

US EPA ARCHIVE DOCUMENT

**SUPPORTING STATEMENT FOR
EPA INFORMATION COLLECTION
REQUEST # 1848.01
“SURVEY OF THE INORGANIC CHEMICALS INDUSTRY”
PART A**

DATE

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1. IDENTIFICATION OF INFORMATION COLLECTION

1(a) Title and Number of the Information Collection

This Information Collection Request (ICR) is entitled, "Survey of the Inorganic Chemicals Industry", ICR #1848.01

1(b) Short Characterization of the Information Collection

The U.S. Environmental Protection Agency (EPA) is currently conducting a study of the inorganic chemicals industry. This study is part of a continuing series of industry studies to establish an information data base of hazardous waste generation and management by industry to support a goal of more effective regulation under Sections 3001 and 3004 of RCRA (42 U.S.C. 6921 and 6924). Collection of this information is authorized by Section 3007(a) of RCRA (42 U.S.C. 6927). EPA prepared and is submitting an information collection request (ICR) to conduct a survey of the inorganic chemicals industry, as targeted under the Hazardous and Solid Waste Amendments (HSWA) enacted on November 8, 1984.

The OSW's Industry Studies Program has used RCRA Section 3007 prequestionnaires, questionnaires, and site visits for various industries over the past 12 years under OMB #2050-0042. The information acquired through these efforts has contributed to the effective development and implementation of the hazardous waste regulatory program and to the completion of numerous statutes mandates. This ICR seeks approval for 2 specific information collection mechanisms for the inorganic chemicals manufacturing industry consistent with this larger ongoing data collection effort.

On June 13, 1997, the U.S. Environmental Protection Agency and Department of Justice signed a proposed settlement agreement in *EDF v. Browner* (Civ. No. 89-0598 D.D.C.) establishing an extensive series of deadlines for, among others, promulgating and in some cases proposing RCRA rules and for completing certain studies and reports. With respect to the inorganic chemicals industry, EPA must promulgate final listing determinations for inorganic chemical wastes. The listing determination will include residuals generated from the following 14 inorganic production processes as specified in the EDF settlement agreement:

1. Sodium Dichromate Production Wastes
2. Wastes from the Dry Process for Manufacturing Phosphoric Acid,
3. Phosphorous Trichloride Production Wastes,
4. Phosphorous Pentasulfide Production Wastes,

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5. Wastes from the Production of Sodium Phosphate from Wet Process Phosphoric Acid,
 6. Sodium Chlorate Production Wastes,
 7. Antimony Oxide Production Wastes,
 8. Cadmium Pigments Production Wastes,
 9. Barium Carbonate Production Wastes,
 10. Potassium Dichromate Production Wastes,
 11. Phenyl Mercuric Acetate Production Wastes,
 12. Boric Acid Production Wastes,
 13. Inorganic Hydrogen Cyanide Production Wastes, and
 14. Titanium Dioxide Production Wastes (Except for Chloride Process Waste Solids)

The effective listing of hazardous wastes is dependent on an extensive information base that includes the generation, composition, and management of wastes generated by targeted industries. The data collected from the Industry Studies Program will assist a number of EPA offices in the development of hazardous waste identification and control regulations. Specifically, the data from the RCRA Section 3007 Questionnaire and site visit will be used by the offices to support engineering analysis aimed at identifying sub-sectors of the inorganic chemicals industry that generate wastes that meet the risk-based criteria for listing at 40 CFR 261.11.

Within six months of promulgating a hazardous waste listing, the land disposal restrictions (LDR) for a newly listed waste must be promulgated. Waste management information obtained from the Industry Studies Program also will be used to determine waste specific treatment methods and to support the evaluation of specific LDR requirements. The data from the questionnaire and site visits are intended primarily for providing data for conducting engineering analyses which may be used to support program-oriented analyses such as Regulatory Impact Assessments, Economic Impact Assessments, Capacity, and Risk Analyses.

The Inorganic Chemicals Industry Questionnaire and site visits are the necessary data collection mechanism to be employed during the Inorganic Chemicals Industry Study. The questionnaire and site visits are two primary types of data collection mechanisms developed by EPA for conducting industry studies. These tools are designed to provide an accurate picture of the waste generation patterns in an industry group while minimizing burden placed on that industry. These information collection mechanisms -- and their relation to the other mechanisms -- are detailed below.

