SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

[X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE FISCAL YEAR ENDED DECEMBER 31, 1998

COMMISSION FILE NUMBER 0-22333

NANOPHASE TECHNOLOGIES CORPORATION
(Exact name of registrant as specified in its charter)

DELAWARE	36-3687863
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

453 COMMERCE STREET, BURR RIDGE, ILLINOIS 60521
(Address of principal executive offices) (zip code)

Registrant's telephone number, including area code: (630) 323-1200

Securities registered pursuant to Section 12(b) of the Act: NONE

Securities registered pursuant to Section 12(g) of the Act:
COMMON STOCK, PAR VALUE $.01 PER SHARE
(Title of Class)
PREFERRED STOCK PURCHASE RIGHTS
(Title of Class)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes [X] No [ ]

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [ ]

The aggregate market value of the registrant's voting stock held by non-affiliates of the registrant, based upon the last reported sale price of the registrant's Common Stock on March 22, 1999 was $24,781,416.

The number of shares outstanding of the registrant's Common Stock, par value $.01, as of March 22, 1999 was 12,605,362.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Definitive Proxy Statement in connection with the registrant's 1999 Annual Meeting of Stockholders are incorporated by reference into Part III of this Report on Form 10-K.

PART I

ITEM 1. BUSINESS

Because Nanophase Technologies Corporation ("Nanophase" or the "Company") wants to provide investors with more meaningful and useful information, this Annual Report on Form 10-K (the "Form 10-K") contains, and incorporates by reference, certain "forward-looking statements" (as such term is defined in Section 21E of the Securities Exchange Act of 1934, as amended) that reflect the Company's current expectations regarding its future results of operations, performance and achievements. These forward-looking statements are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. The Company has tried, wherever possible, to identify these forward-looking statements by using words such as "anticipates," "believes," "estimates," "expects," "plans," "intends" and similar expressions. These statements reflect the Company's current beliefs and are based on information currently available to it. Accordingly, these statements are subject to certain risks, uncertainties and contingencies which could cause the Company's actual results, performance or achievements in 1999 and beyond to differ materially from those expressed in, or implied by, such statements. These risks, uncertainties and contingencies include, without limitation, demand for, and acceptance of, the Company's nanocrystalline materials; changes in development and distribution relationships; the impact of competitive products and technologies; and the factors set forth under "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations -- Risk Factors." The Company undertakes no obligation to update or revise any such forward-looking statements that may be made to reflect events or circumstances after the date of this Form 10-K or to reflect the occurrence of unanticipated events.

GENERAL

Nanophase develops and markets engineered solutions based on nanocrystalline materials for a wide range of commercial applications. Many companies, driven by market competition, are seeking to improve their products or processes. Recognizing a need to provide enhanced performance and assist customers with their product improvements, Nanophase targets markets in which a practical solution may be found through the use of nanocrystalline materials. The Company works closely with leaders in such target markets to identify their material and performance requirements.

Nanocrystalline materials may be metallic, ceramic or semiconductor materials. These materials generally consist of particles that are less than 100 nanometers (billionths of a meter) in diameter and contain thousands or tens of thousands of atoms, rather than the millions or billions of atoms in conventional particles of most materials. By creating materials in this size range, the Company is able to design particles and, therefore, engineer their properties to enhance their performance, as well as engineer new compounds and formulations. Compared to conventional materials, the Company believes its nanocrystalline particles, produced through its patented process, generally exhibit superior chemical, mechanical, electronic, magnetic and optical properties. Although these particles are sometimes the end product for various customers, more often they are the required ingredient in formulations for a customer's product or process. These particles can be further engineered by the Company to meet its customers' specific performance requirements.

Traditional mechanical and chemical methods of producing nanocrystalline materials have had difficulty consistently and economically producing commercial quantities of high-quality nanocrystalline materials. Nanophase has developed new technologies for the high-volume production of nanocrystalline materials that it believes can satisfy the high-level performance requirements of, and provide value-added solutions desired by, customers in its target markets.

NANOCRYSTALLINE MATERIALS

Solid materials are either crystalline or amorphous (non-crystalline). Crystalline materials have an ordered atomic structure with given spacings between the atoms. Crystalline particles that are less than 100 nanometers (billionths of a meter) in diameter are called nanocrystals and contain only a few thousand or tens of thousands of atoms. The physical, mechanical and electrical properties of nanocrystalline materials depend upon several factors, including the composition, size, shape and structure of the individual particles. As the

particles are made smaller, larger numbers of particles can occupy a given space, resulting in a greater surface area. Thus, in the nanometer size range of the materials' particles, there is an increased importance of the particles' surface chemistry. Nanophase's process for producing nanocrystals creates particles with controlled size and shape. These materials behave in ways different from conventionally produced materials due to the novel physical, chemical and surface properties that result from the Company's technologies.

THE COMPANY'S TECHNOLOGIES

Nanophase has developed and employs several related technologies for the engineering and production of nanocrystalline materials and product applications, including technologies for the synthesis, surface-treatment and dispersion of nanocrystalline materials and the fabrication of structural ceramic components. The Company also is engaged in ongoing research and technology-licensing activities in order to further improve its core technologies and add other complementary technologies. The Company believes this will help it maintain a technical and commercial leadership position in the field of nanocrystalline materials.

The following is a description of the Company's current technologies:

THE PHYSICAL-VAPOR-SYNTHESIS ("PVS") PROCESS

The Company uses its patented PVS process to produce nanocrystalline powders. The PVS process is based on the formation of a physical vapor from selected precursors that are fed through a plasma reactor and heated to a temperature above its melting point. As the temperature rises, the atoms of this material evaporate from its surface into a stream of flowing vapor. These evaporated atoms are then mixed with selected gases that chemically react with the atoms. Additional gases then cool the atoms sufficiently to condense the vapor into solid, nearly spherical clusters of molecules. The flowing gas transports the resulting clusters to a collection vessel. The rapid transport and cooling of the nanometric particles prevent strong agglomeration.

The Company holds two United States patents relating to its PVS process which expire in July 2013; one covers the process itself, while the other covers the apparatus used in the process. A third United States patent, which will also expire in July 2013, covers nanocrystalline materials formed by the PVS process. The Company's plasma reactor embodies proprietary features that enable the production of high-quality materials at high-volume and competitive cost. Nanophase utilizes its PVS process to exploit the relative advantages of physical versus chemical synthesis of nanocrystalline materials. These advantages include the production of nanocrystalline materials with particles that are extremely small, nearly spherical, essentially free of chemical residue, relatively uniform in size and not strongly agglomerated.

The Company believes that the PVS process is a superior commercial process because of the degree of control that can be exercised over particle size and particle size distribution. By means of controlled and subtle modifications to the PVS process (e.g., the evaporation rate, the type or pressure of the gas, or how quickly the flow of gas carries the clusters to the collection vessel), the Company can control the size of a material's particles, thereby altering such material's properties. The Company is therefore able to engineer and produce a wide range of materials and products without substantial process and product re-engineering.

SURFACE TREATMENTS AND DISPERSIONS-THE DISCRETE PARTICLE ENCAPSULATION ("DPE") PROCESS

Many of the applications that the Company is pursuing require further engineering of the particles produced in the PVS process in order to meet specific application requirements. To satisfy these requirements, the Company has developed a variety of surface-treatment technologies to stabilize, alter or enhance the performance of nanocrystalline particles, together with technologies to enable the particles to be dispersed in fluids or polymers. At the core of these surface-treatment and dispersion technologies, many of which are in the early stage of development or are constantly being refined, is Nanophase's proprietary DPE process which enables the Company to surround each nanocrystalline particle with a durable coating. The Company has applied for a patent for its DPE process.

The DPE process can coat the surface of each nanometer-sized particle produced by the PVS process with a proprietary polymer that is not removed by subsequent processing. Traditional coating technologies cannot completely cover the surfaces of nanometric particles. The Company's DPE process encapsulates each

particle with a thin polymeric shell. This shell also can be engineered to contain covalently bound spacer groups of controllable size that function to prevent particles from sticking to each other. Alternatively, coated materials can be formulated to attach various functional chemical groups to the shell for specific properties and applications. The coatings also enable the particles to be dispersed in a wide range of media, including water, cosmetic emollients, plastics and polymers, thus enabling these materials to be used in applications ranging from smooth colorants to dense opaque coatings.

CERAMIC SUPERPLASTIC FORMING

Ceramic superplastic forming exploits the ability of nanocrystalline particles to physically slide past each other when a ceramic material is subjected to mechanical pressure at high temperatures. The Company's development of its ceramic superplastic deformation technology and its recent development of new nanocrystalline powder compositions have enabled the Company to produce materials for the fabrication of high-density ceramic parts with novel properties. Thus, in selected applications, this forming technology offers customers an attractive alternative to conventional ceramic processing. The Company seeks to collaborate with other companies to further develop this technology.

OTHER TECHNOLOGIES

The Company may also acquire, license, or develop other technologies relating to nanocrystalline materials to augment its current core technologies. Such activities are intended to enable the Company to develop new product applications, satisfy the demanding performance requirements of its targeted markets and offer more materials with enhanced capabilities.

ADVANTAGES OF THE COMPANY'S NANOCRYSTALLINE MATERIALS

Through the use of its patented PVS process, the Company produces nanocrystalline materials with the following attributes:

SMALL PARTICLE SIZE provides a very high surface-to-volume ratio compared to conventional materials. The ability to functionally tailor this surface allows the Company to modify and control the resultant properties.

NEARLY SPHERICAL SHAPES enable particles to slide over each other, allowing ceramic materials to become more ductile and more easily formed. This enables the rapid molding of ceramic components without the costly and time-consuming machining which is typically required for conventional ceramics.

HIGH SURFACE PURITY enables particles to exhibit consistent surface chemistry with little foreign contamination. This facilitates the Company's ability to coat its materials for specific product applications.

NARROW SIZE DISTRIBUTION AND AGGREGATION CONTROL results in nanocrystalline materials that are essentially free of large particles and contain uniformly small and loosely agglomerated particles. These materials can be further modified to enhance and tailor the performance of basic raw materials for specific product applications. For example, the Company's nanocrystalline materials can be readily and uniformly dispersed in a variety of media.

MARKETS

The Company is pioneering advanced materials technology utilizing nanocrystalline material formulations for process and product applications in multiple markets. The Company believes that it has the technology to access several markets in which its technologies address market demands or provide competitive value. The Company evaluates several parameters, including time-to-market, value of its solution, market drivers, revenue potential and horizontal market opportunities, to select and prioritize its target markets.

The Company believes that it must understand market needs and be able to deliver effective solutions utilizing its materials to successfully penetrate its target markets. As part of its market penetration strategy,

the Company seeks to partner with market leaders to co-develop solutions that represent a viable revenue stream for the Company. Because most, if not all, of these solutions are new and innovative and because its customers have specific and demanding performance requirements, the Company's time-to-market for commercial products utilizing its materials has historically been 18 months or longer. The Company is attempting to reduce this period by organizing and restructuring internal resources. See "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations -- Risk Factors -- Limited History of Commercial Revenue; Uncertain Market Acceptance of the Company's Nanocrystalline Materials" and -- "Reliance on Collaborative Development Relationships."

The Company currently targets the following markets:

ELECTRONICS

Advanced Electronics

Increasing operating speeds, information storage requirements and market driven miniaturization compel the electronics market to incorporate advanced materials. For example, higher operating frequencies of cellular applications require improved dielectric (insulating) properties of ceramic materials. The Company believes that the consistent size, morphology, and particle size distribution of its nanocrystalline powders, as well as its ceramic superplastic forming technology, enable the production of materials which have the combination of dielectric properties and low product variation critical to the next generation of electronics component design.

Electromagnetic Radiation Protection

Cathode ray tubes ("CRTs") utilized in television and computer monitors emit electromagnetic radiation due to the high voltages used to generate light. In the past, little attention was paid to the potential harmful effects of this radiation. Recent European Economic Community regulations scheduled to go into effect over the next several years, however, place more stringent limits on the quantity of radiation that can be emitted by television and computer monitors. In response to such regulations, CRT manufacturers require transparent, conductive coatings that meet the new electromagnetic radiation standards. The Company believes that the materials currently used for conductive coating of CRTs do not meet all of the new radiation requirements. Nanophase can produce a proprietary metal oxide mixture, which has a narrower particle-size distribution and cleaner particle surfaces than currently used materials. The Company's nanocrystalline metal oxide mixture is highly conductive and easily dispersed and, when applied as a coating to CRTs, is expected by the Company to meet the increased radiation shielding regulatory requirements, while maintaining the transparency required for quality video images.

Advanced Abrasives for Chemical Mechanical Polishing (CMP)

During the process of fabrication of an integrated circuit, many layers of metal and dielectric (insulating) materials are deposited onto the surface of a silicon wafer. This deposition results in an uneven surface. This uneven surface causes problems in the subsequent deposition steps. Because many metal layers are used to produce high density integrated circuits, some method must be used to planarize, or flatten, the surface on the wafer prior to fabrication. Chemical mechanical polishing (CMP) using an abrasive slurry has been adopted as a viable process for planarization. The Company believes that the fine particle size, narrow molecular weight distribution, and near-spherical morphology of its nanocrystalline powders produces polishing slurries which allow for more selective removal of materials and smoother surface finishes.

STRUCTURAL CERAMICS AND COMPOSITES

Advanced ceramics are used in a wide variety of industrial applications that demand properties such as hardness, wear resistance and corrosion resistance. The high fabrication cost associated with ceramic and composite parts has limited the use of ceramic materials to critical applications in environments largely unsuitable to conventional metallic materials. The Company's recent developments in ceramic material compositions have produced parts with a novel combination of properties, including exceptional wear

resistance, hardness, toughness and strength. The parts incorporating nanocrystalline materials could be a substitution for conventionally used materials in several commercial product applications, including cutting tools, armor plate, steel foundry components, grinding wheels and injector nozzles. Nanophase is pursuing the development of new compositions with collaborative partners that are seeking sustained competitive advantages through the use of advanced material technology.

COSMETICS AND SKIN-CARE

Many cosmetic and skin-care products contain particulate materials as pigments and active ingredients. Examples of product applications in the cosmetics and skin-care market which the Company is developing include cosmetic colorants and topical health-care applications. The nanometer-sized particles of Nanophase's materials absorb light without significant visible scattering, thereby providing color without opacity. In addition, the nearly spherical particles of Nanophase's materials enable it to be discretely encapsulated and readily dispersed to create smooth, free-flowing cosmetic foundations which cosmetics formulators can blend to more closely match varying skin tones. Furthermore, the uniformly small particles of the Company's materials contain a large number of surface area atoms. Thus, a lower amount of the Company's materials are needed to achieve the desired level of chemical activity in topical health-care applications.

The Company is discontinuing its production of titanium dioxide ("titania") for sunscreen applications because it believes the sunscreen market is limited and characterized by intense competition which limits profitable growth. The Company, however, will continue shipping titania dispersions to a Fortune 500 cosmetics company for use in a product with sunscreen protection through the middle of 1999.

TECHNOLOGICALLY-SIMILAR APPLICATIONS

Although the Company currently focuses its efforts on product applications in the above-mentioned markets, the Company believes there are a number of other markets with technologically-similar product applications, the performances of which could be substantially improved by utilizing the Company's materials and technologies without extensive additional engineering. For example, abrasives being developed by the Company for the electronics industry may have direct applications in glass or optics polishing. As such, the Company may expand its targeted markets to also pursue technologically-similar product applications.

MARKETING

The Company markets and sells its products through a combination of business development and sales activities. Business development activities assist in the qualification and quantification of markets and the development of the business case strategy for successful market penetration. Once a market is qualified, resources are positioned to form a technical/business development team to effect the business case strategy. The development team partners with selected market leaders to manage the development of solutions using the Company's nanocrystalline materials and technologies. Once a solution is established, management is transitioned to a sales team that is organized along markets. The sales team is expected to grow revenue by selling such product and process solutions and broadening the customer base.

The Company also seeks to market its materials through distributors in certain application areas where the requirements for ongoing development and technical support by Nanophase are not substantial, or where the distributor has existing customer relationships, marketing or post-processing infrastructure, or companion products or services that may enable Nanophase to enter the market more quickly. For example, as part of its strategy to gain access to foreign markets, Nanophase has entered into a license agreement with C.I. Kasei Co., Ltd. ("CIK"), a subsidiary of Itochu Corporation, formerly C. Itoh, which enables CIK to use certain of the Company's patented technologies to exclusively manufacture, use and sell Nanophase's nanocrystalline materials in broad-based industrial markets throughout various Asian countries for all applications except cosmetics, skin care and CMP. The agreement does not target specific materials or applications; however, CIK is pursuing industrial applications in electronics and industrial ceramics. This agreement expires in 2013 but may be terminated (i) by the Company if CIK fails to achieve 20% of the minimum annual sales obligations set forth in the agreement for a given year or (ii) by CIK after March 31, 2000 upon 90 days' prior

notice. Upon expiration of the agreement, CIK may elect to have the non-exclusive right to still use the patented technologies licensed by the Company to manufacture, use and sell Nanophase's nanocrystalline materials in various Asian countries as long as CIK pays the Company a royalty based on the net sales of such materials by CIK.

In February 1998, the Company and Whittaker, Clark & Daniels, Inc. ("WCD") mutually agreed to end their distribution relationship with respect to the cosmetics and skin-care market. The Company may discuss distribution arrangements with other companies having access to the cosmetics and skin-care market, but is currently selling directly to a small number of cosmetic and skin-care customers.

The Company markets itself and its capabilities by attending and speaking at advanced materials symposia, publishing articles in scientific journals, and participating in industry trade shows for those markets it has selected to penetrate. The Company also utilizes a web page on the Internet, advertises in selected industry and trade journals, and provides specification sheets, corporate journals, and other marketing materials. Additionally, the Company routinely networks with Fortune 500 companies to display its technology and uncover potential applications. See "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations -- Risk Factors -- Limited Marketing Experience; Use of Distribution Agreements" and "-- Revenue from International Sources."

RESEARCH AND DEVELOPMENT

The near-term objective of the Company's research and process-development activities is to develop processes that consistently produce sufficient commercial quantities of application-specific nanocrystalline materials to meet the Company's requirements. A key component of the Company's long-term research and development strategy is to identify and develop relationships with leading industrial, university and government research programs across the United States and internationally to leverage the Company's technological and scientific capabilities. The Company believes that these research relationships may provide accelerated introduction of new technologies into its product applications, early indications of new technology developments that could enhance or compete with the Company's nanocrystalline materials, and high-value improvements in its current key technologies. The Company will also continue its efforts to attract and retain top scientists and engineers, which management believes will enable the Company to maintain a long-term leadership position in the nanocrystalline materials field. The Company recently hired a vice president of technology and engineering who will be overseeing all technology and research and development functions.

The Company's total research and development expense during the years ended December 31, 1998, 1997 and 1996 were $1,504,127, $990,331 and $677,284, respectively. The future success of the Company will depend in large part upon its ability to keep pace with evolving advanced materials technologies and industry standards, and the Company may be unable to do so. See "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations -- Risk Factors -- Rapid Technological Change."

INTELLECTUAL PROPERTY AND PROPRIETARY RIGHTS

The objective of Nanophase's intellectual property activities is to implement ongoing strategies that maximize and protect the proprietary rights of the Company. These strategies encompass (i) obtaining patents and trademarks based on Nanophase inventions and products, and (ii) licensing third-party patents to expand the Company's technology base and prevent Nanophase from being blocked should future developments require use of technology covered by those patents. Nanophase currently owns or licenses an aggregate of 17 United States patents and patent applications: three issued patents owned directly by Nanophase; three pending patent applications owned directly by Nanophase; and eleven patents licensed from third parties.

Three United States patents have been issued to Nanophase: one covering its PVS process for the synthesis of nanocrystalline materials, one covering the related apparatus and one covering the materials produced by the PVS process. All three patents expire in July 2013. Additional United States patent applications filed by the Company include applications relating to nanocrystalline materials, plasma sensors and the coating of metal oxides. Foreign patent applications owned directly by Nanophase are pending in Australia, Europe and Japan for the PVS process and apparatus. An international patent application owned by

the Company for the coating of ceramic powders is also pending under the Patent Cooperation Treaty, with Australia, Canada, Europe and Japan designated for the national phase of the application.

The Company holds the following licenses of United States patents: a fully paid up exclusive worldwide license of two patents owned by ARCH Development Corporation which embody a laboratory-scale method and apparatus for making nanocrystalline materials; a non-exclusive license from the Japan Science and Technology Corporation (formerly Research Development Corporation of Japan) of four patents which embody early laboratory-scale work in the physical synthesis of nanocrystalline materials; a non-exclusive license of two patents owned by Hitachi, Ltd. which are related to the synthesis of nanocrystalline materials; and a remainder-exclusive license of three patents held by Cornell University relating to a laboratory-scale process for net-shaping of a limited range of materials. Other than the license from the Japan Science and Technology Corporation, which remains in force until May 2006 and is extendable upon further agreement, each of the licenses lasts for the life of their respective patents. Under each of the licenses, the Company is obligated to pay the licensor royalties equal to a percentage of net sales of products, which embody the licensed technology, and related taxes on any such royalty fees paid to foreign licensors.

The Company requires its employees, consultants, outside scientific collaborators and other advisors to execute confidentiality and proprietary rights agreements upon the commencement of employment or consulting relationships with the Company. These agreements generally provide that all confidential information developed or made known to the individual during the course of the individual's relationship with the Company will be kept confidential and will not be disclosed to third parties except in specific circumstances. In the case of research employees, the agreements also provide that all inventions made by the individual shall be the exclusive property of the Company. There can be no assurance, however, that these agreements will provide meaningful protection for the Company's trade secrets, know-how or patent rights or will provide the Company with adequate remedies in the event of unauthorized use or disclosure of such information. In addition, because many of the Company's employees have not entered into non-competition agreements with the Company, they may become competitors of the Company upon termination of employment. See "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations -- Risk Factors -- Dependence on Patents and Protection of Proprietary Information."

