Old Gulf Road, Rosemont, Pennsylvania
J. M. Harbison	4441 S. Birmingham, Tulsa, Oklahoma
Richard K. Page	151 Cheswold Valley Road, Haverford, Pennsylvania
Edgar Scott, Jr.	Abrahams Lane, Villanova, Pennsylvania
Wm. Wikoff Smith	250 North Ithan Avenue, Rosemont, Pennsylvania
James T. Bolan	40 Morris Avenue, Bryn Mawr, Pennsylvania
W. A. Harshaw, II	Deer Run Drive, Chagrin Falls, Ohio
Robert A. Lucht	4140 Diane Drive, Fairview Park, Ohio
R. W. Champion	Hawthorne Lane, Chagrin Falls, Ohio
E. C. Ray	15 Pepperwood Lane, Pepper Pike, Ohio
Percy A. Rowland	601 Weadley Road, Strafford, Wayne, Pennsylvania
H. C. Homberg	457 Devonshire Court, Bay Village, Ohio
James E. Briley, Jr.	Valley Hill Road, R.D. 1, Malvern, Pennsylvania
R. G. Burnor	3193 Somerset Drive, Shaker Heights, Ohio
Robert J. Williamson	Stony Brook Drive, Blue Bell, Pennsylvania
F. S. Cox	864 N. 30th Street, Camden, New Jersey
W. Perry Dornaus	1344 East 26th Place, Tulsa, Oklahoma
Charles R. Fellows	2521 East 34th Street, Tulsa, Oklahoma

B484 132

CERTIFICATE OF PRESIDENT AND SECRETARY

OF

THE HARSHAW CHEMICAL COMPANY

We, W. A. Harshaw, II, President, and R. G. Burnor, Secretary of The Harshaw Chemical Company, a corporation organized and existing under the laws of the State of Ohio, do hereby certify, as such President and Secretary, respectively, that the Agreement and Plan of Merger to which this certificate is attached, after having been first duly approved by resolution of the Board of Directors of said corporation, was signed by the President and the Secretary of said corporation, and was then duly submitted to the shareholders of said corporation by direction of its Board of Directors at a special meeting of such shareholders called separately for the purpose of considering and approving or rejecting said Agreement and Plan of Merger, and held on the 22nd day of November, 1966, of which meeting not less than ten nor more than forty-five days, notice of time, place and purpose, accompanied by a copy of said Agreement and Plan of Merger, was given to all shareholders of said corporation, and that the said Agreement and Plan of Merger was duly adopted by the affirmative vote of the holders of shares of said corporation entitling them to exercise at least two-thirds of the voting power of said corporation; whereupon said Agreement and Plan of Merger was declared adopted as the act of said corporation.

Witness our hands this 30th day of November, 1966.

W. A. Harshaw II

W. A. Harshaw, II
President

[Corporate Seal]

R. G. Burnor
Secretary

B484 133

CERTIFICATE OF SECRETARY

OF

KEWANEE OIL COMPANY

I, J. E. Briley, Jr., Secretary of Kewanee Oil Company, a corporation organized and existing under the laws of the State of Delaware, hereby certify, as such Secretary and under the seal of said corporation, that the Agreement and Plan of Merger to which this certificate is attached, having been first duly signed on behalf of said corporation by a majority of the Directors thereof, was duly submitted on November 22, 19[illegible] to the stockholders of said corporation at a special meeting of said stockholders called separately for the purpose of taking the same into consideration on due notice by mail as provided in Section 251 of Title 8 of the Delaware Code of 1953, as amended; that stockholders of said corporation representing more than two-thirds of its outstanding capital stock voted by ballot in favor of the approval of the attached Agreement and Plan of Merger, and that thereby the said Agreement and Plan of Merger was duly adopted as the act of the stockholders of said corporation; and the duly adopted agreement of said corporation.

Witness my hand and the seal of Kewanee Oil Company this [illegible] day of December, 19[illegible].