- ▶ RCRA Section 3007 Questionnaire. EPA will administer a questionnaire through a mail survey to a census of inorganic chemicals facilities, about which EPA has little or no waste-related information. Based on empirical knowledge gained by EPA during previous survey efforts, EPA has reduced the number of questions in

some sections of the survey (particularly the residual unit management section) and will obtain more specific information from respondents on unit characteristics only on an as-needed basis during conduct of the risk assessment. In addition, some follow-up via telephone and/or letter will be necessary for some respondents due to incomplete and/or unclear responses.

- ▶ Site visits to individual facilities. Based on data collected from publicly available information, EPA will select nine facilities to visit prior to completion of the development and review process for this ICR. The purpose of these visits is to gather process, waste generation and management information that will help expedite the listing determination process. Following completion of the aforementioned process and compilation of the responses from the full RCRA Section 3007 questionnaire, EPA will select a sample of facilities, on an as-needed basis, for site visits for the purpose of obtaining samples and conducting sample analyses. Information collected from site visits will supplement data obtained from RCRA Section 3007 Questionnaire responses. The number of sampling and analysis efforts will be limited based on resource availability.

As described further in this document, the Inorganic Chemicals Industry Questionnaire is a survey to be mailed to all known facilities operating any of 14 target processes within the inorganic chemicals industry and, therefore, will be representative of the population of establishments being studied by EPA. Consequently, the data collected from the questionnaire can be used for developing national estimates on the number, location, and demographics of facilities generating a waste stream and quantities, characteristics, and management of different types of waste generated. That data will contribute significantly to the listing determination. The questionnaire in combination with site visits and sampling and analysis activities will provide all of the information required. This questionnaire has been tailored to the inorganic chemicals industry and has been developed using the experience gained by EPA in conducting similar surveys for other industries.

The Inorganic Chemicals Industry RCRA Section 3007 Questionnaire will seek to obtain the following information:

- ▶ Corporate and facility information. Name, location, and mailing address of the corporation and inorganic chemicals facility, as well as the hazardous waste generator ID number, POTW/NPDES and PSD permit numbers.
- ▶ Process information and residual identification. Simplified process flow diagrams and brief descriptions for all major unit operations, inputs, products and residuals.

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- ▶ Residual characterization. Identification of both physical and chemical properties of residuals.
 - ▶ Residual generation and management. Detailed information on how residuals are handled including residual quantities, storage methods, treatment methods, recycling methods, transfer methods, disposal methods (including identifying offsite residual management facilities), chemical production, and residual management costs.
 - ▶ Residual management unit characterization. Information on residual management units, including landfills, land treatment units, tanks, surface impoundments, deep injection wells, containers, and piles.
 - ▶ General facility. Information for the facility and surrounding area including the property boundary, location of all residual management units, location of nearest residence, groundwater gradient, and prevailing wind direction.

Costs associated with the Inorganic Chemicals Industry Questionnaire and site visits are summarized in Exhibit 6-4. The total number of respondents to the Questionnaire is 119 at an estimated response burden of \$129,532. The total number of site visits is 22 at an estimated industry cost of \$18,788.

2. NEED FOR AND USE OF THE COLLECTION

2(a) Need and Authority for the Collection

2(a)(I) Hazardous Waste Listing

RCRA Section 3001(b)(1) (42 U.S.C. 6921) authorizes the Agency to promulgate regulations identifying the characteristics of hazardous waste and listing particular hazardous wastes. Specifically, RCRA Section 3001(b)(1) states *"...the Administrator shall promulgate regulations identifying the characteristics of hazardous waste, and listing particular hazardous waste (within the meaning of Section 1004(5)), which shall be subject to the provisions of this subtitle. Such regulations shall be based on the criteria promulgated under subsection (a) and shall be revised from time to time thereafter as may be appropriate."*

RCRA Section 3001(e)(2) (42 U.S.C. 6901) states that *"the Administrator shall make a determination of whether or not to list under subsection (b)(1) the following wastes: Chlorinated Aliphatics, Dioxin, Dimethyl Hydrazine, TDI (Toluene Diisocyanate), Carbamates, Bromacil, Linuron, Organobromines, solvents, refining wastes, chlorinated aromatics, dyes and pigments, inorganic chemicals industry wastes [emphasis added], lithium batteries, coke byproducts, paint production wastes, and coal slurry pipeline effluent."*

The aforementioned EDF settlement agreement includes a requirement that EPA promulgate a listing determination for the industries cited above in RCRA Section 3001(e)(2) (42 U.S.C. 6901). An aggressive and detailed schedule for performing specific regulatory actions is included in this court order for each of the wastes under consideration. A copy of this consent decree is included as Appendix A.