COMPETITION

Within each of its targeted markets and product applications, Nanophase faces current and potential competition from numerous chemical companies, as well as the in-house capabilities of several of its current and potential customers. For example, with regard to semiconductor wafer polishing, Cabot Corporation, Rodel Incorporated and Fujimi Corporation (of Japan) all market polishing slurries for CMP. In addition, Cabot Corporation, Baikowski International Corporation and Norton Company (a unit of Compagnie De Saint-Gobain) all manufacture their own ultrafine alumina. In the cosmetics and skin-care market, various companies manufacture their own sub-micron iron oxide (Sun Chemical Corporation, and Elementis, Inc.) and zinc oxide (Zinc Corporation of America) by chemical or other means. In structural ceramics, the Company competes against manufacturers of ceramic composites who machine such composites for specific product applications. Although Nanophase believes that its materials and technologies are superior to the competitive materials and technologies that are utilized by these companies, such companies represent significant competitive risks to Nanophase because they have substantially greater financial and technical resources, larger research and development staffs, and greater manufacturing and marketing capabilities than the Company.

The Company also faces potential competition from Vacuum Metallurgical Co., Ltd. of Japan ("Vacuum Metallurgical"), which manufactures nanocrystalline materials and equipment. Currently, the Company does not compete with Vacuum Metallurgical, but Vacuum Metallurgical may develop products or manufacturing capabilities to compete with the Company in the future. Potential competitive risks are also represented by numerous small development companies engaged in the development of nanocrystalline materials, such as Advanced Powder Technology Pty Ltd., Plasma Quench Technologies, Inc. and Nanopowder Enterprises, Inc. Most of these companies are associated with university or national laboratories and use chemical and physical methods to produce nanocrystalline materials. Nanophase believes that most of such companies are

engaged primarily in funded research, and is not aware of any such company with commercial production capability. However, such companies may represent significant competitive risks in the future. See "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations -- Risk Factors -- Competition."

GOVERNMENTAL REGULATIONS

The Company's Chicago facility, which houses its coating operations, is a "small quantity generator" of hazardous materials, including ethanol, under the Federal Resource Conservation and Recovery Act and, as a result, is subject to stringent federal, state and local regulations governing the handling, storage and disposal of such materials. To date, the Company has not been required to make substantial expenditures for preventive or remedial action with respect to the hazardous materials it uses. The manufacture and use of certain of the products that contain the Company's nanocrystalline materials are also subject to governmental regulation. As a result, the Company is required to adhere to the current Good Manufacturing Practices ("cGMP") requirements of the U.S. Food and Drug Administration ("FDA") and similar regulations in other countries which include testing, control and documentation requirements enforced by periodic inspections.

In addition, the Company's facilities and all of its operations are subject to the plant and laboratory safety requirements of various occupational safety and health laws. To date, those regulations have not materially restricted or impeded the Company's operations. See "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations -- Risk Factors -- Governmental Regulations."

EMPLOYEES

On March 22, 1999, the Company had a total of 43 full-time employees, 14 of whom hold advanced degrees. Of the full-time employees, 10 are engaged in research, development and engineering, 14 are engaged in manufacturing, 4 are engaged in quality control, 6 are engaged in marketing and sales, and 9 are engaged in general management, finance and administration. In the first quarter of 1999, the Company hired (i) an experienced vice president of technology and engineering to improve technology management, implement its solution approach and further develop and expand the Company's core technologies and (ii) an experienced vice president of sales and marketing to strengthen its capabilities in the United States and internationally and implement its consultative solution-based business development and sales approach. The Company also engages scientists as consultants, one of whom is Dr. Richard W. Siegel, a co-founder and director of the Company. In addition, prior to his appointment as Chairman of the Company's Board of Directors, Donald S. Perkins was engaged by the Company to provide additional services in connection with the Company's organizational restructuring and refocusing. The Company is not subject to any collective bargaining agreements and considers its relations with its employees to be good.

ITEM 2. PROPERTIES

Nanophase operates a 20,000 square-foot production and research facility in Burr Ridge, Illinois, a suburb of Chicago, which also serves as the Company's administrative headquarters. The Company also operates a smaller facility in Chicago, Illinois for coating nanocrystalline materials using its DPE process and leases offsite warehouse space to store its materials. The Company believes its Burr Ridge facility is the first in the world that is dedicated to the commercial-scale development and production of physically synthesized nanocrystalline materials. The Company's operations in Burr Ridge are registered under ISO 9001 standards, and the Company believes its manufacturing operations are in compliance with the cGMP requirements of the FDA.

The Company's preliminary manufacturing is accomplished with PVS plasma reactors. The throughput of each reactor depends on many factors, including the mix of products produced, the commencement, expiration or termination of development programs, the status of tests and evaluations of samples and prototypes and production yields. The Company expects to increase the throughput per reactor as it increases the efficiency and yields of its PVS process and decreases the amount of downtime for each reactor. Each PVS plasma reactor is comprised of modular equipment, which is designed and assembled to the Company's

proprietary specifications. These modular reactors provide flexibility in the expansion of the Company's manufacturing capability. Also operational within the Burr Ridge facility is a quality control laboratory designed for the dual purpose of validating operations to cGMP and ISO standards, and production process control. This laboratory is equipped to handle many routine analytical and in-process techniques that are currently required by the Company. In addition, capability for specialized analytical and physical measurements currently are available through a number of outside laboratories, including Argonne National Laboratory which is near the Burr Ridge facility, upon terms which the Company believes are reasonable and adequate. The Company leases its Burr Ridge facility pursuant to an agreement, which expires in September 1999. The Company has options to extend the lease for up to five additional years. The Company subleases its Chicago coating facility pursuant to a one year agreement, which automatically renews unless terminated by either party upon proper notice.

The Company believes that additional space may be required in the near term and may use a portion of the net proceeds from its initial public offering (the "Offering") of the Company's Common Stock, $.01 par value per share (the "Common Stock"), for the relocation of, or acquisition of another site for, its manufacturing and laboratory facilities, including the implementation of a pilot manufacturing facility. See "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations -- Risk Factors -- Limited Manufacturing Capacity and Experience."

ITEM 3. LEGAL PROCEEDINGS

As previously disclosed in the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 1998, five separate complaints were filed in the United States District Court for the Northern District of Illinois, Eastern Division, each of which alleged that the Company, certain of its officers and directors, and the underwriters of the Company's Offering are liable under the federal securities laws for making material misstatements of fact and omitting and failing to state material facts necessary to make other statements of fact not misleading in the Registration Statement and Prospectus relating to the Offering. In an order entered by the Court, those cases were consolidated and a consolidated complaint was filed on October 30, 1998. The consolidated complaint alleges that the action should be maintained as (i) a plaintiff class action on behalf of certain persons who purchased Common Stock from November 26, 1997 through January 8, 1998, excluding the defendants, members of their immediate families, any entity in which a defendant has a controlling interest and certain others related to or affiliated with the foregoing, and (ii) a defendant class action against the underwriters who participated in the Offering. The consolidated complaint seeks unquantified damages as provided for under the federal securities laws, pre- and post-judgment interest, attorneys' fees, expert witness fees, other costs and expenses and such other and further relief as the Court may find proper. In addition, the consolidated complaint seeks rescission and/or rescissory damages relating to purchases of the Common Stock, as provided for under federal securities laws. All defendants have filed motions to dismiss the consolidated complaint that are fully briefed and under advisement by the Court.

On November 20, 1998, a separate complaint was filed in the Northern District of Illinois, Eastern Division, which alleged that the Company, certain of its officers and directors, and the underwriters of the Company's Offering are liable under the federal securities laws for making material misstatements of fact and omitting or failing to state material facts necessary to make other statements of fact not misleading in connection with the solicitation of consents to proceed with the Offering from certain of the Company's preferred stockholders. The complaint alleges that the action should be maintained as a plaintiff class action on behalf of those former preferred stockholders whose shares of preferred stock of the Company were converted into Common Stock on or about the date of the Offering, excluding the defendants, other officers and directors of the Company, members of the immediate families of all individual defendants, any entity in which a defendant has a controlling interest and certain others related to, employed by or affiliated with the foregoing. The complaint seeks unquantified damages as provided for under the federal securities laws, pre-and post-judgment interest, attorneys' fees, expert witness fees, other costs and expenses and such other and further relief as the Court may find proper. On March 15, 1999, the preferred stockholders' complaint was referred to the Court's Executive Committee for possible (i) reassignment to the judge hearing the consolidated complaint described above and (ii) further consolidation with that litigation.

The Company, the defendant directors and the defendant officers have each retained counsel with respect to both of the above-described litigations and intend to defend against both complaints vigorously. See "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations -- Legal Proceedings" and "Risk Factors -- Volatility of Common Stock Price and Associated Litigation."

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

No matters were submitted to a vote of the Company's security holders during the fourth quarter of 1998.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

The Company's Common Stock is traded on the Nasdaq National Market under the symbol NANX. Such trading began on November 26, 1997 in connection with the Offering. The following table sets forth, for the periods indicated, the range of high and low sale prices for the Common Stock on the Nasdaq National Market:

	HIGH	LOW
Fiscal year ending December 31, 1997:		
Fourth Quarter (beginning November 26, 1997)	$15.00	$7.00
Fiscal year ending December 31, 1998:		
First Quarter	13.25	5.00
Second Quarter	9.38	4.25
Third Quarter	5.13	1.81
Fourth Quarter	3.69	1.50

On March 26, 1999, the last reported sale price of the Common Stock was $2.125, and there were approximately 188 holders of record of the Common Stock.

The Company has never declared or paid any cash dividends on its Common Stock and does not currently anticipate paying any cash dividends on its Common Stock in the foreseeable future. The Company intends instead to retain any future earnings for reinvestment in its business. Any future determination to pay cash dividends will be at the discretion of the Company's Board of Directors and will be dependent upon the Company's financial condition, results of operations, capital requirements and such other factors deemed relevant by the Board of Directors.

On November 26, 1997 (the "Effective Date") the Company's Registration Statement on Form S-1 (File No. 333-36937) relating to the Offering was declared effective by the Securities and Exchange Commission. Since the Effective Date, of its $28,837,936 of net proceeds from the Offering, the Company has used $470,425 for capital expenditures primarily related to the further expansion of the Company's existing manufacturing facility and the purchase of operating equipment and $1,733,599 for working capital and other general corporate purposes. The remainder of the net proceeds has been invested by the Company, pending its use, in short-term, investment grade, interest-bearing obligations.

ITEM 6. SELECTED FINANCIAL DATA

The following selected financial data is qualified by reference to, and should be read in conjunction with, the financial statements and related notes thereto appearing elsewhere in this Form 10-K and "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations." The selected

financial data set forth below as of, and for, each of the years in the five-year period ended December 31, 1998 have been derived from the audited financial statements of the Company.

	YEARS ENDED DECEMBER 31,				
	1994	1995	1996	1997	1998
STATEMENT OF OPERATIONS DATA:					
Product revenue	$ --	$ --	$ 249,017	$ 924,763	$ 1,140,845
Other revenue	31,144	93,591	236,019	2,798,729	162,944
Governmental research contracts	64,015	27,995	110,770	--	--
Total revenue	95,159	121,586	595,806	3,723,492	1,303,789
Cost of revenue	164,746	532,124	4,019,484	3,935,766	3,221,996
Research and development expense	456,162	485,059	677,284	990,331	1,504,127
Selling, general and administrative expense	799,558	1,150,853	1,661,504	2,074,728	3,594,946
Total operating expense	1,420,466	2,168,036	6,358,272	7,000,825	8,321,069
Operating loss	(1,325,307)	(2,046,450)	(5,762,466)	(3,277,333)	(7,017,280)
Interest income	37,535	86,576	184,778	204,863	1,539,400
Provision for income taxes	--	--	--	--	(156,000)
Net loss	$(1,287,772)	$(1,959,874)	$(5,577,688)	$(3,072,470)	$(5,633,880)
Net loss per share					$ (0.45)
Shares used in computing the net loss per share					12,416,305

	AS OF DECEMBER 31,				
	1994	1995	1996	1997	1998
BALANCE SHEET DATA:					
Cash and cash equivalents	$ 18,462	$ 261,902	$ 617,204	$ 3,988,368	$ 363,394
Working capital	2,226,184	2,451,627	3,070,789	32,038,915	26,535,018
Total assets	2,568,691	3,741,128	5,539,634	36,196,569	30,453,988
Total stockholders' equity	2,456,516	3,506,050	5,110,450	34,651,334	29,107,590

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis should be read in conjunction with "Item 6. Selected Financial Data" and the financial statements and related notes thereto appearing elsewhere in this Form 10-K. When used in the following discussions, the words "anticipates," "believes," "estimates," "expects," "plans," "intends" and similar expressions are intended to identify forward-looking statements. Such statements are subject to certain risks, uncertainties and contingencies that could cause actual results, performance or achievements to differ materially from those expressed in, or implied by, such statements. See "-- Risk Factors."

OVERVIEW

From its inception in November 1989 through December 31, 1996, the Company was in the development stage. During that period, the Company primarily focused on the development of its manufacturing processes in order to transition from laboratory-scale to commercial-scale production. As a result, the Company developed an operating capacity to produce significant quantities of its nanocrystalline materials for commercial sale. The Company was also engaged in the development of commercial applications and formulations and the recruiting of marketing, technical and administrative personnel. Since January 1, 1997, the Company has been engaged in commercial production and sales of its nanocrystalline materials, and the Company no longer considers itself in the development stage. All of the Company's revenue since January 1, 1997 has been generated through commercial sources. From inception through December 31, 1998, the Company was primarily capitalized through the private offering of approximately $19,558,069 of equity securities and its initial public offering of $28,837,936 of Common Stock, each net of issuance costs. The Company has incurred cumulative losses of $19,378,551 from inception through December 31, 1998.

RESULTS OF OPERATIONS

Years Ended December 31, 1998 and 1997

Revenue is recorded when the Company ships products, when specific milestones are met regarding development arrangements or when the Company licenses its technology and transfers proprietary information. Total revenue decreased to $1,303,789 in 1998, compared to $3,723,492 in 1997. The decrease in total revenue between 1998 and 1997 was primarily attributed to a $216,082 increase in product revenue offset by a $2,635,785 reduction in other revenue. Product revenue increased to $1,140,845 in 1998, compared to $924,763 in 1997. Other revenue decreased to $162,944 in 1998, compared to $2,798,729 in 1997. The majority of the revenue generated in 1998 was from customers in the electronics and structural ceramics and composites markets. Revenue from four customers constituted 55.8% of the Company's 1998 revenue. In particular, revenue from (i) EKC Technology, Inc., a manufacturer of semiconductor polishing slurries ("EKC"), (ii) CIK, (iii) a ceramics customer and (iv) an electronics customer constituted approximately 11.5%, 14.0%, 16.9% and 13.4%, respectively, of the Company's 1998 revenue. The Company does not currently anticipate future revenue from either the ceramics customer or the electronics customer. See "-- Risk Factors -- Dependence on a Limited Number of Key Customers."

Cost of revenue generally includes costs associated with commercial production, customer development arrangements and licensing fees. Cost of revenue decreased to $3,221,996 in 1998, compared to $3,935,766 in 1997. The decrease in cost of revenue was generally attributed to the reduced cost of development activities and efficiencies in the manufacture of the Company's products, somewhat offset by inefficiencies in the Company's coating operations and increased ceramic superplastic forming costs. Cost of revenue as a percentage of total revenue increased in 1998, compared to the same period in 1997, due primarily to the decrease in total revenue.

Research and development expense primarily consists of costs associated with the Company's development or acquisition of new product applications and coating formulations and the cost of enhancing the Company's manufacturing processes. Research and development expense increased to $1,504,127 in 1998, compared to $990,331 in 1997. The increase in research and development expense was primarily attributed to increased costs of $522,000 related to arrangements with outside parties to further develop end-use products

utilizing nanocrystalline materials, slightly offset by reductions in internal costs regarding the development of new formulations and product applications. The Company expects to further increase its research and development expense in 1999 in connection with its plans to continue to enhance and expand its product lines, technologies and manufacturing processes.

Selling, general and administrative expense increased to $3,594,946 in 1998, compared to $2,074,728 in 1997. The selling, general and administrative expense in 1997 included a one-time charge of $375,103 related to a public offering withdrawn in May 1997. Excluding such one-time charge, selling, general and administrative expense increased by $1,895,321 in 1998 over 1997. The net increase was primarily attributed to increased costs associated with being a public company, costs related to ongoing investor relation programs, additional legal expenses, salaries of additional sales and administrative personnel and increased recruiting and relocation costs. The Company expects to further increase its selling, general and administrative expense during 1999 in connection with its plans to further expand its sales force and administrative staff.

Interest income increased to $1,539,400 in 1998, compared to $204,863 in 1997. This increase was primarily due to the investment of net proceeds from the Company's sale of equity securities pending use of such proceeds. The Company expects interest income to decrease in 1999 as such proceeds are utilized.

Income tax expense was $156,000, compared to $0 in 1997. The 1998 expense was due to the foreign taxes withheld from license fees received from CIK. The payment of such taxes creates a foreign tax credit which may be available to offset federal income taxes when the Company generates taxable income.

Years Ended December 31, 1997 and 1996

Total revenue increased to $3,723,492 in 1997, compared to $595,806 in 1996. The increase in total revenue was due primarily to a one-time technology transfer fee of $1,400,000 from CIK for a license to use certain patented technology to exclusively manufacture, use and sell the Company's nanocrystalline materials in Asia, a product development fee of $775,000 from Moyco Technologies, Inc. ("Moyco"), a one-time fee of $160,000 from CIK for training in the operation of a PVS reactor, and increased customer development revenue and product shipments. Product revenue increased to $924,763 in 1997, compared to $249,017 in 1996. Other revenue increased to $2,798,729 in 1997, compared to $236,019 in 1996. Total revenue for the year ended December 31, 1997 was primarily generated from customers in the electronics and structural ceramics and composites markets. In particular, revenue from Moyco and CIK constituted approximately 42.2% and 43.1%, respectively, of the Company's revenue in 1997. Revenue from governmental research contracts decreased to $0 for the year ended December 31, 1997, compared to $110,770 for the same period in 1996, because the Company did not pursue any further U.S. government contracts for the year. See "-- Risk Factors -- Dependence on a Limited Number of Key Customers."

Cost of revenue decreased to $3,935,766 in 1997, compared to $4,019,484 in 1996. The decrease in cost of revenue was generally attributed to increased efficiencies in the manufacture of the Company's products and the reduced cost of product development activities. Cost of revenue as a percentage of total revenue decreased significantly for the year ended December 31, 1997, compared to the same period in 1996 because of the increased efficiencies in the Company's manufacturing processes, minimal costs associated with the one-time technology transfer fee from CIK and the product development fee from Moyco, and increased production volumes.

Research and development expense increased to $990,331 in 1997, compared to $677,284 in 1996. The increase in research and development expense is attributable primarily to the acquisition of certain knowledge and technology from Moyco for a one-time fee of $223,000, increased costs of developing new coating formulations and product applications, and ongoing experimentation expenses associated with technological enhancements and product improvements.

Selling, general and administrative expense increased to $2,074,728 for the year ended December 31, 1997, compared to $1,661,504 for the same period in 1996. This increase is attributable primarily to the expending of certain one-time costs aggregating $375,103 related to a proposed public offering withdrawn in

May 1997 and certain one-time costs associated with the Company's Asian distribution agreement with CIK. These one-time costs were offset by decreases in selling and general expenses.

Interest income increased to $204,863 in 1997, compared to $184,778 in 1996. This increase is primarily due to the investment of net proceeds from its sale of equity securities pending use of such proceeds for operating activities and expansion of its manufacturing facilities.

LIQUIDITY AND CAPITAL RESOURCES

The Company's cash, cash equivalents and investments amounted to $26,633,912 at December 31, 1998, compared to $30,873,220 at December 31, 1997. The net cash used in the Company's operating activities was $3,859,019, $3,370,367 and $5,795,858 for the years ended December 31, 1998, 1997 and 1996, respectively. The net cash used in operating activities for the year ended December 31, 1998 was primarily for the further development of product applications, the funding of research and development activities, the funding of inventory levels and the payment of accounts payable, which was offset by the collection of accounts receivable and an increase in accrued liabilities. Net cash provided by or (used in) investing activities, including capital expenditures and purchases of securities in which cash is invested pending its use for operating activities and expansion of the Company's manufacturing facilities offset by maturities of such securities, amounted to $143,909, $(25,871,823) and $(951,806) for the years ended December 31, 1998, 1997 and 1996, respectively. Capital expenditures, primarily related to the further expansion of the Company's existing manufacturing facilities and the purchase of operating equipment, amounted to $470,425, $1,063,608 and $1,173,437 for the years ended December 31, 1998, 1997 and 1996, respectively. Net cash provided by financing activities, which related to the exercise of options and warrants for 291,224 shares of Common Stock, amounted to $90,136 for the year ended December 31, 1998, compared to $32,613,354 and $7,102,966 for the years ended December 31, 1997 and 1996, respectively, which related to the net proceeds from the issuance of equity securities.

The Company believes that cash from operations and cash on hand, together with the remaining net proceeds from the Offering and interest income thereon, will be adequate to fund the Company's current operating plans. The Company's actual future capital requirements will depend, however, on many factors, including customer acceptance of the Company's current and potential nanocrystalline materials and product applications, continued progress in the Company's research and development activities and product testing programs, the magnitude of these activities and programs, and the costs necessary to increase and expand the Company's manufacturing capabilities and to market and sell the Company's materials and product applications. Depending on future requirements, the Company may seek additional funding through public or private financing, collaborative relationships, government contracts or additional licensing agreements. Additional financing may not be available on acceptable terms or at all, and any such additional financing could be dilutive to the Company's stockholders. See "-- Risk Factors -- Future Capital Needs."

At December 31, 1998, the Company had a net operating loss carryforward of approximately $18.3 million for income tax purposes. Because the Company may have experienced "ownership changes" within the meaning of the U.S. Internal Revenue Code in connection with its various prior equity offerings, future utilization of this carryforward may be subject to certain limitations as defined by the Internal Revenue Code. If not utilized, the carryforward expires at various dates between 2005 and 2013. As a result of the annual limitation, a portion of this carryforward may expire before ultimately becoming available to reduce income tax liabilities. At December 31, 1998, the Company also had a foreign tax credit carryforward of $156,000, which could be used as an offsetting tax credit to reduce U.S. income taxes. The foreign tax credit will expire in 2013 if not utilized before that date.

IMPACT OF YEAR 2000

The Year 2000 Issue is the result of computer programs being written using two digits rather than four to define the applicable year. Computer programs that have time-sensitive software may recognize a date using "00" as the year 1900 rather than the year 2000. This could result in a system failure or miscalculations

causing disruptions of operations, including, among other things, a temporary inability to process transactions, send invoices or engage in similar normal business activities.