J. E. Briley, Jr.

J. E. Briley, Jr.,
Secretary

[Corporate Seal]

B484 134

The foregoing Agreement and Plan of Merger, having been executed by a majority of the Directors of Kewanee Oil Company, and having been adopted by the stockholders of said corporation in accordance with the provision of the General Corporation Law of the State of Delaware, and that fact having been certified on such Agreement and Plan of Merger by the Secretary of said corporation, the President and Secretary of said corporation do now hereby sign such Agreement and Plan of Merger under the corporate seal of said corporation, by authority of the Directors and stockholders thereof, as the act, deed and agreement of said corporation, on December 5, 1966

KEWANEE OIL COMPANY

[CORPORATE SEAL]

WM. WIKOFF SMITH
President

J. B. BAILEY, JR.
Secretary

COMMONWEALTH OF PENNSYLVANIA }
COUNTY OF MONTGOMERY }

BE IT REMEMBERED that on this 5th day of December, 1966, personally came before me, Richard J. Rowe, a Notary Public in and for the Commonwealth and County aforesaid, WM. WIKOFF SMITH, President of Kewanee Oil Company, a corporation of the State of Delaware and one of the corporations described in and which executed the foregoing Agreement and Plan of Merger, known to me personally to be such, and he the said WM. WIKOFF SMITH as such President duly signed such Agreement and Plan of Merger before me and acknowledged such Agreement and Plan of Merger to be the voluntary act, deed and agreement of said corporation, that the signatures of the said President and the Secretary of said corporation to the foregoing Agreement and Plan of Merger are in the handwriting of the said President and Secretary of said corporation and that the seal affixed to such Agreement and Plan of Merger is the corporate seal of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and seal of office the day and year aforesaid.

Richard J. Rowe

[NOTARIAL SEAL]

RICHARD J. ROWE
Notary Public

857

62580

Commonwealth of Kentucky

Department of State

Office of Secretary of State

THELMA L. STOVALL, SECRETARY

FOREIGN CORPORATION DEPARTMENT

I, THELMA L. STOVALL, Secretary of State of the Commonwealth of Kentucky, hereby certify that certified copies of

Certificate of Incorporation

of THE HARSHAW CHEMICAL COMPANY (Name of Corporation)

a corporation of the State of New Jersey (Name of State)*, with home office at* Jersey City, New Jersey (Address)*; have or has been filed in my office. This corporation has complied with the existing laws of the Commonwealth of Kentucky, and is now authorized to transact business in this State, subject to the restrictions imposed by law.*

Given under my hand as Secretary of State,

this 31st *day of* January *196*7

Thelma L. Stovall

Secretary of State

By

Assistant Secretary of State.

COMMONWEALTH OF KENTUCKY DEPARTMENT OF CORPORATIONS

SECRETARY OF STATE

858

FORM C-120
11-1-67—20M

td

I, the Secretary of State of the State of New Jersey, do hereby Certify that the foregoing is a true copy of the Certificate of Incorporation of THE HARSHAW CHEMICAL COMPANY and the endorsements thereon, as the same is taken from and compared with the original filed in my office on the 15th day of December A.D. 1966 and now remaining on file and of record therein.

In Testimony Whereof, I have hereunto set my hand and affixed my Official Seal at Trenton, this 20th day of December A.D. 1966.

Robert J. Burkhardt

Secretary of State.

CERTIFICATE OF INCORPORATION

OF

THE HARSHAW CHEMICAL COMPANY

+ + + + + +

THIS IS TO CERTIFY that we, the undersigned, do hereby associate ourselves into a corporation under and by virtue of Title 14, Corporations, General, Revised Statutes of New Jersey, and the several supplements thereto and acts amendatory thereof, and do severally agree to take the number of shares of capital stock set opposite our respective names.

FIRST: The name of the corporation is THE HARSHAW CHEMICAL COMPANY.

SECOND: The location of its principal office in the State of New Jersey is 15 Exchange Place, Jersey City, and The Corporation Trust Company is designated as the agent therein and in charge thereof upon which process against this corporation may be served.

THIRD: The objects for which the corporation is formed are:

To engage in a general chemical business in all of its branches and to manufacture, buy, sell and deal in chemicals and chemical products of every kind and character.