The Agency has the authority to collect data from industries under RCRA Section 3007(a) (42 U.S.C. 6927), which specifically states that *"any person who generates, stores, treats, transports, disposes of or otherwise handles or has handled hazardous wastes"* is required to *"furnish information relating to such wastes"* upon EPA request. This information request can be made *"for purposes of developing or assisting in the development of any regulation...."*

EPA has the authority pursuant to RCRA to promulgate regulations identifying hazardous wastes; however, in order to list a waste, EPA requires specific detailed information on the characteristics, volume, and hazardous constituents of waste generated, as well as the current waste management strategies employed by industry. In addition, the Agency must characterize the potential risks presented by each waste considering waste management practices, release and transport pathways, attenuation

mechanisms, resulting exposures for various environments and species, and the hazard created by those exposures. These analyses ensure that any regulatory action is fully supported by risk assessment and that each listing action results in significant environmental protection. For the inorganic chemicals industry, EPA does not have all of the information needed to evaluate and promulgate a listing. In order to evaluate wastes generated by the inorganic chemicals industry, EPA will require additional information, which can only be collected through the RCRA Section 3007 Questionnaire and site visits (the subject of this ICR).

The inorganic chemicals industry consists of 14 subsectors with only 11 of the subsectors believed to be active in the United States. The number of facilities in each of these subsectors ranges from 2 to 18. Data collected from the survey and from site visits will allow EPA the needed data to promulgate listing determinations and related regulatory determinations for wastes generated by each of these subsectors.

2(a)(ii) Land Disposal Restrictions and Capacity

The Hazardous and Solid Waste Amendments (HSWA) to RCRA require EPA to make a land disposal prohibition determination for any hazardous waste that is newly identified or listed after November 8, 1984 [RCRA Section 3004(g)(4); 42 U.S.C. 6924(g)(4)]. EPA intends to use the information gathered in the Inorganic Chemicals Questionnaire and site visits to support its rulemaking activities under 40 CFR Part 268, the land disposal restrictions. The same settlement agreement mentioned above for the listing program (*EDF v. Browner*) requires promulgation of land disposal restriction treatment standards for future listings within six months of finalization of a hazardous waste listing.

When EPA restricts a hazardous waste from further land disposal, it must also set levels or methods of treatment that substantially diminish the toxicity of the waste or substantially reduce the likelihood of migration of hazardous constituents from the waste so that short-term and long-term threats to human health or the environment are minimized [RCRA Section 3004(m)(1); 42 U.S.C. 6924(m)(1)]. Before EPA can restrict a particular hazardous waste from further land disposal, it must convincingly demonstrate that adequate treatment and management capacity exists to treat, recover, or dispose of the newly identified hazardous waste consistent with the new treatment standards. If adequate national capacity for a specific newly identified hazardous waste does not exist, EPA then may grant national capacity variances on a waste-specific basis until adequate alternative management capacity exists or two years, whichever is sooner [RCRA Section 3004(h)(2); 42 U.S.C. 6924(h)(2)].

For those industries specified under HSWA and under *EDF v. Browner* (including the inorganic chemicals industry), land disposal restrictions and the associated capacity determinations must be promulgated within six months of any listing determination. Data obtained from questionnaire responses and site visits will provide critical management and treatment information for inorganic chemicals residuals for which LDR standards will be established if any inorganic chemicals wastes are ultimately listed as hazardous.

2(b) Use/Users of Data

The data collected under the authority of RCRA Section 3007 will be used specifically for the following purposes:

- ▶ To summarize waste quantities and management practices of the inorganic chemicals industry as requested by various EPA offices.
- ▶ To identify waste streams that should be listed under 40 CFR 261.31, 261.32 and 261.33.
- ▶ To develop engineering analyses, background documents, and economic impact analyses in support of new listings and land disposal restrictions (if applicable).
- ▶ To provide baseline data for regulatory impact and capacity analyses.