The Company has identified the following areas as possibly being affected by the Year 2000 Issue: (i) IT and non-IT systems, (ii) manufacturing applications and (iii) third-party relationships. For each of these areas, the Company is in the process of identifying and assessing specific software, equipment and systems which are potentially susceptible to the Year 2000 Issue. The Company expects to develop and implement corrective actions, if necessary, to ensure that by September 30, 1999 its software, equipment and systems will function properly with respect to dates in the year 2000 and thereafter. The Company believes the total cost of such year 2000 compliance activities will not be material. The Company believes that it has no material exposure to contingencies related to the Year 2000 Issue for the products it has sold to date.

The Company processes its transactions and applications utilizing personal computers. In addition, the Company's telephone system, fax machines, payroll, alarm systems and other miscellaneous systems utilize computer equipment and software. The Company is identifying which software and equipment needs to be upgraded. Based on its assessment to date, the Company does not believe that significant modifications or replacements of its software or systems will be required to be year 2000 compliant. As of January 1, 1998, the Company only acquires software and invests in systems which are year 2000 compliant.

The Company's manufacturing activities rely on its PVS plasma reactors comprised of modular equipment that contains embedded technology. The Company also relies on a quality control laboratory for production process control. The Company is identifying the particular hardware and software systems used in such manufacturing applications to assess whether they are year 2000 compliant. The Company believes such manufacturing applications are year 2000 compliant.

To date, the Company does not have any direct interface between its systems and those of any significant supplier or customer. The Company, however, relies on third party suppliers for raw materials, utilities, cash management services and other key supplies and services. The Company, therefore, recognizes that it is vulnerable to third party suppliers that fail to remediate their own Year 2000 Issues. The Company is corresponding with its significant suppliers to determine their year 2000 compliance status. The Company is also dependent upon its customers, product development partners and distributors for sales, cash flow and product development. Although the Company has received some formal information concerning the year 2000 compliance status of certain of its customers, product development partners and distributors, this information is limited and incomplete at this time. The Company has, however, received indications that most of these entities are working on year 2000 compliance.

The Company's most reasonably likely worst case scenario with respect to the Year 2000 Issue is that (i) its manufacturing systems may malfunction and (ii) third party suppliers of ceramic and metallic materials, cash management services and utilities, customers, product development partners and distributors may be unable to remediate their own Year 2000 Issues. In such scenario, the Company could experience manufacturing interruptions, difficulties in accessing its cash and investments, delays in distribution of its products, delays in development of new product applications and reduced shipments. This would have a material adverse effect on the Company's operations. The Company currently has no contingency plan in the event such most reasonably likely worst case scenario occurs.

The Company currently believes that the Year 2000 Issue will not pose significant operational problems for the Company. However, if all Year 2000 Issues are not properly identified or remediated on a timely basis, the Company's results of operations or relationships with customers and suppliers may be materially adversely affected. In addition, the systems of other companies on which the Company relies may not be timely converted and any failure by them to do so could have a material adverse effect on the Company's operations.

LEGAL PROCEEDINGS

As disclosed in Note 16 to the Financial Statements and under "Item 3. Legal Proceedings in Part I," five separate complaints were filed in the United States District Court for the Northern District of Illinois, Eastern Division, each of which alleged that the Company, certain of its officers and directors, and the

underwriters of the Company's Offering are liable under the federal securities laws for making material misstatements of fact and omitting and failing to state material facts necessary to make other statements of fact not misleading in the Registration Statement and Prospectus relating to the Offering. In an order entered by the Court, those cases were consolidated and a consolidated complaint was filed on October 30, 1998. The consolidated complaint alleges that the action should be maintained as (i) a plaintiff class action on behalf of certain persons who purchased the Common Stock from November 26, 1997 through January 8, 1998, excluding the defendants, members of their immediate families, any entity in which a defendant has a controlling interest and certain others related to or affiliated with the foregoing, and (ii) a defendant class action against the underwriters who participated in the Offering. The consolidated complaint seeks unquantified damages as provided for under the federal securities laws, pre- and post-judgment interest, attorneys' fees, expert witness fees, other costs and expenses and such other and further relief as the Court may find proper. In addition, the consolidated complaint seeks rescission and/or rescissory damages relating to purchases of the Common Stock, as provided for under federal securities laws. All defendants have filed motions to dismiss the consolidated complaint that are fully briefed and under advisement by the Court.

On November 20, 1998, a separate complaint was filed in the Northern District of Illinois, Eastern Division, which alleged that the Company, certain of its officers and directors, and the underwriters of the Company's Offering are liable under the federal securities laws for making material misstatements of fact and omitting or failing to state material facts necessary to make other statements of fact not misleading in connection with the solicitation of consents to proceed with the Offering from certain of the Company's preferred stockholders. The complaint alleges that the action should be maintained as a plaintiff class action on behalf of those former preferred stockholders whose shares of preferred stock of the Company were converted into Common Stock on or about the date of the Offering, excluding the defendants, other officers and directors of the Company, members of the immediate families of all individual defendants, any entity in which a defendant has a controlling interest and certain others related to, employed by or affiliated with the foregoing. The complaint seeks unquantified damages as provided for under the federal securities laws, pre-and post-judgment interest, attorneys' fees, expert witness fees, other costs and expenses and such other and further relief as the Court may find proper. On March 15, 1999, the preferred stockholders' complaint was referred to the Court's Executive Committee for possible (i) reassignment to the judge hearing the consolidated complaint described above and (ii) further consolidation with that litigation.

The Company, the defendant directors and the defendant officers have each retained counsel with respect to both of the above-described litigations and intend to defend against both complaints vigorously. Although the Company believes that the allegations of the complaints are without merit, it is unable to predict at this time the outcome of either litigation or whether the resolution of either litigation could have a material adverse effect on the Company's results of operations, cash flows or financial condition.

RISK FACTORS

Investors should consider the following risks in connection with an investment in the Company.

Limited History of Commercial Revenue; Uncertain Market Acceptance of the Company's Nanocrystalline Materials

The Company was founded in November 1989 and through December 31, 1996 was engaged principally in research and development activities. While the Company recently commenced marketing certain nanocrystalline materials, it is in the early stage of commercialization and the potential product applications utilizing the Company's nanocrystalline materials are in various stages of development or under evaluation. As a result, the Company's nanocrystalline materials have been sold only in limited quantities, often for testing and evaluation purposes, and a significant market may not develop for such materials. Because most, if not all, of the solutions utilizing the Company's materials are new and innovative, the Company's time-to-market for commercial products utilizing its materials has historically been at least 18 months and may take several years. The Company is attempting to reduce this period by organizing and restructuring internal resources. The Company may be unable to decrease this time-to-market. The Company's current and potential commercial customers establish demanding specifications for performance and reliability. The Company's nanocrystalline

materials may not meet future customer performance standards, or offer sufficient price or performance advantages as required to achieve commercial success. The Company's failure to develop, manufacture and commercialize nanocrystalline materials on a timely and cost-effective basis or successfully reduce the time-to-market of commercial products would have a material adverse effect on the Company's business, results of operations and financial condition. Because the Company's materials are used as ingredients in, or components of, other companies' products, the inability of the Company's customers to achieve market acceptance with respect to end-users of their products or to successfully manufacture their products could also have a material adverse effect on the Company's business, results of operations and financial condition.

Limited Operating History; History of Losses; Uncertainty of Future Profitability

The Company began shipping significant amounts of its materials for commercial use in January 1997. Accordingly, the Company has only a limited operating history upon which an evaluation of the Company and its prospects can be based. An investment in the Company must be considered in light of the risks, expenses and difficulties frequently encountered by companies in the early stages of development. The Company's nanocrystalline materials may not generate significant revenues from commercial applications.

The Company has incurred net losses in each year since its inception, and as of December 31, 1998, had an accumulated deficit of $19,378,551. The Company may continue to incur operating losses and may be unable to achieve a profitable level of operations. If the Company does achieve profitability, it may be unable to sustain it. Commercial development of the Company's nanocrystalline materials will require the commitment of substantial resources to continuing research and development, establishment of additional commercial-scale and pilot-scale manufacturing facilities, and further development of quality control, marketing, sales, service and administrative capabilities. The Company's ability to achieve profitability will depend on many factors, including the Company's ability to enter into collaborative customer relationships and the Company's ability, alone or with its customers, to develop, manufacture, introduce and market commercially acceptable products based on the Company's nanocrystalline materials and proprietary processes. The Company and its customers may not successfully manufacture, introduce or market significant quantities of the Company's nanocrystalline materials or their product applications.

Dependence on a Limited Number of Key Customers

A limited number of key customers have initially accounted for a substantial portion of the Company's commercial revenue. For example, revenue from EKC, CIK, a ceramics customer and an electronics customer constituted approximately 11.5%, 14.0%, 16.9% and 13.4%, respectively, of the Company's 1998 revenue. The Company does not currently anticipate future revenue from either the ceramics or electronics customer. The Company's customers are significantly larger than, and are able to exert a high degree of influence over, the Company. The loss of one or more of the Company's customers or failure to attract new customers could have a material adverse effect on the Company's business, results of operations and financial condition.

In December 1997, Nanophase entered into a seven-year supply agreement with EKC, a subsidiary of ChemFirst, a manufacturer of semiconductor polishing slurries, pursuant to which the Company has agreed to supply certain of its nanocrystalline materials and provide related research and customer and technical support to EKC. This agreement, as subsequently amended, supersedes the Company's five-year requirements contract with Moyco and was entered into after Moyco sold its chemical/mechanical polishing intellectual property, technologies and certain other intangible assets to EKC in December 1997. If EKC does not purchase certain separate minimum dollar amounts specified in the agreement, the Company may terminate EKC's exclusivity, future supply obligation or the entire agreement. Revenue from EKC is currently expected to constitute a significant portion of the Company's revenues over the next several years. To date, EKC's purchase of the Company's materials has been for a lesser dollar amount and on a slower timetable as compared to that which the Company previously expected from Moyco and this may continue.

Reliance on Collaborative Development Relationships

The Company has established, and will continue to pursue, collaborative relationships with a variety of corporate customers. Through such relationships, the Company seeks to develop applications for the Company's nanocrystalline materials, share development and manufacturing resources and coordinate the development, manufacturing, commercialization and marketing of nanocrystalline product applications. The Company's future success will depend, in part, on its continued relationships with these customers, its ability to enter into similar collaborative relationships, the commitment of the Company's customers to the potential product applications under development and, eventually, the customers' success in manufacturing and marketing, or willingness to purchase the Company's nanocrystalline materials for, such product applications. The Company's customers may decide to manufacture jointly developed products internally, obtain them from alternative sources or no longer pursue their development. These customers may require the Company to share control of its development, manufacturing and marketing programs, limit its ability to license its technology to others, or restrict its ability to engage in certain product development, manufacturing and marketing activities. These relationships may also be subject to unilateral termination by the Company's customers. If the Company is unable to initiate or sustain such collaborative relationships, the Company may be unable to independently develop, manufacture, market or sell its current and future nanocrystalline materials or their product applications. The failure of the Company to initiate or sustain such collaborative relationships would have a material adverse effect on the Company's business, results of operations and financial condition.

Limited Manufacturing Capacity and Experience

The Company's success will depend, in part, on its ability to manufacture its nanocrystalline materials in significant quantities, with consistent quality, at acceptable cost, on a timely basis, and in a format needed by its customers. The Company has limited experience in high-volume manufacturing and may incur significant start-up costs and unforeseen expenses in connection with attempts to manufacture substantial quantities.

The Company will need to improve manufacturing efficiency significantly, implement additional manufacturing capability and expand its current facilities and/or obtain other facilities in the near future in order to manufacture adequate quantities of its products to meet expected market demands. The Company may be unable to make the transition from pilot manufacturing to high-volume manufacturing successfully on a timely basis. The Company may also be unable to successfully develop its surface treatment and dispersion technologies so as to be able to coat significant quantities of its nanocrystalline materials with consistent quality, at acceptable cost and on a timely basis. The Company may have to develop manufacturing capability that enables it to produce dispersions, slurries, or formulations that contain its nanocrystalline materials in order to provide solutions demanded by certain customers and/or markets. The Company's primary operations, including research, engineering, manufacturing, marketing, distribution and general administration, are housed in a single facility in Burr Ridge, Illinois. Any material disruption in the Company's operations, whether due to fire, natural disaster, power loss or otherwise, could have a material adverse effect on the Company's business, results of operations and financial condition. While the Company maintains property and business interruption insurance, such insurance may not adequately compensate the Company for all losses that it may incur.

Dependence on Patents and Protection of Proprietary Information

The Company's success will depend, in part, on its ability to obtain patent protection for its nanocrystalline materials and processes, to preserve its trade secrets, and to operate without infringing the patent or other proprietary rights of others and without breaching or otherwise losing rights in the technology licenses upon which any of the Company's products are based. The Company has been granted three United States patents, all of which expire in July 2013, has filed three applications for other United States patents and licenses eleven patents held by others, which licenses generally last the life of their respective patents. The patent applications filed by the Company may not result in issued patents and the scope and breadth of any claims allowed in any patents issued to the Company or its licensors may not exclude competitors or provide competitive advantages to the Company. In addition, any patents issued to the Company or its licensors may not be held valid if subsequently challenged. Others may claim rights in the patents and other proprietary technology owned or

licensed by the Company. It is also possible that others have developed or will develop similar products or technologies without violating any of the Company's proprietary rights. The Company's inability to obtain patent protection, preserve its trade secrets or operate without infringing the proprietary rights of others, as well as the Company's loss of any license to technology that it now has or acquires in the future, would have a material adverse effect on the Company's business, results of operations and financial condition.

Patent applications in the United States are currently maintained in secrecy until patents issue, and patent applications in foreign countries are maintained in secrecy for a period of time after filing. Accordingly, publication of discoveries in the scientific literature or of patents themselves or laying open of patent applications in foreign countries tends to lag behind actual discoveries and filings of related patent applications. Due to this factor and the large number of patents and patent applications related to nanocrystalline materials, comprehensive patent searches and analysis associated with nanocrystalline materials are often impractical or not cost-effective. Therefore, the Company's patent and publication searches may not have been comprehensive, or materials or processes used by the Company for its planned products may, now or in the future, infringe upon existing technology described in United States patents or may infringe upon claims of patent applications of others. Because of the volume of patents issued and patent applications filed relating to nanocrystalline materials, there is a significant risk that current and potential competitors and other third parties have filed or will file patent applications for, or have obtained or will obtain patents or other proprietary rights relating to, materials or processes used or proposed to be used by the Company. In any such case, to avoid an infringement, the Company would have to either license such technology or design around any such patents. The Company may be unable either to successfully design around these third-party patents or obtain licenses to such technology or if obtainable, such licenses may not be available on terms acceptable to the Company.

Litigation, which could result in substantial cost to, and diversion of effort by, the Company, may be necessary to enforce patents issued or licensed to the Company, to defend the Company against infringement claims made by others, or to determine the ownership, scope or validity of the proprietary rights of the Company and others. An adverse outcome in any such litigation could subject the Company to significant liabilities to third parties, require the Company to seek licenses from third parties, and/or require the Company to cease using certain technology, any of which could have a material adverse effect on the Company's business, results of operations and financial condition. The Company may also become involved in interference proceedings declared by the United States Patent and Trademark Office ("PTO") in connection with one or more of the Company's owned or licensed patents or patent applications to determine priority of invention. Any such proceeding could result in substantial cost to the Company, as well as a possible adverse decision as to priority of invention of the patent or patent application involved. In addition, the Company may become involved in reissue or reexamination proceedings in the PTO in connection with the scope or validity of the Company's owned or licensed patents. Any such proceeding could have a material adverse effect on the Company's business, results of operations and financial condition, and an adverse outcome in such proceeding could result in a reduction of the scope of the claims of any such patents or such patents being declared invalid. In addition, from time to time, to protect its competitive position, the Company may initiate reexamination proceedings in the PTO with respect to patents owned by others. Such proceedings could result in substantial cost to, and diversion of effort by, the Company, and an adverse decision in such proceedings could have a material adverse effect on the Company's business, results of operations and financial condition.

The Company also relies on trade secrets and proprietary know-how in the conduct of its business and uses employee and third-party confidentiality and non-disclosure agreements to protect such trade secrets and know-how. The obligation to maintain the confidentiality of such trade secrets or proprietary information may wrongfully be breached by employees, consultants, advisors or others and the Company may not have adequate remedies for any breach. In addition, the Company's trade secrets or proprietary know-how may otherwise become known or be independently developed or discovered by third parties. In addition, because the Company's employees have not entered into noncompetition agreements with the Company, they may become competitors of the Company upon termination of employment.

Rapid Technological Change

Rapid changes have occurred, and are likely to continue to occur, in the development of advanced materials and processes. The future success of the Company will depend, in large part, upon its ability to keep pace with advanced materials technologies, industry standards and market trends and to develop and introduce new and improved products on a timely basis. The Company will require substantial resources to expand its commercial manufacturing capacity, further develop its technologies and develop and introduce innovative product applications. The Company's development efforts may be rendered obsolete by the research efforts and technological advances of others or other advanced materials may prove more advantageous than those produced by the Company.

Limited Marketing Experience; Use of Distribution Agreements

The Company has limited experience marketing and selling its products. To market its nanocrystalline materials directly, the Company must continue developing a marketing and sales force that can effectively demonstrate the advantages of its nanocrystalline product applications compared to competitive products containing conventional or advanced materials. The Company currently has arrangements for distribution of certain of its nanocrystalline materials and expects to enter into additional distribution or other arrangements with third parties regarding the commercialization or marketing of its materials. The Company's future success will depend in part on its continued relationships with distributors, its ability to enter into other distribution arrangements, the continuing interest of the Company's distributors in current and potential product applications and, eventually, the distributors' success in marketing, or willingness to purchase, any of the Company's nanocrystalline materials. The Company may be unsuccessful in its marketing efforts or may be unable to establish adequate sales and distribution capabilities or to enter into or maintain marketing and distribution arrangements with third parties on financially acceptable terms. In addition, any third parties with whom it enters into such arrangements may not be successful in marketing the Company's products. In February 1998, the Company and WCD mutually agreed to end their cosmetics and skin-care ingredients distribution relationship. While the Company may discuss distribution arrangements with other companies having access to the cosmetics and skin-care market and is currently selling directly to a small number of cosmetic and skin-care customers, the Company may be unable to maintain significant worldwide access to such market.

Revenue from International Sources

For the year ended December 31, 1998, 26.7% of the Company's total revenues were derived from product shipments to, and development agreements with, international customers, and the Company expects that it will continue to derive a substantial percentage of revenues from international customers in the future. The Company may be unable to successfully market, sell and deliver its nanocrystalline materials in international markets. In addition, there are certain risks inherent in conducting international business, including exposure to currency fluctuations, longer payment cycles, greater difficulties in accounts receivable collection, political instability, foreign withholding taxes relating to royalties, difficulties in complying with a variety of foreign laws and unexpected changes in regulatory requirements. One or more of such factors could have a material adverse effect on the Company's business, results of operations and financial condition. In particular, the Company has a license agreement with CIK for the distribution of its materials throughout various Asian countries. The recent economic uncertainties in Korea and other Asian markets may continue and could have a material adverse effect on the Company's ability to generate revenue from such markets.

Competition

The advanced materials industry is highly competitive. The market for materials having the characteristics and potential uses of the Company's nanocrystalline materials is the subject of intensive research and development efforts by both governmental entities and private enterprises around the world. The Company believes that the level of competition will increase further as more product applications with significant commercial potential are developed. The nanocrystalline product applications being developed by the Company will compete directly with products incorporating conventional and advanced materials and

technologies. While the Company is not currently aware of the existence of commercially available competitive products with the same attributes as those offered by the Company, such competitive products may be introduced by third parties, or competing materials based on different or new technologies may become commercially available. The Company's competitors may succeed in developing or marketing materials, technologies and products that exhibit superior performance, are more commercially desirable or are more cost effective than those developed or marketed by the Company. In addition, many potential competitors of the Company have substantially greater financial and technical resources, larger research and development staffs, and greater manufacturing and marketing capabilities than the Company. Failure of the Company's current and potential nanocrystalline product applications to improve performance sufficiently at an acceptable price, achieve commercial acceptance or otherwise compete with conventional materials would have a material adverse effect on the Company's business, results of operations and financial condition.

Volatility of Common Stock Price and Associated Litigation

During the first few months after the Offering, the market price of the Company's Common Stock was volatile. Following such volatility in the market price of the Company's Common Stock, securities class action litigation was instituted against the Company. Such litigation initiated against the Company may result in substantial costs and a diversion of management's attention and resources, which could have a material adverse effect on the Company's business, results of operations and financial condition. In addition, the stock market has from time to time experienced significant price and volume fluctuations that may be unrelated to the operating performance of any particular company. In particular, there has been significant volatility in the market price of securities of technology companies, particularly those that, like the Company, are still primarily engaged in product development activities. Factors such as announcements of technology innovations and new product applications, collaborative development relationships or distribution relationships by the Company or its competitors, disputes relating to patents and proprietary rights, changes in financial estimates by securities analysts, failure to meet or exceed earnings expectations of the market or of analysts, general market conditions and actual or anticipated fluctuations in quarterly operating results may have a significant impact on the future market price of the Common Stock.

Future Capital Needs

The Company believes that its future capital requirements will depend on many factors, including continued progress in its research and development and product testing programs, the magnitude of these programs, the costs necessary to increase the Company's manufacturing capabilities and to market any resulting materials and product applications, and customer acceptance of the Company's current and potential materials and product applications. Additional factors that may affect the Company's future capital requirements are the costs involved in preparing, filing, prosecuting, maintaining and enforcing patents and other proprietary rights or in obtaining licenses, the ability of the Company to establish collaborative relationships, the costs related to the Company's possible acquisition of complementary technologies or businesses, and the amount and timing of future revenues. Depending on its requirements, the Company may seek additional funding through public or private financing, collaborative relationships, government contracts or licensing agreements. Such additional financing may not be available on acceptable terms or at all. If adequate funds are not available on acceptable terms, the Company may be required to delay, scale-back or eliminate manufacturing and marketing of one or more of its materials or product applications or research and development programs, or to obtain funds through arrangements with customers or others that may require the Company to relinquish rights to certain of its technologies or nanocrystalline materials that the Company would not otherwise relinquish. Inadequate funding also could impair the Company's ability to compete in the marketplace.