To engage in the production, manufacture and sale of crystals, instruments, catalysts, ceramic materials, pigments, dyes and electroplating products and related products and materials of every kind and character.

To conduct business in any of the states, territories, possessions or dependencies of the United States, in the District of Columbia, and in any and all foreign countries, and to have one or more offices therein and to hold, purchase, mortgage and convey real and personal property therein without limit as to amount, but always subject to the laws of such state, territory, possession, dependency or country.

In general, to carry on any other business in connection with the foregoing, and to have and exercise all the powers conferred by Title 14, Corporations, General, Revised Statutes of New Jersey, and to do any or all of the things hereinbefore set forth to the same extent as natural persons might or could do, and in any part of the world.

FOURTH: The total authorized capital stock of this corporation is Two Thousand Dollars ($2,000.00) divided into two thousand (2,000) shares of common stock of the par value of One Dollar ($1.00) each.

FIFTH: The amount of capital stock with which this corporation will commence business is One Thousand Dollars ($1,000.00) being one thousand (1,000) shares of common stock.

SIXTH: The names and post-office addresses of the incorporators and the number of shares subscribed for by each are as follows:

NAMES	POST OFFICE ADDRESSES	NO. OF SHARES
Robert E. Boyd	123 S. Broad Street Philadelphia, Pa. 19109	998
J. L. Wilsterman	123 S. Broad Street Philadelphia, Pa. 19109	1
C. H. McClain	123 S. Broad Street Philadelphia, Pa. 19109	1

SEVENTH: The duration of the corporation is to be perpetual.

EIGHTH: In furtherance and not in limitation of the powers conferred by statute, the board of directors is expressly authorized:

To make, alter and amend the by-laws of the corporation.

To fix and vary the amount of the working capital of the corporation and to determine what, if any, dividends shall be declared and paid.

To authorize and cause to be executed mortgages and liens upon the real and personal property of the corporation.

To set apart out of any of the funds of the corporation available for dividends a reserve or reserves for any proper purpose or to abolish any such reserve in the manner in which it was created.

By a resolution passed by a majority vote of the whole board, if so provided in the by-laws, to designate two or more of its number to constitute an executive committee, which committee shall exercise, as provided in said resolution or in the by-laws, the powers of the board of directors in the management of the business, affairs and property of the corporation during the intervals between the meetings of the directors.

To determine from time to time whether and, if allowed, under what conditions and regulations the accounts and books of the corporation (other than the stock and transfer books), or any of them, shall be open to the inspection of the stockholders, and the stockholders' rights in this respect are and shall be restricted and limited accordingly.

When and as authorized by the affirmative vote of two-thirds in interest of the holders of each class of stock having voting powers on such proposal given at a stockholders' meeting duly called for that purpose, or when authorized by the written consent of two-thirds in interest of the holders of each class of stock having voting powers on such proposal, the board of directors shall have power and authority, by action taken at any meeting, to sell or exchange all or substantially all of its property and assets, including its good will, upon such terms and conditions and for such considerations, which may be in whole or in part shares of stock or other securities, or both, of any other corporation or corporations as the board of directors shall deem expedient and for the best interest of the corporation.

NINTH: The corporation may have one or more offices within or without the State of New Jersey at which the directors may hold their meetings and keep the books of the corporation, and the stockholders may hold their meetings including the first meeting of the corporation, in Philadelphia, Pennsylvania, or at such offices as may be specified in by-laws adopted by two-thirds in interest of the stockholders, but the corporation shall always keep at its principal office in New Jersey, a transfer book in which the transfers of stock can be made, entered and registered, and also a book containing the names and addresses of the stockholders and the number of shares held by them respectively, which shall at all times during business hours be open to the inspection of the stockholders. Elections of directors need not be by ballot unless the by-laws of the corporation so provide.

TENTH: The corporation reserves the rights to amend, alter or repeal any provision contained in this certificate of incorporation, in the manner now or hereafter prescribed by statute, and all rights conferred upon stockholders herein are granted subject to this reservation.

IN WITNESS WHEREOF, we have hereunto set out hands this 14 day of December 1966.