The primary user of this information is the OSW Hazardous Waste Identification Division, which is responsible for fulfilling the hazardous waste listing portion of the aforementioned legislative and judicial mandates. Other Agency groups using the data include a number of branches and organizations within OSW. OSW's Hazardous Waste Minimization and Management Division will use the data to help determine waste-specific treatment standards and assessments of the availability and demand for hazardous waste treatment capacity at these facilities.

EPA anticipates that much of the data collected under this request will be claimed as confidential business information (CBI) data and, therefore, will not be available to the public-at-large unless presented in aggregate as non-CBI information. Since the information will be used to develop and implement hazardous waste policy and rulemaking, it will be "published" only as generic information necessary to support a rulemaking. However, the collected information will be used by contractors, cleared to handle CBI data, in assisting EPA in its listing and related hazardous waste regulatory development efforts.

3. NONDUPLICATION, CONSULTATIONS, AND OTHER COLLECTION CRITERIA

3(a) Nonduplication

The purpose of this RCRA Section 3007 Questionnaire and site visits are to collect information on inorganic chemicals wastes that are not currently regulated as hazardous. For such wastes, there are little available data. Any data that are present will be utilized whenever possible and will not be duplicated in further data collection efforts.

Several information sources were examined for data relevant to this inorganic chemicals waste industry study. These included the following sources:

- ▶ Hawley's Condensed Chemical Dictionary, 12th Edition, 1993.
- ▶ SRI Directory of Chemical Producers (1995 and 1996)
- ▶ Kirk-Othmer Encyclopedia of Chemical Technology
- ▶ Chemical Sources International, Inc. Chem Sources-USA, 1993 Ed.
- ▶ ChemExpo Chemical Profile, Phosphorous Trichloride, 1997
- ▶ Environmental Health Center: Environmental Writer, "Antimony Chemical Backgrounder, <http://safety.webfirst.com/ehc/chems/antimoney.htm>
- ▶ Pigment Handbook, Second Edition, Vol. 1, John Wiley & Sons, 1988.
- ▶ National Technical Information Service (NTIS)

EPA also conducted a comprehensive search on the World Wide Web and a more limited search at the Library of Congress. From these sources, EPA was able to obtain general information about different subsectors of the inorganic chemicals industry. EPA was also able to develop a list of facilities that have operated any of the target processes. Information was obtained from these and EPA sources on historical waste generation and management practices formerly employed in this industry. However, these sources did not provide adequate information on which EPA could base hazardous waste listing determinations as prescribed under 40 CFR §261.11.

The inorganic chemicals industry was previously studied by EPA in the 1980s. Before developing this ICR request, EPA reviewed the materials prepared during this earlier industry study. All internal documents were analyzed to identify information gaps that would require the collection of additional information. Most of these EPA documents were developed within the Office of Solid Waste or the Office of Water.

Many of the key elements needed to support a listing determination and risk assessment are not available from available information sources. Such critical data elements include confirmation of discontinuance of several of the 14 target processes

in the United States (EPA identified published sources that indicate that several of the facilities which reported generating wastes in the 1980s are no longer in production). Other critical data elements include the current characterization of inorganic chemicals residuals following implementation of facility-level prevention programs that EPA anticipates have been implemented at some facilities. The available data is dated, lacking in appropriate information for solid wastes, and neglects some of the solid wastes which are under the scope of this industry study. These missing data are not available in publicly available literature.

EPA does manage data on inorganic chemicals wastes that are already regulated as hazardous wastes. The information sources listed below contain data that characterize wastes and releases already regulated by EPA:

- ▶ Resource Conservation and Recovery Information System
- ▶ Hazardous Waste Biennial Reporting System
- ▶ Toxic Release Inventory (TRI) Database.

Although the TRI database may contain information on chemical releases from inorganic chemicals manufacturing facilities, these releases are not well correlated with industrial wastes as defined under RCRA in 40 CFR 261.2. TRI data are not process-specific, do not include a description of the generation of particular waste streams, nor provide detailed information on the quantity of the waste streams generated. Further, information from the TRI is limited because of threshold reporting requirements not applicable to RCRA¹.