Dependence on Key Personnel

The Company's success will depend, in large part, upon its ability to attract and retain highly qualified research and development, management, manufacturing and marketing and sales personnel. Due to the specialized nature of the Company's business, it may be difficult to locate and hire qualified personnel, and to

retain such personnel once hired. The loss of the services of any of the Company's executive officers or other key personnel, or the failure of the Company to attract and retain other skilled and experienced personnel on acceptable terms, could have a material adverse effect on the Company's business, results of operations and financial condition. The Company does not have "key-man" life insurance policies covering any of its executive officers or other key employees.

Product Liability Risks

The Company may be subject to product liability claims in the event that any of its nanocrystalline product applications are alleged to be defective or cause harmful effects. Because the Company's nanocrystalline materials are used as ingredients in, or components of, other companies' products, to the extent certain of the Company's customers become subject to claims, suits or complaints relating to their products, such as cosmetic and skin-care products, such claims may be asserted against the Company. The Company currently maintains separate insurance coverage in the amount of $2 million for product liability claims. The cost of defending or settling product liability claims may be substantial and the Company may be unable to do so on acceptable terms or such claims, if successful or settled, could have a material adverse effect on the Company's business, results of operations and financial condition.

Governmental Regulations

The Company's coating facility, which is located in Chicago, is a "small quantity generator" of hazardous materials, including ethanol, under the Federal Resource Conservation and Recovery Act and, as a result, is subject to stringent federal, state and local regulations governing the handling, storage and disposal of such materials. It is possible that current or future laws and regulations could require the Company to make substantial expenditures for preventive or remedial action, reduction of chemical exposure or waste treatment or disposal. The Company's operations, business or assets could be materially and adversely affected by the interpretation and enforcement of current or future environmental laws and regulations. The Company believes it has complied in all material respects with regard to environmental regulations applicable to it and does not anticipate generating substantially increased amounts of such materials. In addition, although management believes that its safety procedures for handling and disposing of such materials comply with the standards prescribed by state and federal regulations, the Company's coating operations do pose a risk of accidental contamination or injury. To date, the Company has not been required to make substantial expenditures for preventive or remedial action with respect to the hazardous materials it generates. The damages in the event of an accident or the costs of such preventive or remedial actions could exceed the Company's resources or otherwise have a material adverse effect on the Company's business, results of operations and financial condition.

In addition, the Company's facilities and all of its operations are subject to the plant and laboratory safety requirements of various occupational safety and health laws. The Company believes it has complied in all material respects with regard to governmental regulations applicable to it. There can be no assurance, however, that the Company will continue to comply with applicable government regulations or that such regulations will not materially restrict or impede the Company's operations in the future.

The manufacture and use of certain products which contain the Company's nanocrystalline materials are subject to governmental regulation. As a result, the Company is required to adhere to the cGMP requirements of the FDA and similar regulations in other countries which include testing, control and documentation requirements enforced by periodic inspections. Such regulations can increase the Company's cost of doing business and/or render certain potential markets prohibitively expensive.

Quarterly Fluctuations in Operating Results

The Company has experienced, and expects to continue to experience, quarterly fluctuations in its results of operations as a result of a variety of factors, including the timing of collaborative relationships with, and performance of, customers, the timing of new product application offerings, changes in the Company's revenue mix among its product application offerings, the timing and amount of expenses associated with expansion of

the Company's operations, and changes in the mix between pilot production of new nanocrystalline materials and full-scale manufacturing of existing nanocrystalline materials. The Company does not currently have any significant backlog of orders and the timing of revenues will therefore depend upon the amount and timing of new orders received for its nanocrystalline materials.

Anti-Takeover Provisions

In October 1998, the Company adopted a stockholders rights plan (the "Rights Plan"). The Rights Plan may have the effect of delaying or preventing a change of control of the Company, including acquisitions that may offer a premium over market price to some or all of the Company's stockholders. Further, certain provisions of the Company's Certificate of Incorporation and Bylaws and Delaware law could delay or make more difficult a merger, tender offer or proxy contest involving the Company. For example, the Company has a staggered Board of Directors with three-year terms and the Company's Board of Directors has the authority to issue up to 24,088 shares of undesignated preferred stock and to determine the price, rights, preferences, privileges and restrictions, including voting rights, of those shares without any further vote or action by the Company's stockholders.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The Company is exposed to interest rate risk on its investment portfolio. A 1% fluctuation in interest rate would result in a change in the portfolio earnings of approximately $260,000 per year.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The financial statements and financial statement schedules, with the report of independent auditors, listed in Item 14 are included in this Form 10-K.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

PART III

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

The information in response to this item is incorporated by reference from the "Proposal No. 1 -- Election of Directors," "Executive Officers" and "Section 16(a) Beneficial Ownership Compliance" sections of the Definitive Proxy Statement to be filed with the Commission in connection with the Company's 1999 Annual Meeting of Stockholders (the "1999 Proxy Statement").

ITEM 11. EXECUTIVE COMPENSATION

The information in response to this item is incorporated by reference from the section of the 1999 Proxy Statement captioned "Executive Compensation and Certain Transactions."

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The information in response to this item is incorporated by reference from the section of the 1999 Proxy Statement captioned "Security Ownership of Management and Principal Stockholders."

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

The information in response to this item is incorporated by reference from the section of the 1999 Proxy Statement captioned "Executive Compensation and Certain Transactions."

PART IV

ITEM 14. EXHIBITS, FINANCIAL STATEMENT SCHEDULES AND REPORTS ON FORM 8-K

(a) The following documents are filed as part of this Form 10-K:

1. The following financial statements of the Company, with the report of independent auditors, are filed as part of this Form 10-K:

   Report of Ernst & Young LLP, Independent Auditors
   Balance Sheets as of December 31, 1997 and 1998
   Statements of Operations for the Years Ended December 31, 1996, 1997 and 1998
   Statements of Stockholders' Equity for the Years Ended December 31, 1996, 1997 and 1998
   Statements of Cash Flows for the Years Ended December 31, 1996, 1997 and 1998
   Notes to Financial Statements

2. The following financial statement schedules of the Company are filed as part of this Form 10-K:

   Schedule II -- Valuation and Qualifying Accounts

   All other financial schedules are omitted because such schedules are not required or the information required has been presented in the aforementioned financial statements.

3. The following exhibits are filed with this Form 10-K or incorporated by reference as set forth below.

EXHIBIT NUMBER	
2	Plan and Agreement of Merger dated as of November 25, 1997 by and between the Company and its Illinois predecessor, incorporated by reference to Exhibit 2 to the Company's Annual Report on Form 10-K for the year ended December 31, 1997 (the "1997 10-K").
3.1	Certificate of Incorporation of the Company, incorporated by reference to Exhibit 3.1 to the 1997 10-K.
3.2	Bylaws of the Company, incorporated by reference to Exhibit 3.2 to the 1997 10-K.
4.1	Specimen stock certificate representing Common Stock, incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-1 (File No. 333-36937) (the "IPO S-1").
4.2	Form of Warrants, incorporated by reference to Exhibit 4.2 to the IPO S-1.
4.3	Rights Agreement dated as of October 28, 1998 by and between the Company and LaSalle National Bank, incorporated by reference to Exhibit 1 to the Company's Registration Statement on Form 8-A, filed October 28, 1998.
4.4	Certificate of Designation of Series A Junior Participating Preferred Stock.
10.1	The Nanophase Technologies Corporation Amended and Restated 1992 Stock Option Plan, as amended (the "Stock Option Plan"), incorporated by reference to Exhibit 10.1 to the IPO S-1.
10.2*	Form of Indemnification Agreement between the Company and each of its directors and executive officers, incorporated by reference to Exhibit 10.2 to the IPO S-1.
10.3	Amended and Restated Registration Rights Agreements dated as of March 16, 1994, as amended, incorporated by reference to Exhibit 10.3 to the IPO S-1.
10.4*	Employment Agreement dated as of September 3, 1996 between the Company and Dennis J. Nowak, incorporated by reference to Exhibit 10.5 to the IPO S-1.
10.5	License Agreement dated June 1, 1990 between the Company and ARCH Development Corporation, as amended, incorporated by reference to Exhibit 10.7 to the IPO S-1.

EXHIBIT NUMBER	
10.6	License Agreement dated October 12, 1994 between the Company and Hitachi, incorporated by reference to Exhibit 10.8 to the IPO S-1.
10.7	License Agreement dated May 31, 1996 between the Company and Research Development Corporation of Japan, incorporated by reference to Exhibit 10.9 to the IPO S-1.
10.8	License Agreement dated April 1, 1996 between the Company and Cornell Research Foundation, incorporated by reference to Exhibit 10.10 to the IPO S-1.
10.9*	Consulting and Stock Purchase Agreement between Richard W. Siegel and the Company dated as of May 9, 1990, as amended February 13, 1991, November 21, 1991 and January 1, 1992, incorporated by reference to Exhibit 10.11 to the IPO S-1.
10.10	Lease Agreement between the Village of Burr Ridge and the Company, dated September 15, 1994, incorporated by reference to Exhibit 10.12 to the IPO S-1.
10.11	Distribution Agreement between the Company and C.I. Kasei, Ltd., (a subsidiary of Itochu Corporation) dated as of October 30, 1996, incorporated by reference to Exhibit 10.15 to the IPO S-1.
10.12	Supply Agreement between the Company and Schering-Plough HealthCare Products, Inc. dated as of March 15, 1997, incorporated by reference to Exhibit 10.17 to the IPO S-1.
10.13	License Agreement between the Company and C.I. Kasei Co., Ltd. (a subsidiary of Itochu Corporation) dated as of December 30, 1997, incorporated by reference to Exhibit 10.17 to the 1997 10-K.
10.14	Supply Agreement by and between the Company and EKC Technology, Inc. ("EKC"), dated as of December 31, 1997 (the "Supply Agreement"), incorporated by reference to Exhibit 10.18 to the 1997 10-K.
10.15	Amendment to the Supply Agreement dated as of October 15, 1998 between the Company and EKC.
10.16*	Employment Agreement dated as of November 9, 1998 between the Company and Joseph Cross.
10.17*	Consulting Agreement effective as of October 29, 1998 between the Company and Donald S. Perkins.
10.18*	Employment Agreement dated as of February 15, 1999 between the Company and Gina Kritchevsky.
10.19*	Employment Agreement dated as of March 15, 1999 between the Company and Daniel S. Bilicki.
10.20*	Form of Options Agreement under the Stock Option Plan, incorporated by reference to Exhibit 4.5 to the Company's Registration Statement on Form S-8 (File No. 333-53445).
10.21*	Consulting and Severance Agreement dated October 28, 1998 between the Company and John C. Parker.
11	Statement regarding computation of loss per share.
23	Consent of Ernst & Young LLP.
27	Financial Data Schedule.

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* Management contract or compensatory plan or arrangement required to be filed as an exhibit to this Form 10-K.

(b) Reports on Form 8-K:

The only Current Report on Form 8-K filed by the Company for the quarter ended December 31, 1998 was dated October 27, 1998 and, pursuant to Items 5 and 7, reported the Company's adoption of the Rights Plan.

NANOPHASE TECHNOLOGIES CORPORATION

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REPORT OF INDEPENDENT AUDITORS

The Board of Directors and Stockholders
Nanophase Technologies Corporation

We have audited the accompanying balance sheets of Nanophase Technologies Corporation as of December 31, 1997 and 1998, and the related statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 1998. Our audits also included the financial statement schedule for the years ended December 31, 1996, 1997 and 1998 listed in the index at Item 14(a). These financial statements and schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and schedule based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Nanophase Technologies Corporation at December 31, 1997 and 1998, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 1998, in conformity with generally accepted accounting principles. Also, in our opinion, the related financial statement schedule for the years ended December 31, 1996, 1997 and 1998, when considered in relation to the basic financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

/s/ ERNST & YOUNG LLP
Ernst & Young LLP

Chicago, Illinois
February 23, 1999

NANOPHASE TECHNOLOGIES CORPORATION

BALANCE SHEETS

	AS OF DECEMBER 31, 1997	AS OF DECEMBER 31, 1998
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 3,988,368	$ 363,394
Investments	26,884,852	26,270,518
Trade accounts receivable, less allowance for doubtful accounts of $19,276 in 1997 and $85,000 in 1998	1,641,489	316,328
Inventories, net	957,303	838,825
Prepaid expenses and other current assets	112,138	92,351
Total current assets	33,584,150	27,881,416
Equipment and leasehold improvements, net	2,399,893	2,383,091
Other assets, net	212,526	189,481
	$ 36,196,569	$ 30,453,988
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Accounts payable	$ 930,397	$ 413,378
Accrued expenses	614,838	933,020
Total current liabilities	1,545,235	1,346,398
STOCKHOLDERS' EQUITY:		
Preferred stock, $.01 par value; 24,088 shares authorized and no shares issued and outstanding	--	--
Common stock, $.01 par value; 25,000,000 shares authorized and 12,277,467 shares issued and outstanding at December 31, 1997; 24,930,377 shares authorized and 12,568,691 shares issued and outstanding at December 31, 1998	122,775	125,687
Additional paid-in capital	48,273,230	48,360,454
Accumulated deficit	(13,744,671)	(19,378,551)
Total stockholders' equity	34,651,334	29,107,590
	$ 36,196,569	$ 30,453,988

See Notes to Financial Statements

NANOPHASE TECHNOLOGIES CORPORATION

STATEMENTS OF OPERATIONS

	YEARS ENDED DECEMBER 31,		
	1996	1997	1998
REVENUE:			
Product revenue	$ 249,017	$ 924,763	$ 1,140,845
Other revenue	236,019	2,798,729	162,944
Governmental research contracts	110,770	--	--
Total revenue	595,806	3,723,492	1,303,789
OPERATING EXPENSE:			
Cost of revenue	4,019,484	3,935,766	3,221,996
Research and development expense	677,284	990,331	1,504,127
Selling, general and administrative expense	1,661,504	2,074,728	3,594,946
Total operating expenses	6,358,272	7,000,825	8,321,069
Loss from operations	(5,762,466)	(3,277,333)	(7,017,280)
Interest income	184,778	204,863	1,539,400
Loss before provision for income taxes	(5,577,688)	(3,072,470)	(5,477,880)
Provision for income taxes	--	--	(156,000)
Net loss	$(5,577,688)	$(3,072,470)	$(5,633,880)
Net loss per share (see Note 2)			$ (0.45)
Weighted average number of common shares outstanding (see Note 2)			12,416,305
Pro forma net loss per share (see Note 2)	$ (0.82)	$ (0.37)	
Pro forma weighted average number of common shares outstanding (see Note 2)	6,835,680	8,208,306	

See Notes to Financial Statements

NANOPHASE TECHNOLOGIES CORPORATION

STATEMENTS OF STOCKHOLDERS' EQUITY

DESCRIPTION	PREFERRED STOCK SHARES	PREFERRED STOCK AMOUNT	COMMON STOCK SHARES	COMMON STOCK AMOUNT	ADDITIONAL PAID-IN CAPITAL	ACCUMULATED DEFICIT	TOTAL
Balance as of January 1, 1996...	5,472,520	$ 8,600,113	77,586	$ --	$ 450	$ (5,094,513)	$ 3,506,050
Issuance of Series D shares...	14,034	24,238	--	--	--	--	24,238
Issuance of Series E shares, net of offering costs.......	1,921,800	7,157,850	--	--	--	--	7,157,850
Net loss for the year ended December 31, 1996...........	--	--	--	--	--	(5,577,688)	(5,577,688)
Balance as of December 31, 1996..........................	7,408,354	15,782,201	77,586	--	450	(10,672,201)	5,110,450
Issuance of Series F shares, net of offering costs.......	748,089	3,770,543	--	--	--	--	3,770,543
Exercise of stock options.....	--	--	43,425	434	4,441	--	4,875
Conversion of all outstanding Preferred shares into Common shares and all Common shares to $0.01 par value..........	(8,156,443)	(19,552,744)	8,156,456	82,341	19,470,403	--	--
Issuance of Common shares, net of offering costs...........	--	--	4,000,000	40,000	28,797,936	--	28,837,936
Net loss for the year ended December 31, 1997...........	--	--	--	--	--	(3,072,470)	(3,072,470)
Balance as of December 31, 1997..........................	--	--	12,277,467	122,775	48,273,230	(13,744,671)	34,651,334
Exercise of stock options.....	--	--	128,356	1,283	88,853	--	90,136
Exercise of warrants..........	--	--	162,868	1,629	(1,629)	--	--
Net loss for the year ended December 31, 1998...........	--	--	--	--	--	(5,633,880)	(5,633,880)
Balance as of December 31, 1998..........................	--	$ --	12,568,691	$125,687	$48,360,454	$(19,378,551)	$29,107,590

See Notes to Financial Statements

NANOPHASE TECHNOLOGIES CORPORATION

STATEMENTS OF CASH FLOWS

	YEARS ENDED DECEMBER 31,		
	1996	1997	1998
OPERATING ACTIVITIES:			
Net Loss	$(5,577,688)	$ (3,072,470)	$ (5,633,880)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	309,850	416,414	491,098
Allowance for excess inventory quantities	--	--	190,633
Changes in assets and liabilities related to operations:			
Trade accounts receivable	(318,656)	(1,251,988)	1,325,161
Inventories	(379,924)	(512,098)	(72,155)
Prepaid expense and other assets	(23,546)	(145,398)	38,961
Accounts payable	2,525	708,461	(517,019)
Accrued liabilities	191,581	486,712	318,182
Net cash used in operating activities	(5,795,858)	(3,370,367)	(3,859,019)
INVESTING ACTIVITIES:			
Acquisition of equipment and leasehold improvements	(1,173,437)	(1,063,608)	(470,425)
Purchases of held-to-maturity investments	(15,486,131)	(118,684,404)	(182,750,264)
Maturities of held-to-maturity investments	15,709,744	93,797,340	183,364,598
(Increase) decrease in asset held in trust	(1,982)	78,849	--
Net cash (used in) provided by investing activities	(951,806)	(25,871,823)	143,909
FINANCING ACTIVITIES:			
Proceeds from issuance of stock, net of offering costs	7,182,088	32,613,354	90,136
Deferred offering costs	(79,122)	--	--
Net cash provided by financing activities	7,102,966	32,613,354	90,136
Increase (decrease) in cash and cash equivalents	355,302	3,371,164	(3,624,974)
Cash and cash equivalents at beginning of period	261,902	617,204	3,988,368
Cash and cash equivalents at end of period	$ 617,204	$ 3,988,368	$ 363,394

See Notes To Financial Statements

NANOPHASE TECHNOLOGIES CORPORATION

NOTES TO FINANCIAL STATEMENTS

(1) DESCRIPTION OF BUSINESS

Nanophase Technologies Corporation (the "Company") was incorporated on November 30, 1989, for the purpose of developing nanocrystalline materials for commercial production and sale in domestic and international markets. The Company was in its development stage for the period from inception through December 31, 1996. The Company began full-scale production in early 1997 at which time it no longer was a development stage company. The Company issued common stock in an initial public offering consummated on December 2, 1997.

In the course of its corporate development, the Company has experienced net losses and negative cash flows from operations. Historically, the Company has funded its operations primarily through the issuance of equity securities.

Revenue from international sources approximated $256,500, $1,695,700, and $347,500 for the years ended December 31, 1996, 1997, and 1998, respectively.

(2) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Cash Equivalents

Cash equivalents primarily consist of money market accounts which have a maturity of three months or less from the date of purchase.

Investments

Investments are classified by the Company at the time of purchase and such classification is reevaluated as of each balance sheet date. Investments are classified as held-to-maturity when the Company has the positive intent and ability to hold the securities to maturity. Held-to-maturity securities are stated at amortized cost and are adjusted to maturity for the amortization of premiums and accretion of discounts. Such adjustments for amortization and accretion are included in interest income.

Inventory

Inventory is stated at the lower of cost, determined on a first in, first out basis, or market. In 1998, the Company recorded an allowance to provide for estimated excess quantities of certain materials currently in inventory.

Equipment and Leasehold Improvements

Equipment is stated at cost and is being depreciated over its estimated useful life (5-7 years) using the straight-line method. Leasehold improvements are stated at cost and are being amortized using the straight-line method over the shorter of the useful life of the asset or the term of the lease.

Patent Costs

Patent costs are included in other assets and are being amortized over the life of the respective patent using the straight-line method.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires the Company to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

Product Revenue

Product revenue consists of revenue generated from product shipments made by the Company.

Other Revenue

Other revenue consists of revenue from research and development arrangements with non-governmental entities, fees from the transfer of technology and royalties. Research and development arrangements include both cost-plus and fixed fee agreements and such revenue is recognized when specific milestones are met under the arrangements. Fees related to the transfer of technology are recognized when the transfer of technology to the acquiring party is completed and the Company has no further significant obligation. Royalties are recognized when received.

Governmental Research Contracts

The Company accounts for contracts with governmental entities to complete research and development activities using the percentage of completion method measured by the relationship of costs incurred to total estimated costs.

All payments to the Company for work performed on contracts and agreements with agencies of the U.S. government are subject to adjustment upon audit by agencies of the U.S. government. The Company believes that such audits, if any, will not have significant effect on the financial position or results of operation of the Company.

Research and Development Expense

Expenditures for research and development activities are charged to operations as incurred by the Company. During 1998, the Company recorded $745,000 in charges from unrelated entities for development that was charged to research and development expense. During 1997, the Company acquired certain research and development from a customer for $223,000 and charged this acquisition to research and development expense.

Income Taxes

The Company accounts for income taxes using the liability method. As such, deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Deferred tax assets and liabilities are calculated using the enacted tax rates and laws that are expected to be in effect when the anticipated reversal of these differences is scheduled to occur.

Employee Stock Options

In 1996, the Company adopted Statement of Financial Accounting Standards No. 123, "Accounting for Stock-Based Compensation" (SFAS No. 123). As permitted by SFAS No. 123, the Company accounts for stock options granted to employees using Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees" (APB No. 25). Under APB No. 25, no compensation expense is recorded if the number of shares is fixed and the exercise price equals the market price on the date of grant. SFAS No. 123 requires companies using APB No. 25 to disclose pro forma net earnings and earnings per share using the fair value method alternative prescribed by SFAS No. 123. Such disclosures are included in Note 12.

NANOPHASE TECHNOLOGIES CORPORATION

NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

Fair Value of Financial Instruments

The Company's financial instruments include investments, accounts receivable, accounts payable and accrued liabilities. The fair values of all financial instruments were not materially different from their carrying values.