Robert E. Boyd

Robert E. Boyd

J. J. Wilsterman

C. H. McClain

C. H. McClain

STATE OF PENNSYLVANIA }
COUNTY OF PHILADELPHIA } SS

BE IT REMEMBERED that on this 14 day of December 1966, before the undersigned, a Notary Public in and for the State of Pennsylvania, personally appeared Robert E. Boyd, J. L. Wilsterman and C. H. McClain who I am satisfied are the persons named in and who executed the foregoing certificate, and I having first made known to them, and each of them the contents thereof, they did each acknowledge that they signed and sealed the same as their voluntary act and deed for the uses and purposes therein expressed.

Nancy J. Kerst
Nancy J. Kerst
Notary Public

(OFFICIAL SEAL)

Notary Public, Philadelphia, Phila. Co., Pa.
My Commission Expires December 11, 1967

CONSENT TO USE OF NAME

THE HARSHAW CHE[illegible]ICAL COMPANY ,
a corporation organized und[illegible]r the laws of the State of
Ohio , hereby con[illegible]ents to the organization-
~~qualification~~ of THE HARSHAW [illegible]HEMICAL COMPANY
in the Sta[illegible]e of New Jersey .
provided, if the merger of The Harshaw Chemical Company, an Ohio corporation, into Kewanee Oil Company is not consummated for any reason, Kewanee will cause the name of the said New Jersey corporation to be changed to one bearing no resemblance to the name of The Harshaw Chemical Company, the Ohio corporation.

IN WITNESS WHEREOF, the said
THE HARSHAW CHE[illegible]ICAL COMPANY
has caused this consent to be executed by its president and attested under its corporate seal by its Vice President and secretary, this 6th day of December, 19 66

TH[illegible] HARSHAW CHEMICAL COMPANY

By: [signature]
President

Attest:

[signature]
Vice President and Secretary

(SEAL)

CERTIFICATE OF INCORPORATION

OF

[illegible]

Ralph S. Snyder
1719 Packard Building
Philadelphia, Pa. 19102

FILED

DEC 13 1966

SECRETARY OF STATE

C T CORPORATION SYSTEM
ASSOCIATED WITH THE CORPORATION TRUST COMPANY
123 SOUTH BROAD STREET · PHILADELPHIA, PA. 19109
PENNYPACKER 5-7861 AREA CODE: 215

A I R M A I L

January 26, 1967

RE: KEWANEE OIL COMPANY (DEL.-KY. FGN.) Merging
THE HARSHAW CHEMICAL COMPANY (OHIO-KY. FGN.)
THE HARSHAW CHEMICAL COMPANY (N.J.-KY. FGN.)

Secretary of State
Corporation Department
State Capitol Building
Frankfort, Kentucky

Dear Sir:

On the instructions of Thomas Meeker, Esquire, 1719 Packard Building, Philadelphia, Pennsylvania, we enclose a certified copy of Agreement and Plan of Merger with our check for $10. Please strike the Ohio company, THE HARSHAW CHEMICAL COMPANY, from your records and indicate on the extra copy of this letter that this has been done.

For the purpose of qualifying the new New Jersey company, THE HARSHAW CHEMICAL COMPANY, we enclose Statement, certified copy of charter, and our check for $40.

Please place the papers on file and send us your usual evidence with receipts for the remittances.

Yours very truly,

C T CORPORATION SYSTEM

J. L. Wilsterman
Assistant Secretary

JLW:chm
enclosures

SECRETARY OF STATE
RECEIVED
JAN 31 1967
7379-10.00
Commonwealth of Kentucky

5-032169

SECRETARY OF STATE
RECEIVED
JAN 31 1967
7380.35.00
Commonwealth of Kentucky

5-032169

C T CORPORATION SYSTEM
ASSOCIATED WITH THE CORPORATION TRUST COMPANY
123 SOUTH BROAD STREET · PHILADELPHIA, PA. 19109
PENNYPACKER 5-7861 AREA CODE: 215

A I R M A I L

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Please place the papers on file and send us your usual evidence with receipts for the remittances.