Similarly, Biennial Reports provide information on the type and quantity of hazardous waste streams (as defined by EPA), but provides only a general description of the waste matrix and the production and generation processes involved.

Existing information sources that specifically contain characterization information on industrial non-hazardous waste generated by the inorganic chemicals industry have been examined and were found to be limited in scope and relevance.

The Inorganic Chemicals RCRA Section 3007 Questionnaire and site visits will be used to collect information that is not available in these information sources yet is critical to proper characterization of inorganic chemicals processes and associated wastes.

¹ For instance, among other reporting thresholds, a facility must have at least 10 or more full-time employees. Furthermore, to be subject to TRI reporting a facility must also meet one the following thresholds for a listed EPCRA section 313 chemical: manufacture (including imports) more than 25,000 pounds/year, or process more than 25,000 pounds/year, or otherwise use more than 10,000 pounds/year.

3(b) Public Notice Required Prior to ICR Submission to OMB

In compliance with the 1995 PRA, as this ICR is non-rule-related (although information collected will be used to support promulgation of a rule), EPA is soliciting public comments for a 60-day period prior to submitting this ICR to OMB. EPA is soliciting comments on the burden estimates for respondents. Comments received will be considered by EPA before submitting this Supporting Statement to OMB. A copy of the notice that appeared in the Federal Register is included as Appendix B.

3(c) Consultations

Consultation with industry respondents regarding the RCRA Section 3007 Questionnaire is an ongoing process. Questions and responses received during the past five years were reviewed, and surveys were modified accordingly. In addition, the experience gained in evaluating RCRA Section 3007 questionnaire responses, as well as the comments received from the respondents, have indicated the strengths and weaknesses of similar questionnaires and are the basis for burden-reducing changes to this Inorganic Chemicals Questionnaire. This process has resulted in significant revisions of the survey instrument and has helped to minimize the burden on industry in completing these surveys.

3(d) Effects of Less Frequent Collection

The inorganic chemicals questionnaire is a one time data collection and screening effort for this industry. Data collection efforts will not be repeated, although information may need to be updated periodically during the regulatory development process. Updates will be requested only on an as-needed basis for specific data elements, not for the entire survey.

3(e) General Guidelines

As this is a one-time data collection effort, no special records must be maintained by the respondents to complete questionnaires or updates. Questions are phrased in a manner that is consistent with the respondent's record keeping format. Only available information is required, and when available information is insufficient to complete the questionnaire, respondents may rely on engineering judgement to provide responses.

The data collection efforts to be conducted under this ICR are not statistical surveys, and therefore, statistical guidelines are not applicable.

Respondents are being given 60 days to respond to the questionnaire. The allotted response time will be sufficient to gather and compile information and to complete the questionnaire.

Some respondents may consider some of their responses as CBI. The Agency developed a RCRA CBI Security Plan to handle the RCRA CBI data collected through various data collection and management activities. When CBI protection is requested by a respondent, requests will be analyzed and, where warranted, protection will be provided. Respondents who claim information as CBI are required to justify their claims in an appendix to the questionnaire as described below. The CBI Security Plan is found in Appendix C.

Respondents must submit only the original RCRA Section 3007 Questionnaires. Copies of the questionnaire will not be accepted, although respondents may retain copies of the original for their records. Electronic versions of facility responses will be accepted by EPA if the signed original response is also provided. No remuneration will be provided to respondents. Respondents are expected to complete and submit all questionnaires in compliance with RCRA Section 3007 authority.

3(f) Confidentiality and Sensitive Questions

3(f)(I) Confidentiality

The law has provided standards, responsibility, and accountability for the control and security of documents and computer systems that contain CBI data under the following federal statutes and regulations:

- ▶ 42 U.S.C. 6927(b), Disclosure of Data (RCRA)
- ▶ 5 U.S.C. 552, Freedom of Information Act
- ▶ 18 U.S.C. 1905, Disclosure of Confidential Information
- ▶ 40 CFR Part 2, Confidentiality of Confidential Information
- ▶ 41 CFR Part 15, Public Contracts and Property Management

Several contractors are involved in supporting this effort. Each is cleared to handle CBI data and has an established security plan to ensure that only individuals and contractors cleared to handle CBI data have access to any CBI materials. The contractors' CBI security plan includes the following:

- ▶ A complete description of secured areas.
- ▶ Specific CBI procedures and responsibilities.
- ▶ All forms designed for the receipt, indexing, tracking, destruction, and employee confidentiality relating to CBI information.