Net Loss and Pro Forma Net Loss Per Share

Pro forma net loss per common share and historical net loss per common share are computed based upon the weighted average number of common shares outstanding. Common equivalent shares are not included in the pro forma and historical per share calculations because the effect of their inclusion would be anti-dilutive. In addition, for the pro forma calculation, all convertible preferred stock is treated as if converted into common shares for all periods shown.

Net loss per common share computed on a historical basis is $71.89 and $2.39 for the years ended December 31, 1996 and 1997, respectively. The weighted average number of common shares outstanding used to calculate these net loss per common share amounts are 77,586 for 1996 and 1,283,359 for 1997.

(3) INVESTMENTS

Investments generally consist of certificates of deposit, commercial paper and corporate notes and have an estimated fair value of $26,885,000 and $26,251,000 at December 31, 1997 and 1998, respectively. All investments have been classified as held-to-maturity and mature in the subsequent year.

(4) INVENTORIES

Inventories consist of the following:

	AS OF DECEMBER 31,	
	1997	1998
Raw Materials	$379,505	$ 284,162
Finished Goods	577,798	745,296
	957,303	1,029,458
Allowance for Excess Inventory Quantities	--	(190,633)
	$957,303	$ 838,825

NANOPHASE TECHNOLOGIES CORPORATION

NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

(5) EQUIPMENT AND LEASEHOLD IMPROVEMENTS

Equipment and leasehold improvements consist of the following:

	AS OF DECEMBER 31,	
	1997	1998
Machinery and equipment	$1,835,964	$2,842,258
Office equipment	116,307	194,258
Office furniture	49,864	49,864
Leasehold improvements	610,932	664,143
	2,613,067	3,750,523
Less: Accumulated depreciation and amortization	(881,323)	(1,367,432)
	1,731,744	2,383,091
Construction in progress	668,149	--
	$2,399,893	$2,383,091

(6) LEASE COMMITMENTS

The Company leases manufacturing and office space under an agreement that will expire in September 1999. Monthly minimum lease payments amount to $8,300 for this facility. The Company also leases smaller pilot manufacturing space as well as offsite warehouse space, both under renewable annual agreements. Monthly minimum lease payments amount to $5,000 and $2,900, respectively, for these facilities.

Net rent expense under these leases amounted to $175,538, $168,781, and $191,995 for the years ended December 31, 1996, 1997, and 1998, respectively.

(7) ACCRUED EXPENSES

Accrued expenses consist of the following:

	AS OF DECEMBER 31,	
	1997	1998
Accrued professional services	$ 29,943	$288,000
Accrued costs for goods received but not invoiced	98,802	232,384
Accrued payroll and related expenses	138,798	211,283
Accrued subcontract costs	161,791	30,000
Other	185,504	171,353
	$614,838	$933,020

(8) RESEARCH AND DEVELOPMENT AGREEMENTS

The Company is party to a number of research and development arrangements with both governmental and commercial entities. These arrangements are generally short-term in nature and provided $236,019, $1,445,705, and $160,984 of revenue for the years ended December 31, 1996, 1997, and 1998, respectively.

(9) LICENSE AGREEMENTS

In 1991, the Company was granted an exclusive license by a third party to make, have made, use and sell products of the type claimed in a U.S. patent. In consideration for this license, the Company agreed to pay

royalties of 1/2% of net sales of licensed products, as defined. As of December 31, 1998, no royalty payments were due under this agreement.

In 1994, the Company was granted a non-exclusive license by a third party to make, use, and sell products of the type claimed in two U.S. patents. In consideration for this license, the Company agreed to pay royalties of 1% of net sales, as defined, and made an advance royalty payment of $17,500. As of December 31, 1998, royalties in addition to the $17,500 amounted to $3,088.

In 1996, the Company was granted a non-exclusive license by a third party to produce and sell ultrafine powders of metal and ceramics claimed in four U.S. patents. In consideration for this license, the Company agreed to pay $14,000 as an initial payment, and pay royalties of 3% of net proceeds of sales of the product, as defined. As of December 31, 1998, aggregate royalties under this agreement approximated $25,000. The Company was also granted a remainder-exclusive license by a third party to make, have made, use, import, sell or have sold products of the type claimed in three U.S. patents. In consideration for this license, the Company agreed to pay $5,000 as an initial payment, $5,000 upon reaching the earlier of either defined profitability or the second anniversary of the agreement, and royalties at the rate of 4% of the defined net sales of the related products. The agreement also provides for minimum royalty payments beginning in 1999, the fourth license year. As of December 31, 1998, aggregate royalties under this agreement amounted to $10,000.

In December 1997, the Company entered into a license agreement whereby the Company granted a royalty-bearing exclusive right and license, as defined, to purchase, make, use and sell nanocrystalline materials to a third party. As consideration for the right and license thereby granted, the Company recognized a non-refundable technology transfer fee of $1,400,000, which was earned upon execution of the agreement. As defined, the Company also will earn royalties on net sales of manufactured products containing nanocrystalline materials. The agreement also provided for minimum sales targets and minimum royalty payments to maintain exclusivity. The agreement expires on March 31, 2013 unless earlier terminated as provided therein. In 1998, the first year which royalties were earned under this agreement, the Company recorded revenue of $1,960.

(10) INCOME TAXES

The Company has net operating loss carryforwards for tax purposes of approximately $18,300,000 at December 31, 1998, which expire between 2005 and 2013. The Company has not paid income taxes since inception. The Company also has a foreign tax credit carryforward of approximately $156,000 which could be used as an offsetting tax credit to reduce U.S. income taxes. This foreign tax credit will expire in 2013 if not utilized before that date.

NANOPHASE TECHNOLOGIES CORPORATION

NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the Company's deferred income taxes consist of the following:

	AS OF DECEMBER 31,	
	1997	1998
DEFERRED TAX ASSETS:		
Net operating loss carryforward	$ 5,226,000	$ 7,137,000
Start-up cost capitalized for income tax purposes	122,000	81,000
Inventory and other allowances	--	143,000
Other accrued costs	74,000	146,000
Total deferred tax assets	5,422,000	7,507,000
DEFERRED TAX LIABILITY:		
Accelerated tax depreciation	(62,000)	--
Net deferred tax asset	5,360,000	7,507,000
Less: Valuation allowance	(5,360,000)	(7,507,000)
Deferred income taxes	$ --	$ --

The valuation allowance increased $2,147,000 for the year ended December 31, 1998 due principally to the increase in the net operating loss carryforward and uncertainty as to whether future taxable income will be generated prior to the expiration of the carryforward period. Under the Internal Revenue Code, certain ownership changes, including the prior issuance of preferred stock and the Company's public offering of common stock, may subject the Company to annual limitations on the utilization of its net operating loss carryforward.

As a result of certain transactions with third parties operating in foreign countries, the Company may be subject to the withholding and payment of foreign income taxes as transactions are completed. Under the Internal Revenue Code, foreign tax payments may be used to offset federal income tax liabilities when incurred, subject to certain limitations. In 1998, the Company recorded $156,000 in foreign tax expense due to withholding by foreign tax authorities on amounts due from foreign customers.

(11) CAPITAL STOCK

In November 1997, the Company's Board of Directors approved a migratory merger of the Company from Illinois to Delaware, authorized a reverse stock split and restated the par value of the Company's common stock. All share and per share amounts in the financial statements and notes to financial statements have been restated to reflect a .579-for-1 reverse stock split and restatement of the par value to $0.01 for all common stock.

In 1997, a total of 748,089 shares of Series F convertible preferred stock were issued for cash amounting to $3,770,543 which is net of financing costs of $105,565.

In November 1997, a total of 4,000,000 shares of common stock was issued in conjunction with the Company's initial public offering at an offering price of $8 per share. The Company received proceeds of $28,837,936, which is net of offering costs of $3,162,064. Pursuant to the Company's prior Illinois articles of incorporation, all Series A, B, C, D, E and F convertible preferred stock was automatically converted to common stock in conjunction with the initial public offering.

In October 1998, the Company declared a dividend of one Preferred Stock Purchase Right (a "Right") for each outstanding share of Company common stock on November 10, 1998. The Rights are not presently exercisable. Each Right entitles the holder, upon the occurrence of certain specified events, to purchase from

NANOPHASE TECHNOLOGIES CORPORATION

NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

the Company one ten-thousandth of a share of the Company's Series A Junior Participating Preferred Stock at a purchase price of $25 per one-ten thousandth of a share (the "Purchase Price"). The Rights further provide that each Right will entitle the holder, upon the occurrence of certain specified events, to purchase from the Company, common stock having a value of twice the Purchase Price and, upon the occurrence of certain other specified events, to purchase from another entity into which the Company is merged or which acquires 50% or more of the Company's assets or earnings power, common stock of such other entity having a value of twice the Purchase Price. In general, the Rights may be redeemed by the Company at a price of $0.01 per Right. The Rights expire on October 28, 2008.

At December 31, 1998, 2,500 shares of authorized but unissued Preferred Stock have been reserved for future issuance regarding the Rights. In addition, authorized but unissued shares of common stock have been reserved for future issuance as follows:

Warrants	429,796
Options	2,586,251
	3,016,047

(12) STOCK OPTIONS AND WARRANTS

The Company has entered into stock option agreements with certain officers, employees, directors (two of whom are also service providers) and three Advisory Board members. At December 31, 1998, the Company had granted options to purchase 1,781,385 shares of common stock. The stock options generally expire ten years from the date of grant. Of the total number of options granted, 1,117,690 of the outstanding options vest over a five-year period and 37,370 vest over a three-year period from their respective grant dates. Of the remaining 626,325 outstanding options, 121,818 vest on the eighth anniversary following their grant date, and the remaining 504,507 were accelerated to vest over a five-year period due to specific performance targets being met.

Exercise prices are determined by the Board of Directors and equal the estimated fair values of the Company's common stock at the grant date. The table below summarizes option activity from January 1, 1996 through December 31, 1998:

	NUMBER OF OPTIONS	EXERCISE PRICE	WEIGHTED AVERAGE EXERCISE PRICE
Outstanding at January 1, 1996	435,119	$.112 - .432	$ .249
Options granted during 1996	1,192,508	1.727 - 3.886	3.309
Options canceled during 1996	(12,101)	.112 - 1.727	1.549
Outstanding at December 31, 1996	1,615,526	.112 - 3.886	2.499
Options granted during 1997	17,370	5.181	5.181
Options exercised during 1997	(43,425)	.112	.112
Options canceled during 1997	(150,482)	.112 - 3.886	3.760
Outstanding at December 31, 1997	1,438,989	.112 - 5.181	2.471
Options granted during 1998	521,400	2.938 - 5.750	3.694
Options exercised during 1998	(128,356)	.112 - 3.886	.702
Options canceled during 1998	(50,648)	3.813 - 3.886	3.874
Outstanding at December 31, 1998	1,781,385	.112 - 5.750	2.916

At December 31, 1998, options for 153,435, 65,113, 91,422, 232,063, and 5,907 shares of common stock were exercisable at $.112, $.432, $1.727, $3.886 and $5.181 per share, respectively. At December 31, 1997,

options for 180,378, 75,270, 62,903, and 17,833 shares of common stock were exercisable at $.112, $.432, $1.727, and $3.886 per share, respectively. At December 31, 1996, options for 187,675, 38,793, and 2,606 shares of common stock were exercisable at $.112, $.432, and $1.727 per share, respectively. To date, 171,781 options have been exercised and none have expired. The weighted average remaining contractual life of the outstanding options at December 31, 1998 was eight years.

In connection with the issuance of Series C convertible preferred stock in 1993, the Company issued common stock purchase warrants for 662,287 shares at no additional cost to the Series C convertible preferred stockholders. At the Company's initial public offering on November 26, 1997, all preferred shares were converted into shares of common stock. These warrants have an exercise price of $1.123 per share and expire upon the tenth anniversary of issuance. In July 1998, 232,491 warrants were exercised in a cashless transaction whereby the Company issued 162,868 common shares. The balance of 69,623 shares was retired by the Company in exchange for the exercise price for such warrants. At December 31, 1998, 429,796 warrants remained outstanding.

The Company has elected to follow APB No. 25 and related interpretations in accounting for its employee stock options because, as discussed below, the alternative fair value accounting provided for under FASB No. 123 requires use of option valuation models that were not developed for the use in valuing employee stock options. Pro forma information regarding net income is required by FASB No. 123, which also requires that the information be determined as if the Company had accounted for the employee stock options granted subsequent to December 31, 1994 under the fair value method of that Statement. The fair value for these options was estimated at the date of grant using a Black-Scholes option pricing model with the following assumptions for the years ended December 31, 1996, 1997, and 1998: U.S. government zero coupon 7-year bond interest rates ranging from 4.6% to 6.9%, depending upon the specific grant date of the options; a dividend yield of zero percent; and a weighted-average expected life of the option of 7 years. The volatility factor was assumed to be zero as the Company was privately held and no market existed for its stock in 1996, or for the period during which options were granted in 1997. For 1998, the volatility factor used was 25%. The weighted average fair value of the net options granted during 1996, 1997, and 1998 was $1.124, $1.753, and $1.505 per share, respectively.

The Black-Scholes option valuation model was developed for the use in estimating the fair value of traded options which have no vesting restrictions and are fully transferable. In addition, option valuation models require the input of highly subjective assumptions including the expected stock price volatility. Because the Company's employee stock options have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in management's option, the existing models do not necessarily provide a reliable single measure of the fair value of its employee stock options.

For purposes of the pro forma disclosures, the estimated fair value of the options is amortized to expense over the vesting period of the respective option. Because FASB No. 123 is applicable only to options granted subsequent to December 31, 1994, its pro forma impact will not be fully reflected until 2002. The Company's pro forma net loss would be $5,621,482, $3,275,177, and $5,922,570 and the pro forma net loss per share would be $0.82, $0.40, and $0.48 for the years ended December 31, 1996, 1997, and 1998, respectively.

(13) 401(K) PROFIT-SHARING PLAN

Company has a 401(k) profit-sharing plan covering substantially all employees who meet defined service requirements. The plan provides for deferred salary contributions by the plan participants and a Company contribution. Company contributions, if any, are at the discretion of the Board of Directors and are not to exceed the amount deductible under applicable income tax laws. No Company contributions have been made since inception of the plan.

NANOPHASE TECHNOLOGIES CORPORATION

NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

(14) RELATED PARTY TRANSACTIONS

The Company has an ongoing consulting agreement with a director/stockholder. The agreement is on a month-to-month basis. Payments under this agreement amount to $2,500 per month.

In October 1998, the Company entered into a consulting agreement with another director/stockholder. The consulting agreement may be terminated at any time by either party. In consideration for the services provided as a consultant, the Board granted the individual options to acquire 25,000 shares of Company common stock at an exercise price of $3.50 per share. The options vest equally over a 5-year period from the date of grant.

(15) SIGNIFICANT CUSTOMERS

Revenue from four customers constituted approximately 64.3% of the Company's 1996 revenue. In particular, revenue from each such customer constituted approximately 22.5%, 16.9%, 14.2% and 10.8%, respectively, of the Company's 1996 revenue. Revenue from two customers constituted approximately 85.3% of the Company's 1997 revenue. In particular, revenue from each such customer constituted approximately 43.1% and 42.2%, respectively, of the Company's 1997 revenue. Revenue from four customers constituted approximately 55.8% of the Company's 1998 revenue. In particular, revenue from each such customer constituted approximately 16.9%, 14.0%, 13.4% and 11.5%, respectively, of the Company's 1998 revenue.

(16) CONTINGENT LIABILITIES

Five separate complaints were filed in the United States District Court for the Northern District of Illinois, Eastern Division, each of which alleged that the Company, certain of its officers and directors, and the underwriters of the Company's Offering are liable under the federal securities laws for making material misstatements of fact and omitting and failing to state material facts necessary to make other statements of fact not misleading in the Registration Statement and Prospectus relating to the Offering. In an order entered by the Court, those cases were consolidated and a consolidated complaint was filed on October 30, 1998. The consolidated complaint alleges that the action should be maintained as (i) a plaintiff class action on behalf of certain persons who purchased the Common Stock from November 26, 1997 through January 8, 1998, excluding the defendants, members of their immediate families, any entity in which a defendant has a controlling interest and certain others related to or affiliated with the foregoing, and (ii) a defendant class action against the underwriters who participated in the Offering. The consolidated complaint seeks unquantified damages as provided for under the federal securities laws, pre- and post-judgment interest, attorneys' fees, expert witness fees, other costs and expenses and such other and further relief as the Court may find proper. In addition, the consolidated complaint seeks rescission and/or rescissory damages relating to purchases of the Common Stock, as provided for under federal securities laws. All defendants have filed motions to dismiss the consolidated complaint that are fully briefed and under advisement by the Court. In August 1998, the Company received a request for indemnification from the underwriters of the Offering pursuant to the underwriting agreement for the Offering. In response to such request, the Company has agreed to be responsible for the underwriters' attorneys' fees with respect to the litigation.

On November 20, 1998, a separate complaint was filed in the Northern District of Illinois, Eastern Division, which alleged that the Company, certain of its officers and directors, and the underwriters of the Company's Offering are liable under the federal securities laws for making material misstatements of fact and omitting or failing to state material facts necessary to make other statements of fact not misleading in connection with the solicitation of consents to proceed with the Offering from certain of the Company's preferred stockholders. The complaint alleges that the action should be maintained as a plaintiff class action on behalf of those former preferred stockholders whose shares of preferred stock of the Company were converted into Common Stock on or about the date of the Offering, excluding the defendants, other officers and directors of the Company, members of the immediate families of all individual defendants, any entity in

which a defendant has a controlling interest and certain others related to, employed by or affiliated with the foregoing. The complaint seeks unquantified damages as provided for under the federal securities laws, pre-and post-judgment interest, attorneys' fees, expert witness fees, other costs and expenses and such other and further relief as the Court may find proper. On March 15, 1999, the preferred stockholders' complaint was referred to the Court's Executive Committee for possible (i) reassignment to the judge hearing the consolidated complaint described above and (ii) further consolidation with that litigation.

The Company, the defendant directors and the defendant officers have each retained counsel with respect to both of the above-described litigations and intend to defend against both complaints vigorously. Although the Company believes that the allegations of the complaints are without merit, it is unable to predict at this time the outcome of either litigation or whether the resolution of either litigation could have a material adverse effect on the Company's results of operations, cash flows or financial condition.

SCHEDULE II

VALUATION AND QUALIFYING ACCOUNTS

DESCRIPTION	BALANCE BEGINNING OF PERIOD	ADDITIONS: COSTS AND EXPENSES	ADDITIONS: OTHER ACCOUNTS	DEDUCTIONS	BALANCE AT END OF PERIOD
Year ended December 31, 1996:					
Deferred tax asset valuation account	$2,269,000	$2,081,000	$ --	$ --	$4,350,000
Year ended December 31, 1997:					
Allowance for doubtful accounts	$ --	$ 46,976	$ --	$27,700	$ 19,276
Deferred tax asset valuation account	$4,350,000	$1,010,000	$ --	$ --	$5,360,000
Year ended December 31, 1998:					
Allowance for doubtful accounts	$ 19,276	$ 125,623	$ --	$59,899	$ 85,000
Allowance for excess inventory quantities account	$ --	$ 190,633	$ --	$ --	$ 190,633
Deferred tax asset valuation account	$5,360,000	$2,147,000	$ --	$ --	$7,507,000

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on the 30th day of March, 1999.

NANOPHASE TECHNOLOGIES CORPORATION

By: /s/ JOSEPH CROSS

Joseph Cross
President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this Report has been signed below by the following persons on behalf of the registrant and in the capacities indicated on the 30th day of March, 1999.

SIGNATURE	TITLE
/s/ JOSEPH CROSS Joseph Cross	President, Chief Executive Officer (Principal Executive Officer) and a Director
/s/ DENNIS J. NOWAK Dennis J. Nowak	Vice President -- Finance and Administration, Chief Financial Officer, Treasurer and Secretary (Principal Financial and Accounting Officer)
/s/ DONALD S. PERKINS Donald S. Perkins	Chairman of the Board and Director
/s/ STEVEN LAZARUS Steven Lazarus	Director
/s/ RICHARD W. SIEGEL Richard W. Siegel	Director
/s/ ROBERT W. SHAW, JR Robert W. Shaw, Jr	Director

EXHIBIT INDEX

EXHIBIT NUMBER	
4.4	Certificate of Designation of Series A Junior Participating Preferred Stock.
10.15	Amendment to the Supply Agreement dated as of October 15, 1998 between the Company and EKC.
10.16	Employment Agreement dated as of November 9, 1998 between the Company and Joseph Cross.
10.17	Consulting Agreement effective as of October 29, 1998 between the Company and Donald S. Perkins.
10.18	Employment Agreement dated as of February 15, 1999 between the Company and Gina Kritchevsky.
10.19	Employment Agreement dated as of March 15, 1999 between the Company and Daniel S. Bilicki.
10.21	Consulting and Severance Agreement dated October 28, 1998 between the Company and John C. Parker.
11	Statement regarding computation of loss per share.
23	Consent of Ernst & Young LLP.
27	Financial Data Schedule.

EXHIBIT 4.4

CERTIFICATE OF DESIGNATIONS

of

SERIES A JUNIOR PARTICIPATING PREFERRED STOCK

of

NANOPHASE TECHNOLOGIES CORPORATION

(Pursuant to Section 151 of the
Delaware General Corporation Law)

NANOPHASE TECHNOLOGIES CORPORATION, a corporation organized and existing under the General Corporation Law of the State of Delaware (hereinafter called the "Company"), hereby certifies that the following resolution was adopted by the Board of Directors of the Company as required by Section 151 of the General Corporation Law at a meeting duly called and held on October 26, 1998:

RESOLVED, that pursuant to the authority granted to and vested in the Board of Directors of this Company (hereinafter called the "Board of Directors" or the "Board") in accordance with the provisions of the Company's Certificate of Incorporation, the Board of Directors hereby creates a series of Preferred Stock, par value $.01 per share (the "Preferred Stock"), of the Company and hereby states the designation and number of shares, and fixes the relative rights, preferences, and limitations thereof as follows:

Series A Junior Participating Preferred Stock:

Section 1. Designation and Amount. The shares of such series shall be designated as "Series A Junior Participating Preferred Stock" (the "Series A Preferred Stock") and the number of shares constituting the Series A Preferred Stock shall initially be 2,500. Such number of shares may be increased or decreased by resolution of the Board of Directors; provided, that no decrease shall reduce the number of shares of Series A Preferred Stock to a number less than the number of shares then outstanding plus the number of shares reserved for issuance upon the exercise of outstanding options, rights or warrants or upon the conversion of any outstanding securities or rights issued by the Company convertible into Series A Preferred Stock and further provided that the Board of Directors shall increase the number of shares constituting the Series A Preferred Stock to the extent necessary for the Company to have available sufficient shares of such Series A Preferred Stock available to fulfill all of the Company's obligations to holders of securities and Rights of the Company.