Yours very truly,

C T CORPORATION SYSTEM

J. L. Wilsterman
Assistant Secretary

JLW:chm
enclosures

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COMMONWEALTH OF KENTUCKY

Department of State

Office of Secretary of State

THELMA L. STOVALL, SECRETARY

Corporation Process Agent Certificate

Statement of corporation required by Kentucky Statutes, designating C T Corporation System, Kentucky Home Life Building, Louisville 2, Kentucky *as an agent, upon whom process may be served for the* THE HARSHAW CHEMICAL COMPANY *a ~~domestic~~ foreign Corporation (a Corporation of* New Jersey *), has been received and filed in this office and said Corporation is now authorized to transact business in this State, subject to the restrictions imposed by law.*

Witness my official signature this 31st *day of* January, 1967.

Thelma L. Stovall
Secretary of State

By ____________________
Assistant Secretary of State

SECRETARY OF STATE

Form—Sec.-C-S—Prousicer—N15

TO BE FILED WITH

Commonwealth of Kentucky

THELMA L. STOVALL

Secretary of State, Frankfort, Kentucky

STATEMENT OF CORPORATION
(Domestic or Foreign)
FOR DESIGNATING PROCESS AGENTS

Address of Home Office 40 Morris Ave.
Bryn Mawr, Pa.
Mailing Address 40 Morris Ave.
Bryn Mawr, Pa.

SECRETARY OF STATE
RECEIVED
JAN 31 1967
7380-5.00
Commonwealth of Kentucky

SIR: Notice is hereby given that,

THE HARSHAW CHEMICAL COMPANY ~~5-152769~~
(Name of Corporation)

is a corporation of the State of New Jersey

The Kentucky business or registered office address is Kentucky Home Life Building, c/o C T Corporation System, Louisville 2, Ky.

Date incorporated or qualified in Ky.

Name of authorized agent, street and post office address as follows:

C T Corporation System, Kentucky Home Life Building, Louisville 2, Ky.

, Ky.

, Ky.

is our agent thereat, upon whom process can be served in any suit that may be brought against our Company, within the State of Kentucky.

Has this corporation had a former agent? Yes or No no

Done at Philadelphia Pa. this 16 day of December, 1966

Signature Thomas Bleeke, President

Print Name Thomas G. Meeker

Signature [illegible], Secretary

Print Name Ralph S. Snyder

All Corporations shall at all times, have one or more known places of business in this state, and an authorized agent or agents there, upon whom process may be executed.

(FILING AND RECORDING FEE $5.00)

Decide with Confidence

HARSHAW CHEMICAL CO

D-U-N-S® Single
15 W 6th St,
Cincinnati, OH 45202

Phone 513 421-4826

Business Information Report

Purchase Date: 10/03/2014
Attentio

Executive Summary

Company Info

*** Update available on request ***

This information is being provided to you immediately in the interest of speed. This report may not reflect the current status of this business. D&B can investigate this business and update the information based on the results of that investigation.

By ordering a standard investigation the same day you order this report, an updated report will be provided to you at no extra cost.

D&B Rating

D&B Rating

D&B Viability Rating

D&B Viability Rating

Viability Score

Portfolio Comparison

Data Depth Indicator

Company Profile

Financial Data	Trade Payments	Company Size	Years in Business

Business Information

Business Summary

SIC

NAICS

Credit Capacity Summary

D&B Rating

D&B Viability Rating

The D&B Viability Rating uses D&B's proprietary analytics to compare the most predictive business risk indicators and deliver a highly reliable

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D&B
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assessment of the probability that a company will no longer be in business within the next 12 months.

Viability Score

Portfolio Comparison

Data Depth Indicator

Company Profile

Financial Data	Trade Payments	Company Size	Years in Business

Company Profile Details:

- Financial Data
- Trade Payments
- Business Size
- Years in Business:

Business History

Government Activity Summary

Activity Summary

Public Company	Labor Surplus Area	
Importer/Exporter	Women Owned	
	Minority Owned	

The details provided in the Government Activity section are as reported to Dun & Bradstreet by the federal government and other sources.

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Operations Data

Special Events

Industry Data

SIC

Code	Description

NAICS

Code	Description

Financial Statements

Indicators

Paydex

Payment Summary

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