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- ▶ A computer security plan.
 - ▶ Procedures for screening business information for claims of confidentiality.
 - ▶ Confidentiality agreement for contractor employees upon termination or transfer.
 - ▶ Destruction of CBI materials upon approval.

3(f)(ii) Sensitive Questions

No questions of a sensitive nature as defined by the Privacy Act of 1974 and OMB Circular A-130 will be asked of any respondents.

4. THE RESPONDENTS AND THE INFORMATION REQUESTED

4(a) Respondents/SIC Codes

EPA will be surveying facilities in the inorganic chemicals industry that have been identified as possible users of at least 1 of the 14 processes under study (see Section 3(a) for a description of information sources used to identify the universe of facilities). These facilities are generally classified in SIC code 2819.

A number of individuals at any given facility are capable of responding to the RCRA Section 3007 Questionnaire. The cognizant officials are generally environmental and/or operation managers who are responsible for product/process operations. While these individuals may not actually complete the RCRA Section 3007 Questionnaire, they do, however, have the ultimate responsibility for accurate completion and review/certification of the questionnaire. Other individuals likely to be included in the completion of the questionnaires include anyone familiar with the product and process operations at the facility. These individuals will typically include a plant or process engineer, a process chemist, a waste management engineer, an attorney, and operations personnel necessary for the accurate completion of the form.

4(b) Information Requested

4(b)(I) Data Items/Description of the RCRA Section 3007 Questionnaire Instrument

The format of the RCRA Section 3007 Questionnaire is tailored to the characteristics of and facility types found within the inorganic chemicals industry. As relatively little is known or documented on the volumes, compositions, and hazardous nature of the wastes currently generated by this industry, EPA is requesting an industry-wide survey (questionnaire) of a limited range of questions. Responses to this survey will establish the waste baseline upon which subsequent analyses will be based to determine the risk, necessary treatment levels, and regulatory impact.

EPA acknowledges the diversity of processes and process residuals generated in these 14 subsectors. These processes involve a range of different raw materials and intermediates which result in wastes with different physical and chemical characteristics. This recognition of the complexity of this industry further underscores the need for a census of all inorganic chemicals facilities employing any of the 14 target processes. A census, by means of the RCRA Section 3007 Questionnaire, is generally used when the targeted industrial group is relatively small (e.g., less than 500 facilities) and has not previously or recently (i.e., within the past 10 years) been subject to

information collection by the Agency. The census provides a more exact picture of an industry since it includes all facilities.

The Inorganic Chemicals RCRA Section 3007 Questionnaire contains general instructions followed by eight sections, each crucial in the proper characterization of waste generation and management in the industry. Out of the 14 industry subsectors listed only 11 are believed to currently exist in the United States. Specific instructions are provided within the questionnaire for each subsector. The content of each section of the Questionnaire is summarized below, and a copy of the draft Inorganic Chemicals RCRA Section 3007 Questionnaire is included as Appendix D.

1. Instructions. This section covers the ground rules for the questionnaire, including how to claim information as CBI and the definitions of key terms used throughout the questionnaire. Facilities that receive the questionnaire but do not operate any of the 14 target processes will be instructed to fill out only Sections 2 and 9 as described below.
2. Corporate/Facility Information. This section identifies the corporate and production plant name and location and EPA hazardous waste generator identification number and permit information. Personnel to be contacted for additional information or clarification of information submitted in the questionnaire is requested.
3. Process Information and Residual Identification. This section requests detailed information about specific unit operations that are associated with the 14 inorganic chemicals processes. A simplified process flow diagram and process description is requested that correlates each major unit in the production process with inputs, products, and residuals generated.
4. Residual Characterization. This section requests detailed information on the regulatory status and physical and chemical properties of the residuals identified previously. The waste code for residuals already managed as hazardous waste is requested. Both physical and chemical properties will be obtained for each residual.
5. Residual Generation and Management Information. This section requests information about the management practices of the residuals identified in the previous question. The quantity of residual generated, the frequency of generation, the management steps and methods, the types of management units, and the locations of the management units will be requested. Cost information is also requested for residual management.