Section 2. Dividends and Distributions.

(A) Subject to the rights of the holders of any shares of any series of Preferred Stock (or any similar stock) ranking prior and superior to the Series A Preferred Stock with respect to dividends, the holders of shares of Series A Preferred Stock, in preference to the holders of Common Stock, par value $.01 per share (the "Common Stock"), of the Company, and of any other junior stock, shall be entitled to receive, when, as and if declared by the Board of Directors out of the funds legally available for the purpose, dividends payable when and as dividends are declared on the Common Stock in an amount, subject to the provision for adjustment hereinafter set forth, equal to 10,000 times the aggregate per share amount of all cash dividends, and 10,000 times the aggregate per share amount (payable in kind) of all non-cash dividends or other distributions, declared on the Common Stock (except as provided in the next sentence). In the event the Company shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision or combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the amount to which holders of shares of Series A Preferred Stock were entitled immediately prior to such event under the preceding sentence shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

(B) The Company shall declare a dividend or distribution on the Series A Preferred Stock as provided in paragraph (A) of this Section 2 immediately after it declares a dividend or distribution on the Common Stock.

Section 3. Voting Rights. The holders of shares of Series A Preferred Stock shall have the following voting rights:

(A) Each share of Series A Preferred Stock shall entitle the holder thereof to 10,000 votes on all matters submitted to a vote of the stockholders of the Company.

(B) Except as otherwise provided herein, in any other Certificate of Designations creating a series of Preferred Stock or any similar stock, or by law, the holders of shares of Series A Preferred Stock and the holders of shares of Common Stock and any other capital stock of the Company having general voting rights shall vote together as one class on all matters submitted to a vote of stockholders of the Company.

(C) Except as set forth herein, or as otherwise provided by law, holders of Series A Preferred Stock shall have no special voting rights and their consent shall not be required (except to the extent they are entitled to vote with holders of Common Stock as set forth herein) for taking any corporate action.

Section 4. Reacquired Shares. Any shares of Series A Preferred Stock purchased or otherwise acquired by the Company in any manner whatsoever shall be retired and cancelled

promptly after the acquisition thereof. All such shares shall upon their cancellation become authorized but unissued shares of Preferred Stock and may be reissued as part of a new series of Preferred Stock subject to the conditions and restrictions on issuance set forth herein, in the Company's Certificate of Incorporation, or in any other Certificate of Designations creating a series of Preferred Stock or any similar stock or as otherwise required by law.

Section 5. Liquidation, Dissolution or Winding Up. Upon any liquidation, dissolution or winding up of the Company, no distribution shall be made (1) to the holders of shares of stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series A Preferred Stock unless, prior thereto, the holders of shares of Series A Preferred Stock shall have received an aggregate amount per share, subject to the provision for adjustment hereinafter set forth, equal to 10,000 times the aggregate amount to be distributed per share to holders of shares of Common Stock. In the event the Company shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision or combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the aggregate amount to which holders of shares of Series A Preferred Stock were entitled immediately prior to such event under the proviso in clause (1) of the preceding sentence shall be adjusted by multiplying such amount by a fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

Section 6. Consolidation, Merger, etc. In case the Company shall enter into any consolidation, merger, combination or other transaction in which the shares of Common Stock are exchanged for, or changed into, other stock or securities, cash and/or any other property, then in any such case each share of Series A Preferred Stock shall at the same time be similarly exchanged or changed into an amount per share, subject to the provision for adjustment hereinafter set forth, equal to 10,000 times the aggregate amount of stock, securities, cash and/or any other property (payable in kind), as the case may be, into which or for which each share of Common Stock is changed or exchanged. In the event the Company shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision or combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the amount set forth in the preceding sentence with respect to the exchange or change of shares of Series A Preferred Stock shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

Section 7. No Redemption. The shares of Series A Preferred Stock shall not be redeemable.

Section 8. Rank. The Series A Preferred Stock shall rank, with respect to the payment of dividends and the distribution of assets, junior to all series of any other class of the Company's Preferred Stock.

Section 9. Amendment. The Certificate of Incorporation of the Company shall not be amended in any manner which would materially alter or change the powers, preferences or special rights of the Series A Preferred Stock so as to affect them adversely without the affirmative vote of the holders of at least two-thirds of the outstanding shares of Series A Preferred Stock, voting together as a single class.

IN WITNESS WHEREOF, this Certificate of Designations is executed on behalf of the Company by its Chief Executive Officer and attested by its Secretary this 9th day of November, 1998.

/s/ Robert W. Cross

Robert W. Cross
Chief Executive Officer

Attest:

/s/ Dennis J. Nowak
- --------------------
Dennis J. Nowak
Secretary

EXHIBIT 10.15

AMENDMENT TO SUPPLY AGREEMENT

This AMENDMENT TO SUPPLY AGREEMENT is made and entered into as of this 15 day of October, 1998, by and between EKC TECHNOLOGY, INC., a California corporation ("EKC") and NANOPHASE TECHNOLOGIES CORPORATION, a Delaware corporation ("Nanophase").

RECITALS

WHEREAS, EKC and Nanophase entered into a Supply Agreement dated as of December 31, 1997 (hereinafter the "Supply Agreement"); and

WHEREAS, the parties hereto desire to amend the Supply Agreement.

NOW THEREFORE, for and in consideration of the payments to be made hereunder, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. Paragraph 5 of the Supply Agreement is hereby amended to read, in its entirety, as follows:

> "5. TERMINATION OF EXCLUSIVITY. If EKC fails to purchase from Nanophase an amount of Nanophase Particles required to meet the applicable Minimum Quarterly Exclusivity Threshold (set forth below), then Nanophase may, upon ninety (90) days prior written notice to EKC, terminate the exclusivity obligation of Section 2(a); provided, however, EKC shall have the right to cure any such deficiency and avoid the termination of Nanophase's exclusivity obligation by submitting to Nanophase a prepaid order in the amount of such deficiency prior to expiration of the 90-day notice period. In the event the exclusivity obligation of Nanophase is so terminated, the remaining rights and obligations of this Agreement shall nevertheless remain in full force and effect unless terminated in accordance with Section 4 hereof.

For each calendar quarter during the term hereof, the Minimum Quarterly Exclusivity Threshold shall be as follows:

Calendar Quarter	Minimum Quarterly Exclusivity Threshold (000's omitted)
3rd Quarter 1998	50
4th Quarter 1998	75
1st Quarter 1999	100
2nd Quarter 1999	125
3rd Quarter 1999	175
4th Quarter 1999	250
1st Quarter 2000	250
2nd Quarter 2000	250
3rd Quarter 2000	500
4th Quarter 2000	500

For each calendar quarter of each year after the year 2000, the Minimum Quarterly Exclusivity Threshold shall be an amount equal to the lesser of (i) two times the total of the Minimum Quarterly Exclusivity Threshold for the previous year, or (ii) $5,000,000.00, divided in each case by four (4). For example, the Minimum Quarterly Exclusivity Threshold for each calendar quarter of the year 2001 would be $750,000.00, which is determined by adding the Minimum Quarterly Exclusivity Threshold for each quarter in the year 2000 multiplying that total by two and then dividing by four."

2. Paragraph 6 of the Supply Agreement is hereby amended to read, in its entirety, as follows:

"6. TERMINATION OF SUPPLY MAINTENANCE OBLIGATION. If EKC fails to purchase from Nanophase an amount of Nanophase Particles required to meet the applicable annual supply maintenance obligation (set forth below), Nanophase may terminate its obligation to supply Nanophase Particles exclusively to EKC hereunder, except, however, Nanophase shall thereafter continue to be obligated to supply EKC with quantities of Nanophase Particles sufficient for EKC to satisfy all orders for CMP Products that EKC receives from its customer base existing at the time of such termination (the "Supply Maintenance

Obligation"). Nanophase may terminate its obligation to supply Nanophase Particles other than to EKC's existing customers base upon thirty (30) days written notice to EKC following EKC's failure to meet the applicable annual Minimum Supply Maintenance Threshold; however, EKC shall have the right to cure such deficiency and avoid such termination by submitting to Nanophase a prepaid order for the deficiency in the applicable Minimum Supply Maintenance Threshold prior to the expiration of the 30-day notice period. The Minimum Supply Maintenance Threshold shall be an amount equal to one-half of the total Minimum Quarterly Exclusivity Thresholds for each calendar year. For example, the Minimum Supply Maintenance Threshold for the year 2000 would be $750,000.00, which is determined by adding the Minimum Quarterly Exclusivity Thresholds for each calendar quarter of the year 2000 and dividing by two."

3. Except as amended hereby, the Supply Agreement shall otherwise remain in full force and effect.

IN WITNESS WHEREOF, the parties have caused this Amendment to Supply Agreement to be executed as of the day and year first above written.

EKC TECHNOLOGY, INC.	NANOPHASE TECHNOLOGIES CORPORATION
By: /s/ Authorized Signatory	By: /s/ Don Freed
Title: VP-CMP	Title: Vice President

EXHIBIT 10.16

EMPLOYMENT AGREEMENT

Employment Agreement dated and effective as of November 9, 1998 (this "AGREEMENT"), between NANOPHASE TECHNOLOGIES CORPORATION, a Delaware corporation (with its successors and assigns, referred to as the "COMPANY"), and JOSEPH CROSS (referred to as "CROSS").

PRELIMINARY STATEMENT

The Company desires to employ Cross, and Cross wishes to be employed by the Company, upon the terms and subject to the conditions set forth in this Agreement. The Company and Cross also wish to enter into the other covenants set forth in this Agreement, all of which are related to Cross's employment with the Company. Cross and the Company therefore agree as follows:

AGREEMENT

1. EMPLOYMENT FOR TERM. The Company hereby employs Cross, and Cross hereby accepts employment with the Company, beginning on or about November 9, 1998, until terminated pursuant to Section 6 below (the "TERM").

2. POSITION AND DUTIES. During the Term, Cross shall serve as the president and chief operating officer of the Company and shall report to the chief executive officer of the Company. During the Term, Cross shall also (i) hold such additional positions and titles as the Board of Directors of the Company (the "BOARD") may determine from time to time, and (ii) serve as a member of the Board until such time as he may resign or be removed, or until his successor may be duly qualified and elected. During the Term, Cross shall devote substantially all of his business time and best efforts to his duties as an employee and officer of the Company.

3. COMPENSATION.

(a) BASE SALARY. For his service as an officer and employee of the Company, the Company shall pay Cross a base salary, beginning on the first day of the Term and ending on the last day of the Term, of not less than $200,000 per annum, payable on the Company's regular pay cycle for professional employees. Cross shall only be entitled to additional compensation for his service as a member of the Board as is or may become payable to employee directors for their service on the Board, as determined by the Board in its sole discretion.

(b) BONUS PAYMENT. The Company shall pay Cross a bonus of $50,000 on the first anniversary of the commencement of the Term. Cross will be eligible for additional bonuses for services to be performed as an officer and employee of the Company in calendar year 1999 and subsequent years based on performance milestones agreed upon by Cross and the Chief Executive Officer of the Company and approved by the Board.

(c) STOCK OPTIONS AND PURCHASE RIGHTS. In connection with the execution of this Agreement, the Company has granted to Cross options to purchase up to 100,000 shares of the Company's common stock (the "INITIAL OPTIONS") under the Company's Amended and Restated 1992 Stock Option Plan ("PLAN") with a grant date of November 9, 1998. Provided that Cross remains an employee of the Company on such date, the Company further agrees to grant to Cross additional options to purchase up to 50,000 shares of the Company's common stock under the Plan (the "ADDITIONAL OPTIONS") and otherwise on the same terms and conditions as applicable to the Initial

Options, with a grant date on and as of the first business day of January, 1999 at an exercise price determined under the Plan as of such grant date. The Company further agrees that Cross shall be eligible for additional option grants based on annual performance reviews and awarded in the discretion of the Board.

(d) EXPENSE REIMBURSEMENTS. The Company agrees to pay to or on behalf of Cross the following costs and expenses, as and when incurred by Cross or otherwise as specifically set forth below, and unless otherwise specifically provided below subject to receipt by the Company of appropriate documentation or other evidence of such expenses: (i) reasonable out-of-pocket expenses incurred by Cross in the physical move of his family and household from his current residence to the Chicago Metropolitan area (including transport of automobiles and packing and unpacking expenses); (ii) out-of-pocket costs for economy-level living expenses, including housing, utilities and a rental or leased automobile, for the period commencing with the first day of the Term through approximately June, 1999, or for such time as may be necessary for Cross to sell his current residence and relocate to the Chicago Metropolitan area, but in any event no later than a reasonable time; (iii) out-of-pocket economy class commuting costs (including air travel and parking expenses) to and from his current residence and Chicago, Illinois each weekend for such reasonable time as may be necessary to relocate his family to the Chicago Metropolitan area, but in any event no later than a reasonable time; (iv) reimbursement for out-of pocket economy-class travel expenses to Chicago for Cross' wife for up to three (3) house-hunting trips; (v) the services of a relocation advisor in the Chicago Metropolitan area; (vi) realtor fees and closing costs actually paid by Cross and related to the sale by Cross of his current residence, in an aggregate amount not to exceed 7% of the gross sales price of such residence; (vii) $27,000 as an unaccountable reimbursement for other costs and expenses to be incurred by Cross in the relocation of his family to the Chicago Metropolitan area, including the purchase of a new residence in the Chicago Metropolitan area, payable on or before December 1, 1998; (viii) except for moving expenses reimbursed by the Company pursuant to this Agreement and which do not constitute taxable income to Cross for federal income tax purposes, cash in the amount of 35% of the total actual out-of-pocket moving expenses incurred by Cross and paid or reimbursed by the Company under this Section 3(d) (and further including the amount paid to Cross pursuant to subsection 3(d)(vii) above) which are required to be included in Cross' gross income for federal and state income tax purposes in calendar year 1997, and 38% of the amount of such expenses incurred by Cross and paid or reimbursed by the Company under this Section 3(d) in calendar year 1999, and (ix) an amount of $1,500 per month commencing with the first month for which Cross is obligated to make a mortgage payment on a principal residence in the Chicago Metropolitan area, and for each of the next succeeding twenty three (23) months thereafter.

(e) OTHER AND ADDITIONAL COMPENSATION. Sections 3(a), 3(b), 3(c) and 3(d) establish minimum salary, reimbursement, bonus and option grant levels for Cross during the Term, and shall not preclude the Board from awarding Cross a higher salary or more stock options at any time, nor shall they preclude the Board from awarding Cross additional bonuses or other compensation in the discretion of the Board.

4. EMPLOYEE BENEFITS. During the Term, Cross shall be entitled to the employee benefits made available by the Company generally to all other employees of the Company, and shall be entitled to (i) three (3) weeks of vacation in the twelve month period ending November 15, 1999, and (ii) four (4) weeks vacation in the twelve month period ending November 15, 2000, subject to adjustment based on subsequent changes in the Company's vacation policy from time to time applicable to the Company's officers generally.

5. EXPENSES. Without limitation of Section 3(d) above, the Company shall reimburse

Cross for actual out-of-pocket expenses reasonably incurred by him in the performance of his services as an officer and employee of the Company in accordance with the Company's policy for such reimbursements applicable to employees generally, and upon receipt by the Company of appropriate documentation and receipts for such expenses.

6. TERMINATION.

(a) GENERAL. The Term shall end immediately upon Cross' death. Either Cross or the Company may end the Term at any time for any reason or no reason, with or without Cause, in the absolute discretion of Cross or the Board (but subject to each party's obligations under this Agreement), provided that Cross will provide the Company with at least thirty (30) days' prior written notice of his resignation from his positions as an officer and employee with, and director of, the Company.

(b) NOTICE OF TERMINATION. Promptly after it ends the Term, the Company shall give Cross notice of the termination, including a statement of whether the termination was for "Cause" (as defined in Section 7(a) below). The Company's failure to give notice under this Section 6(b) shall not, however, affect the validity of the Company's termination of the Term or Cross' employment hereunder.

7. SEVERANCE BENEFITS.

(a) "CAUSE" DEFINED. "Cause" means (i) willful and gross malfeasance or willful and gross misconduct by Cross in connection with his employment; (ii) Cross' gross negligence in performing any of his duties under this Agreement; (iii) Cross' conviction of, or entry of a plea of guilty to, or entry of a plea of nolo contendere with respect to, any crime other than a misdemeanor; (iv) Cross' willful and gross breach of any written policy applicable to all employees adopted by the Company concerning conflicts of interest, political contributions, standards of business conduct or fair employment practices, procedures with respect to compliance with securities laws or any similar matters, or adopted pursuant to the requirements of any government contract or regulation; or (v) material breach by Cross of any of the terms and conditions of this Agreement.

(b) TERMINATION WITHOUT CAUSE. If the Company ends the Term other than for Cause, (i) the Company shall pay Cross an amount equal in annual amount to his base salary in effect at the time of termination during the period (the "SEVERANCE PERIOD") of fifty two (52) full weeks after the effective date of termination, payable in proportionate amounts on the Company's regular pay cycle for professional employees and (if the last day of the Severance Period is not the last day of a pay period) on the last day of the Severance Period, and (ii) the Initial Options, the Additional Options and any subsequent options granted to Cross prior to termination (collectively, the "OPTIONS") shall become fully vested, and shall become exercisable in accordance with the applicable option grant agreements and the Plan.

(c) TERMINATION FOR ANY OTHER REASON. If the Company ends the Term for Cause, or if Cross resigns as an employee or officer of the Company, or if Cross dies, then the Company shall have no obligation to pay Cross any amount, whether for salary, benefits, bonuses, or other compensation or expense reimbursements of any kind, accruing after the end of the Term, and such rights shall, except as otherwise required by law (or, with respect to the Options, as set forth in the Plan or the applicable option grant agreements), be forfeited immediately upon the end of the Term. In addition, upon the end of the Term for any reason other than the death of Cross, Cross shall tender his resignation as a member of the Board as of such date in form acceptable to the Company.

8. ADDITIONAL COVENANTS.

(a) CONFIDENTIALITY. Cross agrees to execute the Company's standard form of Confidentiality and Proprietary Rights Agreement promptly upon execution of this Agreement.

(b) "NON-COMPETITION PERIOD" DEFINED. "NON-COMPETITION PERIOD" means the period beginning at the end of the Term and ending either (i) 365 days after the end of the Severance Period, if the Company is obligated to make payments under Section 7(b) above, or (ii) 365 days after the end of the Term, if the Company is not obligated to make payments under Section 7(b) above.

(c) COVENANTS OF NON-COMPETITION AND NON-SOLICITATION. Cross acknowledges that his services pursuant to this Agreement are unique and extraordinary, that the Company will be dependant upon Cross for the development and growth of its business and related functions, and that he will develop personal relationships with significant customers of the Company and have control of confidential information concerning, and lists of customers of, the Company. Cross further acknowledges that the business of the Company is national in scope and cannot be confined to any particular geographic area of the United States. For the foregoing reasons, and in consideration of the execution of this Agreement by the Company, Cross covenants and agrees that during the Non-Competition Period Cross shall not, directly or indirectly, engage in, be financially interested in, represent, render any advice or services to, or be employed by, any other business (conducted for profit or not for profit) which is principally or materially engaged in or is competitive with the nanophase and ultrafine powder production, coating and forming businesses engaged in by the Company, or planned to be engaged in by the Company, within the United States of America. For the reasons acknowledged by Cross at the beginning of this Section 8(c), Cross additionally covenants and agrees that during the Non-Competition Period, Cross shall not, directly or indirectly, whether on his own behalf or in behalf of any other person or entity, in any manner (A) solicit the business of or otherwise contact in any commercial capacity any person or entity that was a customer, supplier, or contractor of or to the Company for the purpose of obtaining business of the type performed by the Company, or (B) solicit for employment any persons who were officers or employees of the Company upon the date of termination of his employment hereunder or at any time during a 180 day period preceding the date of termination, or aid any competitive business organization in any attempt to hire any such officers or employees of the Company.

(d) EQUITABLE REMEDIES. Cross acknowledges, covenants and agrees that if he violates any provisions of this Section 8, the Company will not have an adequate remedy at law and will therefore be entitled to enforce each such provision by temporary or permanent injunctive or mandatory relief obtained in an action or proceeding without the necessity of proving damages or posting bond, and without prejudice to any other remedies that may be available at law or in equity. The foregoing restrictions shall not preclude Cross from the ownership of not more than three percent (3%) of the voting securities of any corporation whose voting securities are registered under Section 12(g) of the Securities Exchange Act of 1934, even if its business competes with that of the Company.

9. SUCCESSORS AND ASSIGNS.

(a) CROSS. This Agreement is a personal contract, and the rights and interests that this Agreement accords to Cross may not be sold, transferred, assigned, pledged, encumbered, or hypothecated by him. Cross shall not have any power of anticipation, alienation or assignment of the payments contemplated by this Agreement, all rights and benefits of Cross shall be for the sole personal benefit of Cross, and no other person shall acquire any right, title or interest under this Agreement by reason of any sale, assignment, transfer, claim or judgement or bankruptcy proceedings against Cross.

Except as so provided, this Agreement shall inure to the benefit of and be binding upon Cross and his personal representatives, distributees and legatees.

(b) THE COMPANY. This Agreement shall be binding upon the Company and inure to the benefit of the Company and its successors and assigns, including but not limited to any person or entity that may acquire all or substantially all of the Company's assets or business or with which the Company may be consolidated or merged. This Agreement shall continue in full force and effect in the event the Company sells all or substantially all of its assets, merges or consolidates, otherwise combines or affiliates with another business, dissolves and liquidates, or otherwise sells or disposes of substantially all of its assets. The Company's obligations under this Agreement shall cease, however, if the successor to the Company, the purchaser or acquiror either of the Company or of all or substantially all of its assets, or the entity with which the Company has affiliated, shall assume in writing the Company's obligations under this Agreement (and deliver an executed copy of such assumption to Cross), in which case such successor or purchaser, but not the Company, shall thereafter be the only party obligated to perform the obligations that remain to be performed on the part of the Company under this Agreement.

10. ENTIRE AGREEMENT. This Agreement and the other agreements referenced herein represent the entire agreement between the parties concerning Cross's employment with the Company and supersedes all prior negotiations, discussions, understandings and agreements, whether written or oral, between Cross and the Company relating to the subject matter of this Agreement.

11. AMENDMENT OR MODIFICATION, WAIVER. No provision of this Agreement may be amended or waived unless such amendment or waiver is agreed to in writing signed by Cross and by a duly authorized officer of the Company other than Cross. No waiver by any party to this Agreement of any breach by another party of any condition or provision of this Agreement to be performed by such other party shall be deemed a waiver of a similar or dissimilar condition or provision at the same time, any prior time or any subsequent time.

12. NOTICES. Any notice provided for in this Agreement must be in writing and must be either personally delivered, mailed by first class mail (postage prepaid and return receipt requested), sent by reputable overnight courier service (charges prepaid), or by facsimile to the recipient at the address below indicated:

To the Company: Nanophase Technologies Corporation
453 Commerce Street
Burr Ridge, IL 60521
Attn: Chief Executive Officer
Facsimile: (630) 323-1221

With a copy to: Bruce A. Zivian
Ehrenreich Eilenberg Krause & Zivian, LLP
20 North Wacker Drive, Suite 3230
Chicago, IL 60606
Facsimile: 312-917-9911

To Executive: Joseph Cross
1200 Willow Oaks Trail
Matthews, NC 28105

or such other address or facsimile number, or to the attention of such other person as the recipient shall have specified by prior written notice to the sending party. Any notice under this Agreement shall be deemed to have been given when so personally delivered, or one day after deposit, if sent by courier, when confirmed received if sent by facsimile, or if mailed, five days after deposit in the U.S. first-class mail, postage prepaid.

13. SEVERABILITY. If any provision of this Agreement or the application of any such provision to any party or circumstances shall be determined by any court of competent jurisdiction to be invalid and unenforceable to any extent, the remainder of this Agreement or the application of such provision to such person or circumstances other that those to which it is so determined to be invalid and unenforceable shall not be affected, and each provision of this Agreement shall be validated and shall be enforced to the fullest extent permitted by law. If for any reason any provision of this Agreement containing restrictions is held to cover an area or to be for a length of time that is unreasonable or in any other way is construed to be too broad or to any extent invalid, such provision shall not be determined to be entirely null, void and of no effect; instead, it is the intention and desire of both the Company and Cross that, to the extent that the provision is or would be valid or enforceable under applicable law, any court of competent jurisdiction shall construe and interpret or reform this Agreement to provide for a restriction having the maximum enforceable area, time period and such other constraints or conditions (although not greater than those currently contained in this Agreement) as shall be valid and enforceable under the applicable law.

14. SURVIVORSHIP. The respective rights and obligations of the parties hereunder shall survive any termination of this Agreement to the extent necessary to the intended preservation of such rights and obligations.

15. HEADINGS. All descriptive headings of sections and paragraphs in this Agreement are intended solely for convenience of reference, and no provision of this Agreement is to be construed by reference to the heading of any section or paragraph.

16. WITHHOLDING TAXES. Except as otherwise specifically set forth in Section 3(d) above, all salary, benefits, reimbursements and any other payments to Cross under this Agreement shall be subject to all applicable payroll and withholding taxes and deductions required by any law, rule or regulation of any federal, state or local authority.

17. APPLICABLE LAW: JURISDICTION. The laws of the State of Illinois shall govern the interpretation, validity and performance of the terms of this Agreement, without reference to rules relating to conflicts of law. Any suit, action or proceeding against Cross with respect to this Agreement, or any judgement entered by any court in respect thereof, may be brought in any court of competent jurisdiction in the State of Illinois, as the Company may elect in its sole discretion, and Cross hereby submits to the nonexclusive jurisdiction of such courts for the purpose of any such suit, action, proceeding or judgement and to service of process by means of delivery of notice pursuant to Section 12 above.

IN WITNESS WHEREOF, the parties hereto have executed this Employment Agreement as of the date first written above.

NANOPHASE TECHNOLOGIES CORPORATION

By: /s/ Robert W. Cross

Robert W. Cross, Chief Executive Officer

By: /s/ JOSEPH CROSS

JOSEPH CROSS

EXHIBIT 10.17

Effective as of October 29, 1998

Mr. Donald Perkins
One First National Plaza
21 South Clark Street
Suite 2530
Chicago, Illinois 60603

Dear Don:

The following sets forth our agreement concerning the consulting services you have performed for Nanophase Technologies Corporation ("NTC") since you joined the NTC Board in February 1998, and which you may perform in the future.

1. Duties. We agree that you have performed substantial consulting services for NTC since February of 1998 in the identification, screening and recruitment of management personnel, issues related to the responsibilities of management personnel and the organization of NTC's management, and the development and implementation of NTC's business plans, and that you may continue to work with NTC in the future on such matters from time to time under the terms of this letter agreement.

2. Scope of Services. We agree that you will devote time to your duties as a consultant to NTC as we mutually agree, and in any event consistent with your schedule and other demands which may be placed on your time and attention.

3. Compensation. In consideration of your services as a consultant to NTC, the Board of NTC has agreed to grant you an option to acquire 25,000 shares of NTC common stock, on the terms and conditions set forth in a separate option agreement that we have provided to you. You will not be entitled to receive any medical, health or other benefit plans maintained for other employees of NTC. The above compensation is not in lieu of, and does not replace or effect, any compensation you are entitled to receive as a director of NTC.

4. Expense Reimbursement. NTC will reimburse you for actual out-of-pocket expenses incurred by you in connection with your services as a consultant to NTC. Such expenses will be reimbursed upon receipt of appropriate documentation of such expenses.

5. Confidential Information and Proprietary Rights. In the course of your work with NTC, you have had and will have access to information about NTC that is confidential in nature. You acknowledge that you will keep all such information confidential, and that NTC is the owner of all such information and related proprietary rights. You agree that if requested by NTC you will execute appropriate instruments evidencing your confidentiality obligation and NTC=s proprietary rights.

6. Conflicts of Interest. You confirm that you are not a party to any agreement or arrangement, whether oral or written, which would constitute a conflict of interest with this agreement or would prevent you from carrying out your obligations to NTC under this agreement.

7. Other Terms of Engagement. Both you and NTC acknowledge that your services as a consultant to NTC are at will and may be terminated at any time with or without cause by either you or NTC. Termination of

your consulting services will not in any way effect your membership on the Board of Directors of NTC. You and NTC also acknowledge that you are an independent Contractor to NTC, and that you will not have authority to bind NTC in ant respect, and will be solely responsible for the payment of any taxes owing on compensation paid to you by NTC. This agreement, and all aspects of your consulting services with NTC, shall be governed by Illinois law.

* * * * *

If you agree to the above terms concerning your consulting services to NTC, please sign the enclosed copy of this letter and return it to me at your earliest convenience.

Very truly yours,
Nanophase Technologies Corporation, a Delaware Corporation

By: /s/ Joseph Cross

Joseph Cross, its President and Chief Executive Officer

Agreed and accepted:

/s/ Donald Perkins

Donald Perkins

EXHIBIT 10.18

EMPLOYMENT AGREEMENT

Employment Agreement dated and effective as of February 15, 1999 (this "AGREEMENT"), between NANOPHASE TECHNOLOGIES CORPORATION, a Delaware corporation (with its successors and assigns, referred to as the "COMPANY"), and Gina Kritchevsky (referred to as "KRITCHEVSKY").

PRELIMINARY STATEMENT

The Company desires to employ Kritchevsky, and Kritchevsky wishes to be employed by the Company, upon the terms and subject to the conditions set forth in this Agreement. The Company and Kritchevsky also wish to enter into the other covenants set forth in this Agreement, all of which are related to Kritchevsky's employment with the Company. Kritchevsky and the Company therefore agree as follows:

AGREEMENT

1. EMPLOYMENT FOR TERM. The Company hereby employs Kritchevsky, and Kritchevsky hereby accepts employment with the Company, beginning on or about February 15, 1999, until terminated pursuant to Section 6 below (the "TERM").

2. POSITION AND DUTIES. During the Term, Kritchevsky shall serve as the Vice President, Technology of the Company and shall report to the President and Chief Executive Officer of the Company. During the Term, Kritchevsky shall also hold such additional positions and titles as the Board of Directors of the Company (the "BOARD") may determine from time to time. Subject to the following sentence, during the Term, Kritchevsky shall devote substantially all of Kritchevsky's business time and best efforts to Kritchevsky's duties as an employee and officer of the Company. The Company acknowledges that Kritchevsky is currently engaged in consulting activities which will be completed within sixty (60) days of the commencement of the Term. In the event that such activities materially limit the ability of Kritchevsky to perform her duties for the Company during that period, the Company shall have the right to adjust the base salary set forth below to reflect such limitation on a basis deemed appropriate by the Company in good faith.

3. COMPENSATION.

(a) BASE SALARY. For Kritchevsky's service as an officer and employee of the Company, the Company shall pay Kritchevsky a base salary, beginning on the first day of the Term and ending on the last day of the Term, of not less than $165,000 per annum, payable on the Company's regular pay cycle for professional employees.

(b) BONUS PAYMENT. The Company shall pay Kritchevsky a sign-on bonus of $25,000 upon commencement of the Term. The Company shall pay Kritchevsky an additional bonus of $35,000 on the first anniversary of the commencement of the Term so long as she remains employed by the Company on that date. Kritchevsky will be eligible for additional bonuses of up to 50% of her base salary for services to be performed as an officer and employee of the Company in calendar year 1999 and subsequent years based on performance milestones agreed upon by Kritchevsky and the Chief Executive Officer of the Company and approved by the Board.

(c) STOCK OPTIONS AND PURCHASE RIGHTS. In connection with the execution of this Agreement, the Company has granted to Kritchevsky options to purchase up to 75,000 shares of the

Company's common stock (the "INITIAL OPTIONS") under the Company's Amended and Restated 1992 Stock Option Plan ("PLAN"). The grant date for the Initial Options shall be the date of commencement of the Term. The Company further agrees that Kritchevsky shall be eligible for additional option grants based on annual performance reviews and awarded in the discretion of the Board.

(d) EXPENSE REIMBURSEMENTS. The Company agrees to pay to or on behalf of Kritchevsky the following costs and expenses, as and when incurred by Kritchevsky or otherwise as specifically set forth below, and subject to receipt by the Company of appropriate documentation or other evidence of such expenses: (i) reasonable out-of-pocket expenses incurred by Kritchevsky in the physical move of her household goods from her current residence in Tucson, Arizona to the Chicago Metropolitan area (including packing and unpacking expenses); (ii) out-of-pocket costs for economy-level living expenses, including housing, utilities and a rental automobile, for the period commencing with the first day of the Term and for 120 days thereafter; (iii) out-of-pocket economy class commuting costs (including air travel and parking expenses) to and from her current residence and Chicago, Illinois each weekend beginning with the commencement of the Term and ending 120 days thereafter; and (iv) closing costs actually paid by Kritchevsky and related to the purchase by Kritchevsky of a residence in the Chicago Metropolitan area, exclusive of points paid with respect to any mortgage on such residence, in an aggregate amount not to exceed 7% of the gross sales price of such residence; and (v) except for moving expenses reimbursed by the Company pursuant to this Agreement and which do not constitute taxable income to Kritchevsky for federal income tax purposes, cash in the amount of 35% of the total actual out-of-pocket moving expenses incurred by Kritchevsky and paid or reimbursed by the Company under this Section 3(d) which are required to be included in Kritchevsky's gross income for federal and state income tax purposes in calendar year 1999.

(e) OTHER AND ADDITIONAL COMPENSATION. Sections 3(a), 3(b), 3(c) and 3(d) establish minimum salary, reimbursement, bonus and option grant levels for Kritchevsky during the Term, and shall not preclude the Board from awarding Kritchevsky a higher salary or more stock options at any time, nor shall they preclude the Board from awarding Kritchevsky additional bonuses or other compensation in the discretion of the Board.

4. EMPLOYEE BENEFITS. During the Term, Kritchevsky shall be entitled to the employee benefits made available by the Company generally to all other employees of the Company, and shall be entitled to three (3) weeks of vacation in the twelve month period ending February 14, 2000 and four (4) weeks vacation in each twelve month period thereafter, subject to adjustment based on subsequent changes in the Company's vacation policy from time to time applicable to the Company's officers generally.

5. EXPENSES. Without limitation of Section 3(d) above, the Company shall reimburse Kritchevsky for actual out-of-pocket expenses reasonably incurred by Kritchevsky in the performance of services as an officer and employee of the Company in accordance with the Company's policy for such reimbursements applicable to employees generally, and upon receipt by the Company of appropriate documentation and receipts for such expenses.

6. TERMINATION.

(a) GENERAL. The Term shall end immediately upon Kritchevsky's death. Either Kritchevsky or the Company may end the Term at any time for any reason or no reason, with or without Cause, in the absolute discretion of Kritchevsky or the Board (but subject to each party's obligations under this Agreement), provided that Kritchevsky will provide the Company with at least thirty (30) days' prior written notice of Kritchevsky's resignation from Kritchevsky's positions as an

officer and employee of the Company.

(b) NOTICE OF TERMINATION. Promptly after it ends the Term, the Company shall give Kritchevsky notice of the termination, including a statement of whether the termination was for "Cause" (as defined in Section 7(a) below). The Company's failure to give notice under this Section 6(b) shall not, however, affect the validity of the Company's termination of the Term or Kritchevsky's employment hereunder.

7. SEVERANCE BENEFITS.

(a) "CAUSE" DEFINED. "Cause" means (i) willful and gross malfeasance or willful and gross misconduct by Kritchevsky in connection with Kritchevsky's employment; (ii) Kritchevsky's gross negligence in performing any of Kritchevsky's duties under this Agreement; (iii) Kritchevsky's conviction of, or entry of a plea of guilty to, or entry of a plea of nolo contendere with respect to, any crime other than a misdemeanor; (iv) Kritchevsky's willful and gross breach of any written policy applicable to all employees adopted by the Company concerning conflicts of interest, political contributions, standards of business conduct or fair employment practices, procedures with respect to compliance with securities laws or any similar matters, or adopted pursuant to the requirements of any government contract or regulation; or (v) material breach by Kritchevsky of any of the terms and conditions of this Agreement.

(b) TERMINATION WITHOUT CAUSE. If the Company ends the Term other than for Cause, (i) the Company shall pay Kritchevsky an amount equal in annual amount to Kritchevsky's base salary in effect at the time of termination during the period (the "SEVERANCE PERIOD") of fifty-two (52) full weeks after the effective date of termination, payable in proportionate amounts on the Company's regular pay cycle for professional employees and (if the last day of the Severance Period is not the last day of a pay period) on the last day of the Severance Period and (ii) the Initial Options shall become fully vested, and shall become exercisable in accordance with the applicable option grant agreement and the Plan.

(c) TERMINATION FOR ANY OTHER REASON. If the Company ends the Term for Cause, or if Kritchevsky resigns as an employee or officer of the Company, or if Kritchevsky dies, then the Company shall have no obligation to pay Kritchevsky any amount, whether for salary, benefits, bonuses, or other compensation or expense reimbursements of any kind, accruing after the end of the Term, and such rights shall, except as otherwise required by law (or, with respect to the Initial Options, as set forth in the Plan or the applicable option grant agreements), be forfeited immediately upon the end of the Term.

8. ADDITIONAL COVENANTS.

(a) CONFIDENTIALITY. Kritchevsky agrees to execute the Company's standard form of Confidentiality and Proprietary Rights Agreement promptly upon execution of this Agreement.

(b) "NON-COMPETITION PERIOD" DEFINED. "NON-COMPETITION PERIOD" means the period beginning at the end of the Term and ending either (i) 365 days after the end of the Severance Period, if the Company is obligated to make payments under Section 7(b) above, or (ii) 365 days after the end of the Term, if the Company is not obligated to make payments under Section 7(b) above.

(c) COVENANTS OF NON-COMPETITION AND NON-SOLICITATION. Kritchevsky acknowledges that but for Kritchevsky's employment with the Company: (i) Kritchevsky would not have had contact with the Company's customers, with many of whom the Company enjoys a near permanent

relationship; (ii) Kritchevsky would not have had contact with many of the Company's employees and officers, many of whom have information and expertise of importance to the Company, and (iii) the Company's business is national in scope and cannot be confined to any particular geographic area of the United States or the State of Illinois. Kritchevsky further acknowledges that Kritchevsky's services are unique and extraordinary, that the Company will be dependant upon Kritchevsky for the development and growth of its business and related functions, and that Kritchevsky will develop personal relationships with significant customers, employees and contractors of the Company and have control of confidential information concerning, and lists of customers of, the Company. For the foregoing reasons, and in consideration of the execution of this Agreement by the Company, Kritchevsky covenants and agrees that during the Non-Competition Period Kritchevsky shall not, without the prior written consent of the Company President, in any manner, directly or indirectly, own, manage, operate, control, be employed by, participate in, or be connected in any manner with the ownership, management, operation or control of, any other business (conducted for profit or not for profit) which is competitive with the nanophase and ultrafine powder production, coating and forming businesses engaged in by the Company, or planned to be engaged in by the Company. For the reasons acknowledged by Kritchevsky at the beginning of this Section 8(c), Kritchevsky additionally covenants and agrees that during the Non-Competition Period, Kritchevsky shall not, directly or indirectly, whether on Kritchevsky's own behalf or in behalf of any other person or entity, in any manner (A) contact or solicit the trade or patronage of any customer of the Company with respect to the nanophase and ultrafine powder, coating and forming businesses engaged in by the Company, or (B) solicit, induce or attempt to induce any employee or contractor of the Company (and any person who was an employee or contractor of the Company at any time within the 180 days prior to the end of the Term) to leave the Company's employ or engagement to become connected in any way with, or employ, engage or otherwise utilize any such employee or contractor in, any other business that is competitive with the nanophase and ultrafine powder production, coating and forming business of the Company.

(d) EXCLUSIONS. The restrictions on Kritchevsky's activities set forth in this Section 8 shall not preclude Kritchevsky from the ownership of three percent (3%) or less of the voting securities of any corporation whose voting securities are registered under Section 12(g) of the Securities Exchange Act of 1934, as amended and including the rules and regulations promulgated thereunder.

(e) INJUNCTIONS. In view of Kritchevsky's access to the Company's customer base and employees, Kritchevsky agrees that the covenants set forth in this Section 8 are necessary to protect the interests of the Company in such relationships, and to protect and maintain near permanent customer relationships, and other legitimate, proprietary interests of the Company, both actual and potential, which Kritchevsky would not have had access to or any involvement in but for Kritchevsky's employment relationship with the Company. Kritchevsky confirms and agrees that enforcement of the covenants set forth in this Section 8 would not prevent Kritchevsky from earning a livelihood. Kritchevsky further agrees that in the event of an actual or threatened breach by Kritchevsky of any of the covenants set forth in this Agreement, the Company would be irreparably harmed and the full extent of injury resulting therefrom would be impossible to calculate and the Company therefore will not have an adequate remedy at law. Accordingly, Kritchevsky agrees that temporary and permanent injunctive relief would be appropriate remedies against such breach, without bond or security; provided, however, that nothing herein shall be construed as limiting any other legal or equitable remedies available to the Company.

(f) EXPENSES. Kritchevsky shall pay all costs and expenses, including without limitation court costs, investigation costs, expert witness fees, and attorneys' fees, incurred by the Company in connection with the enforcement of its rights under this Agreement. The Company shall have the right to disclose the contents of this Agreement or to deliver a copy of this Agreement bearing Kritchevsky's

signature to any person to whom or for whose benefit the Company reasonably believes the Kritchevsky has solicited, or has or may disclose or use any confidential or proprietary information in violation of this Agreement.

9. SUCCESSORS AND ASSIGNS.

(a) KRITCHEVSKY. This Agreement is a personal contract, and the rights and interests that this Agreement accords to Kritchevsky may not be sold, transferred, assigned, pledged, encumbered, or hypothecated by Kritchevsky. Kritchevsky shall not have any power of anticipation, alienation or assignment of the payments contemplated by this Agreement, all rights and benefits of Kritchevsky shall be for the sole personal benefit of Kritchevsky, and no other person shall acquire any right, title or interest under this Agreement by reason of any sale, assignment, transfer, claim or judgement or bankruptcy proceedings against Kritchevsky. Except as so provided, this Agreement shall inure to the benefit of and be binding upon Kritchevsky and Kritchevsky's personal representatives, distributees and legatees.

(b) THE COMPANY. This Agreement shall be binding upon the Company and inure to the benefit of the Company and its successors and assigns, including but not limited to any person or entity that may acquire all or substantially all of the Company's assets or business or with which the Company may be consolidated or merged. This Agreement shall continue in full force and effect in the event the Company sells all or substantially all of its assets, merges or consolidates, otherwise combines or affiliates with another business, dissolves and liquidates, or otherwise sells or disposes of substantially all of its assets. The Company's obligations under this Agreement shall cease, however, if the successor to the Company, the purchaser or acquiror either of the Company or of all or substantially all of its assets, or the entity with which the Company has affiliated, shall assume in writing the Company's obligations under this Agreement (and deliver an executed copy of such assumption to Kritchevsky), in which case such successor or purchaser, but not the Company, shall thereafter be the only party obligated to perform the obligations that remain to be performed on the part of the Company under this Agreement.

10. ENTIRE AGREEMENT. This Agreement and the other agreements referenced herein represent the entire agreement between the parties concerning Kritchevsky's employment with the Company and supersedes all prior negotiations, discussions, understandings and agreements, whether written or oral, between Kritchevsky and the Company relating to the subject matter of this Agreement.

11. AMENDMENT OR MODIFICATION, WAIVER. No provision of this Agreement may be amended or waived unless such amendment or waiver is agreed to in writing signed by Kritchevsky and by a duly authorized officer of the Company other than Kritchevsky. No waiver by any party to this Agreement of any breach by another party of any condition or provision of this Agreement to be performed by such other party shall be deemed a waiver of a similar or dissimilar condition or provision at the same time, any prior time or any subsequent time.

12. NOTICES. Any notice provided for in this Agreement must be in writing and must be either personally delivered, mailed by first class mail (postage prepaid and return receipt requested), sent by reputable overnight courier service (charges prepaid), or by facsimile to the recipient at the address below indicated:

To the Company: Nanophase Technologies Corporation
453 Commerce Street
Burr Ridge, IL 60521

Attn: Chief Executive Officer
Facsimile: (630) 323-1221

With a copy to: Bruce A. Zivian
Ehrenreich Eilenberg Krause & Zivian, LLP
20 North Wacker Drive, Suite 3230
Chicago, IL 60606
Facsimile: 312-917-9911

To Kritchevsky: Gina Kritchevsky
3675 East Via Alcalde
Tucson, Arizona 85718

or such other address or facsimile number, or to the attention of such other person as the recipient shall have specified by prior written notice to the sending party. Any notice under this Agreement shall be deemed to have been given when so personally delivered, or one day after deposit, if sent by courier, when confirmed received if sent by facsimile, or if mailed, five days after deposit in the U.S. first-class mail, postage prepaid.

13. SEVERABILITY. If any provision of this Agreement or the application of any such provision to any party or circumstances shall be determined by any court of competent jurisdiction to be invalid and unenforceable to any extent, the remainder of this Agreement or the application of such provision to such person or circumstances other that those to which it is so determined to be invalid and unenforceable shall not be affected, and each provision of this Agreement shall be validated and shall be enforced to the fullest extent permitted by law. If for any reason any provision of this Agreement containing restrictions is held to cover an area or to be for a length of time that is unreasonable or in any other way is construed to be too broad or to any extent invalid, such provision shall not be determined to be entirely null, void and of no effect; instead, it is the intention and desire of both the Company and Kritchevsky that, to the extent that the provision is or would be valid or enforceable under applicable law, any court of competent jurisdiction shall construe and interpret or reform this Agreement to provide for a restriction having the maximum enforceable area, time period and such other constraints or conditions (although not greater than those currently contained in this Agreement) as shall be valid and enforceable under the applicable law.

14. SURVIVORSHIP. The respective rights and obligations of the parties hereunder shall survive any termination of this Agreement to the extent necessary to the intended preservation of such rights and obligations.

15. HEADINGS. All descriptive headings of sections and paragraphs in this Agreement are intended solely for convenience of reference, and no provision of this Agreement is to be construed by reference to the heading of any section or paragraph.

16. WITHHOLDING TAXES. Except as otherwise specifically set forth in Section 3(d) above, all salary, benefits, reimbursements and any other payments to Kritchevsky under this Agreement shall be subject to all applicable payroll and withholding taxes and deductions required by any law, rule or regulation of any federal, state or local authority.

17. APPLICABLE LAW: JURISDICTION. The laws of the State of Illinois shall govern the interpretation, validity and performance of the terms of this Agreement, without reference to rules relating to conflicts of law. Any suit, action or proceeding against Kritchevsky with respect to this Agreement, or any judgement entered by any court in respect thereof, may be brought in any court of competent jurisdiction in the State of Illinois, as the Company may elect in its sole discretion, and Kritchevsky hereby submits to the nonexclusive jurisdiction of such courts for the purpose of any such suit, action, proceeding or judgement and to service of process by means of delivery of notice pursuant to Section 12 above.

IN WITNESS WHEREOF, the parties hereto have executed this Employment Agreement as of the date first written above.

NANOPHASE TECHNOLOGIES CORPORATION

By: /s/ Joseph Cross

Its: Chief Executive Officer

/s/ Gina Kritchevsky

Gina Kritchevsky

EX-10.19

EMPLOYMENT AGREEMENT

Employment Agreement dated and effective as of March 15, 1999 (this "AGREEMENT"), between NANOPHASE TECHNOLOGIES CORPORATION, a Delaware corporation (with its successors and assigns, referred to as the "COMPANY"), and Mr. Daniel Bilicki (referred to as "EXECUTIVE").

PRELIMINARY STATEMENT

The Company desires to employ Executive, and Executive wishes to be employed by the Company, upon the terms and subject to the conditions set forth in this Agreement. The Company and Executive also wish to enter into the other covenants set forth in this Agreement, all of which are related to Executive's employment with the Company. Executive and the Company therefore agree as follows:

AGREEMENT

1. EMPLOYMENT FOR TERM. The Company hereby employs Executive, and Executive hereby accepts employment with the Company, beginning on or about March 15, 1999, until terminated pursuant to Section 6 below (the "TERM").

2. POSITION AND DUTIES. During the Term, Executive shall serve as the Vice-President, Sales and Marketing of the Company and shall report to the President or Chief Executive Officer of the Company. During the Term, Executive shall also hold such additional positions and titles as the Board of Directors of the Company (the "BOARD") may determine from time to time. During the Term, Executive shall devote substantially all of Executive's business time and best efforts to Executive's duties as an employee and officer of the Company.

3. COMPENSATION.

(a) BASE SALARY. For Executive's service as an officer and employee of the Company, the Company shall pay Executive a base salary, beginning on the first day of the Term and ending on the last day of the Term, of not less than $165,000 per annum, payable on the Company's regular pay cycle for professional employees.

(b) BONUS PAYMENT. Executive will be eligible for additional bonuses of up to fifty percent (50%) of his base salary for services to be performed as an officer and employee of the Company in calendar year 1999 and subsequent years based on performance milestones agreed upon by Executive and the Chief Executive Officer of the Company and approved by the Board.

(c) STOCK OPTIONS AND PURCHASE RIGHTS. In connection with the execution of this Agreement, the Company has granted to Executive options to purchase up to 50,000 shares of the Company's common stock (the "INITIAL OPTIONS") under the Company's Amended and Restated 1992 Stock Option Plan ("PLAN") with a grant date on the first day of the Term. The Company further agrees that Executive shall be eligible for additional option grants based on annual performance reviews and awarded in the discretion of the Board.

(d) OTHER AND ADDITIONAL COMPENSATION. Sections 3(a), 3(b) and 3(c) establish minimum salary, bonus and option grant levels for Executive during the Term, and shall not preclude the Board from awarding Executive a higher salary or more stock options at any time, nor shall they preclude the Board from awarding Executive additional bonuses or other compensation in the discretion of the Board.

4. EMPLOYEE BENEFITS. During the Term, Executive shall be entitled to the employee benefits made available by the Company generally to all other employees of the Company, and shall be entitled to three weeks of vacation in period ending December 31, 1999, and thereafter in accordance with in the Company's vacation policy in effect from time to time applicable to the Company's officers generally.

5. EXPENSES. The Company shall reimburse Executive for actual out-of-pocket expenses reasonably incurred by Executive in the performance of services as an officer and employee of the Company in accordance with the Company's policy for such reimbursements applicable to employees generally, and upon receipt by the Company of appropriate documentation and receipts for such expenses.

6. TERMINATION.

(a) GENERAL. The Term shall end immediately upon Executive' death. Either Executive or the Company may end the Term at any time for any reason or no reason, with or without Cause, in the absolute discretion of Executive or the Board (but subject to each party's obligations under this Agreement), provided that Executive will provide the Company with at least thirty (30) days' prior written notice of Executive's resignation from Executive's positions as an officer and employee with, and director of, the Company.

(b) NOTICE OF TERMINATION. Promptly after it ends the Term, the Company shall give Executive notice of the termination, including a statement of whether the termination was for "Cause" (as defined in Section 7(a) below). The Company's failure to give notice under this Section 6(b) shall not, however, affect the validity of the Company's termination of the Term or Executive's employment hereunder.

7. SEVERANCE BENEFITS.

(a) "CAUSE" DEFINED. "Cause" means (i) willful and gross malfeasance or willful and gross misconduct by Executive in connection with Executive's employment; (ii) Executive' gross negligence in performing any of Executive's duties under this Agreement; (iii) Executive's conviction of, or entry of a plea of guilty to, or entry of a plea of nolo contendere with respect to, any crime other than a misdemeanor; (iv) Executive' willful and gross breach of any written policy applicable to all employees adopted by the Company concerning conflicts of interest, political contributions, standards of business conduct or fair employment practices, procedures with respect to compliance with securities laws or any similar matters, or adopted pursuant to the requirements of any government contract or regulation; or (v) material breach by Executive of any of the terms and conditions of this Agreement.

(b) TERMINATION WITHOUT CAUSE. If the Company ends the Term other than for Cause, (i) the Company shall pay Executive an amount equal in annual amount to Executive's base salary in effect at the time of termination during the period (the "SEVERANCE PERIOD") of twenty six (26) full weeks after the effective date of termination, payable in proportionate amounts on the Company's regular pay cycle for professional employees and (if the last day of the Severance Period is not the last day of a pay period) on the last day of the Severance Period, and (ii) the Initial Options shall become fully vested, and shall become exercisable in accordance with the applicable option grant agreement and the Plan.

(c) TERMINATION FOR ANY OTHER REASON. If the Company ends the Term for Cause, or if Executive resigns as an employee or officer of the Company, or if Executive dies, then the Company shall have no obligation to pay Executive any amount, whether for salary, benefits, bonuses, or other compensation or expense reimbursements of any kind, accruing after the end of the Term, and such

rights shall, except as otherwise required by law (or, with respect to the Options, as set forth in the Plan or the applicable option grant agreements), be forfeited immediately upon the end of the Term.

8. ADDITIONAL COVENANTS.

(a) CONFIDENTIALITY. Executive agrees to execute the Company's standard form of Confidential Information and Proprietary Rights Agreement promptly upon execution of this Agreement.

(b) "NON-COMPETITION PERIOD" DEFINED. "NON-COMPETITION PERIOD" means the period beginning at the end of the Term and ending either (i) 365 days after the end of the Severance Period, if the Company is obligated to make payments under Section 7(b) above, or (ii) 365 days after the end of the Term, if the Company is not obligated to make payments under Section 7(b) above.

(c) COVENANTS OF NON-COMPETITION AND NON-SOLICITATION. Executive acknowledges that but for Executive's employment with the Company:

(i) Executive would not have had contact with the Company's customers, with many of whom the Company enjoys a near permanent relationship;

(ii) Executive would not have had contact with many of the Company's employees and officers, many of whom have information and expertise of importance to the Company;

(iii) the Company's business is national in scope and cannot be confined to any particular geographic area of the United States or the State of Illinois.

Executive further acknowledges that Executive's services are unique and extraordinary, that the Company will be dependant upon Executive for the development and growth of its business and related functions, and that Executive will develop personal relationships with significant customers, employees and contractors of the Company and have control of confidential information concerning, and lists of customers of, the Company. For the foregoing reasons, and in consideration of the execution of this Agreement by the Company, Executive covenants and agrees that during the Non-Competition Period Executive shall not, without the prior written consent of the Company President, in any manner, directly or indirectly, own, manage, operate, control, be employed by, participate in, or be connected in any manner with the ownership, management, operation or control of, any other business (conducted for profit or not for profit) which is competitive with the nanophase and ultrafine powder production, coating and forming businesses then engaged in by the Company or which are then under development by the Company. For the reasons acknowledged by Executive at the beginning of this Section 8(c), Executive additionally covenants and agrees that during the Non-Competition Period, Executive shall not, directly or indirectly, whether on Executive's own behalf or in behalf of any other person or entity, in any manner (A) contact or solicit the trade or patronage of any customer of the Company with respect to the nanophase and ultrafine powder, coating and forming businesses then engaged in by the Company or which are then under development by the Company, or (B) solicit, induce or attempt to induce any employee or contractor of the Company (and any person who was an employee or contractor of the Company at any time within the 180 days prior to the end of the Term) to leave the Company's employ or engagement to become connected in any way with, or employ, engage or otherwise utilize any such employee or contractor in, any other business that is competitive with the nanophase and ultrafine powder, coating and forming businesses then engaged in by the Company or which are then under development by the Company.

(d) EXCLUSIONS. The restrictions on Executive's activities set forth in this Section 8 shall not preclude Executive from the ownership of three percent (3%) or less of the voting securities of any

corporation whose voting securities are registered under Section 12(g) of the Securities Exchange Act of 1934.

(e) INJUNCTIONS. In view of Executive's access to the Company's customer base and employees, Executive agrees that the covenants set forth in this Section 8 are necessary to protect the interests of the Company in such relationships, and to protect and maintain near permanent customer relationships, and other legitimate, proprietary interests of the Company, both actual and potential, which Executive would not have had access to or any involvement in but for Executive's employment relationship with the Company. Executive confirms and agrees that enforcement of the covenants set forth in this Section 8 would not prevent Executive from earning a livelihood. Executive further agrees that in the event of an actual or threatened breach by Executive of any of the covenants set forth in this Agreement, the Company would be irreparably harmed and the full extent of injury resulting therefrom would be impossible to calculate and the Company therefore will not have an adequate remedy at law. Accordingly, Executive agrees that temporary and permanent injunctive relief would be appropriate remedies against such breach, without bond or security; provided, however, that nothing herein shall be construed as limiting any other legal or equitable remedies available to the Company.

(f) EXPENSES. Executive shall pay all costs and expenses, including without limitation court costs, investigation costs, expert witness fees, and attorneys' fees, incurred by the Company in connection with the successful enforcement by the Company of its rights under this Agreement. The Company shall have the right to disclose the contents of this Agreement or to deliver a copy of this Agreement bearing Executive's signature to any person to whom or for whose benefit the Company reasonably believes the Executive has solicited, or has or may disclose or use any confidential or proprietary information in violation of this Agreement.

9. SUCCESSORS AND ASSIGNS.

(a) EXECUTIVE. This Agreement is a personal contract, and the rights and interests that this Agreement accords to Executive may not be sold, transferred, assigned, pledged, encumbered, or hypothecated by Executive. Executive shall not have any power of anticipation, alienation or assignment of the payments contemplated by this Agreement, all rights and benefits of Executive shall be for the sole personal benefit of Executive, and no other person shall acquire any right, title or interest under this Agreement by reason of any sale, assignment, transfer, claim or judgement or bankruptcy proceedings against Executive. Except as so provided, this Agreement shall inure to the benefit of and be binding upon Executive and Executive's personal representatives, distributees and legatees.

(b) THE COMPANY. This Agreement shall be binding upon the Company and inure to the benefit of the Company and its successors and assigns, including but not limited to any person or entity that may acquire all or substantially all of the Company's assets or business or with which the Company may be consolidated or merged. This Agreement shall continue in full force and effect in the event the Company sells all or substantially all of its assets, merges or consolidates, otherwise combines or affiliates with another business, dissolves and liquidates, or otherwise sells or disposes of substantially all of its assets. The Company's obligations under this Agreement shall cease, however, if the successor to the Company, the purchaser or acquiror either of the Company or of all or substantially all of its assets, or the entity with which the Company has affiliated, shall assume in writing the Company's obligations under this Agreement (and deliver an executed copy of such assumption to Executive), in which case such successor or purchaser, but not the Company, shall thereafter be the only party obligated to perform the obligations that remain to be performed on the part of the Company under this Agreement.

10. ENTIRE AGREEMENT. This Agreement and the other agreements referenced herein represent the entire agreement between the parties concerning Executive's employment with the Company and supersedes all prior negotiations, discussions, understandings and agreements, whether written or oral, between Executive and the Company relating to the subject matter of this Agreement.

11. AMENDMENT OR MODIFICATION, WAIVER. No provision of this Agreement may be amended or waived unless such amendment or waiver is agreed to in writing signed by Executive and by a duly authorized officer of the Company other than Executive. No waiver by any party to this Agreement of any breach by another party of any condition or provision of this Agreement to be performed by such other party shall be deemed a waiver of a similar or dissimilar condition or provision at the same time, any prior time or any subsequent time.

12. NOTICES. Any notice provided for in this Agreement must be in writing and must be either personally delivered, mailed by first class mail (postage prepaid and return receipt requested), sent by reputable overnight courier service (charges prepaid), or by facsimile to the recipient at the address below indicated:

To the Company: Nanophase Technologies Corporation
453 Commerce Street
Burr Ridge, IL 60521
Attn: Chief Executive Officer
Facsimile: (630) 323-1221

With a copy to: Bruce A. Zivian
Ehrenreich Eilenberg Krause & Zivian, LLP
20 North Wacker Drive, Suite 3230
Chicago, IL 60606
Facsimile: 312-917-9911

To Executive: Mr. Daniel Bilicki
2446 Westbranch Court
Naperville, Illinois 60565

or such other address or facsimile number, or to the attention of such other person as the recipient shall have specified by prior written notice to the sending party. Any notice under this Agreement shall be deemed to have been given when so personally delivered, or one day after deposit, if sent by courier, when confirmed received if sent by facsimile, or if mailed, five days after deposit in the U.S. first-class mail, postage prepaid.

13. SEVERABILITY. If any provision of this Agreement or the application of any such provision to any party or circumstances shall be determined by any court of competent jurisdiction to be invalid and unenforceable to any extent, the remainder of this Agreement or the application of such provision to such person or circumstances other that those to which it is so determined to be invalid and unenforceable shall not be affected, and each provision of this Agreement shall be validated and shall be enforced to the fullest extent permitted by law. If for any reason any provision of this Agreement containing restrictions is held to cover an area or to be for a length of time that is unreasonable or in any other way is construed to be too broad or to any extent invalid, such provision shall not be determined to be entirely null, void and of no effect; instead, it is the intention and desire of both the Company and Executive that, to the extent that the provision is or would be valid or enforceable under applicable law, any court of competent jurisdiction shall construe and interpret or reform this Agreement to provide for a restriction having the maximum enforceable area, time period

and such other constraints or conditions (although not greater than those currently contained in this Agreement) as shall be valid and enforceable under the applicable law.

14. SURVIVORSHIP. The respective rights and obligations of the parties hereunder shall survive any termination of this Agreement to the extent necessary to the intended preservation of such rights and obligations.

15. HEADINGS. All descriptive headings of sections and paragraphs in this Agreement are intended solely for convenience of reference, and no provision of this Agreement is to be construed by reference to the heading of any section or paragraph.

16. WITHHOLDING TAXES. Except as otherwise specifically set forth in Section 3(d) above, all salary, benefits, reimbursements and any other payments to Executive under this Agreement shall be subject to all applicable payroll and withholding taxes and deductions required by any law, rule or regulation of any federal, state or local authority.

17. APPLICABLE LAW: JURISDICTION. The laws of the State of Illinois shall govern the interpretation, validity and performance of the terms of this Agreement, without reference to rules relating to conflicts of law. Any suit, action or proceeding against Executive with respect to this Agreement, or any judgement entered by any court in respect thereof, may be brought in any court of competent jurisdiction in the State of Illinois, as the Company may elect in its sole discretion, and Executive hereby submits to the nonexclusive jurisdiction of such courts for the purpose of any such suit, action, proceeding or judgement and to service of process by means of delivery of notice pursuant to Section 12 above.

IN WITNESS WHEREOF, the parties hereto have executed this Employment Agreement as of the date first written above.

NANOPHASE TECHNOLOGIES CORPORATION

By: /s/ Joseph Cross

Its: Chief Executive Officer

/s/ Daniel Bilicki

Mr. Daniel Bilicki

EXHIBIT 10.21

October 28, 1998

Robert W. Cross
Nanophase Technologies Corporation
453 Commerce Street
Burr Ridge, Illinois 60521

RE: Agreement For Continued Employment and Separation

Dear Bob:

This will confirm that subject to approval of the Board of Directors and the Compensation Committee this letter agreement will constitute my agreement with Nanophase Technologies ("Nanophase") concerning my continued employment with and separation from Nanophase. We have agreed that I will continue in my employment until March 31, 1999, at which time I will receive severance pay equal to 9 months salary. Beginning April 1, 1999 and continuing through to March 31, 2000, I will serve as an independent consultant to Nanophase solely relating to existing PVS process technology for a period of twelve months. Nanophase will pay me a consulting fee on a monthly basis at a rate equal to half my gross salary. I agree to be reasonably available to perform such consulting, but it is understood by Nanophase that during the period of my consulting, I will be free to seek and obtain other employment, and that the scheduling of my consulting work for Nanophase will not conflict with the work schedule of such employment.

During the consulting period my stock options will continue to vest on the current schedule. At the conclusion of the consulting period, all stock options to which I am or may become entitled will vest, with the exception of the 8,985 options that vest on November 7, 2004 at $3.89, and 25,520 of the options that vest on July, 31 with a strike price of $3.81, as to which I will thereafter have no further interest. I will have two years from the end of the consulting period in which to exercise any stock options that have vested.

During the period of my consulting, Nanophase will pay my health insurance provided under COBRA, until such time as I obtain another job. We also agree that in the event that we agree to a shorter period of employment the rest of the terms of this agreement shall remain effective.

Very truly yours,	Agree to:
/s/ John C. Parker	/s/ Robert Cross
- ---------------------	-------------------------------
John C. Parker	Nanophase Technologies Corporation By: Robert W. Cross, President and CEO

EXHIBIT 11

NANOPHASE TECHNOLOGIES CORPORATION

STATEMENTS REGARDING COMPUTATION OF LOSS PER SHARE

	YEAR ENDED DECEMBER 31,		
	1996	1997	1998
HISTORICAL:			
Weighted average common shares outstanding	77,586	1,283,359	12,416,305
Net loss	$ (5,577,688)	$ (3,072,470)	$ (5,633,880)
Net loss per common share	$ (71.89)	$ (2.39)	$ (0.45)
PRO FORMA:			
Weighted average common shares outstanding	77,586	1,283,359	
Weighted average preferred shares outstanding	6,758,094	6,924,947	
Total	6,835,680	8,208,306	
Net loss	$ (5,577,688)	$ (3,072,470)	
Pro forma net loss per common share	$ (0.82)	$ (0.37)	

EXHIBIT 23

CONSENT OF INDEPENDENT AUDITORS

We consent to the incorporation by reference in the Registration Statement (Form S-8 No. 333-53445) pertaining to the Nanophase Technologies Corporation Amended and Restated 1992 Stock Option Plan of our report dated February 23, 1999, with respect to the financial statements and schedule of Nanophase Technologies Corporation included in this Annual Report (Form 10-K) for the year ended December 31, 1998.

/S/ ERNST & YOUNG LLP

Ernst & Young LLP

Chicago, Illinois
March 29, 1999

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US

YEAR
DEC-31-1998
JAN-01-1998
DEC-31-1998
1
363,394
26,270,518
316,328
85,000
838,825
27,881,416
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0
0
48,486,141
(19,378,551)
30,453,988
1,140,845
1,303,789
3,221,996
8,321,069
0
0
0
(5,477,880)
156,000
(5,633,880)
0
0
0
(5,633,880)
(0.45)
(0.45)