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6. Residual Management Unit Characterization. This section requests information characterizing each on-site and captive off-site residual management unit. Requested information includes the dates of operation, RCRA permit status, size, and containment are requested for each unit managing residuals generated from any of the 14 targeted processes.
 7. General Facility (Both onsite and facility-owned offsite). This section requests general information on the facility and land used inside and outside the facility. A map is requested that includes the facility property boundary, locations of all residual management units, location of nearest residence within 1 mile of the facility boundary, groundwater gradient and direction, and prevailing wind direction.
 8. Certification. A responsible facility official will be asked to certify that the information provided in response to the questionnaire is accurate and complete.

Role of the Questionnaire

The questionnaire is administered to industries for which no or insufficient data previously have been collected by the Agency and the number of facilities in the target industry is small enough that to obtain sufficient data all facilities need to complete a questionnaire. Both of these points apply to the inorganic chemicals industry.

The questionnaire is used to obtain detailed information that will be used to characterize the industry group, the type and quantity of wastes typically generated, and the waste management techniques employed. The detailed information will be used for regulatory decision making.

4(b)(ii) Respondent Activities

In order to collect the required information, the Agency will require respondents to fill out the questionnaire. The universe of facilities identified as possible users of at least 1 of the 14 target inorganic chemicals processes who will receive the questionnaire is 119. The questionnaire will be used to provide national numbers and provide a census of waste management practices. This information will be used to identify data inputs into the risk assessment for these wastes, and to provide information for EPA regulatory decisions on hazardous waste. In coordination with responses from the questionnaire, approximately 22 facilities will be selected for site visits for sample collection.

All inorganic facilities identified as potentially operating any of the 14 target processes will be sent a questionnaire. Facility personnel will initially read and review the questionnaire to determine what information is required for its completion. Next, the information needed to complete the form will be collected and compiled, and completion of the form can begin. Once the facility has completed the form, EPA anticipates a thorough review of the form for completeness in order to comply with the certification requirements at the end of the survey. The completed form is then returned to EPA. If questions arise during EPA review of the questionnaire, facility personnel will be asked to answer any follow-up questions pertaining to the questionnaire and its contents.

Facilities that claim any of their responses as CBI are required to justify this claim by answering the questions contained in Appendix B of the draft questionnaire (see Appendix D of this ICR for a copy of the draft questionnaire). In previous RCRA §3007 questionnaires, respondents were asked to justify their CBI claims through follow-up letters from EPA upon receipt and analysis of questionnaire responses. Incorporation of this justification requirement into the questionnaire will expedite confidentiality claims while minimizing the number of EPA requests for information from these respondents.

If selected, an inorganic chemicals facility will be visited for sample collection concurrently with and/or following review of their questionnaire response.

EPA is not requesting or requiring respondents to collect any additional information to complete the questionnaire. Responses are to be based on currently available data. The types of information being requested are maintained as part of normal business practices in the inorganic chemicals industry. Therefore, minimum effort should be required to gather and compile the information sufficient to provide adequate response to any question posed.

No facility will be requested to perform any special analysis or tests for completion of the questionnaire. If the facility does not know the response to a question and does not have the information, the facility is to use the best engineering judgement of qualified personnel to provide a response.

5. THE INFORMATION COLLECTED - AGENCY ACTIVITIES, COLLECTION METHODOLOGY AND INFORMATION MANAGEMENT

5(a) Agency Activities

There are three basic phases to Agency activities relating to the Inorganic Chemicals Questionnaire. The first phase involves the development of the questionnaire instrument and the mailing list of inorganic chemicals facilities. The second phase involves mailing out and tracking the receipt of questionnaires to ensure a high compliance rate. Finally, EPA will perform engineering quality assurance reviews on the questionnaires received. Approximately 22 facilities will be selected for site visits. Samples will be collected during the site visits.

Phase 1

The first activity undertaken by the Agency is the development of a mailing list of the universe of relevant inorganic chemicals manufacturing facilities and the drafting of the questionnaire. The list of target inorganic chemicals facilities was developed during engineering review of the information sources listed in Section 3(a). A questionnaire will be sent to all facilities identified as employing any of the 14 target processes. Based on available information, EPA believes that some of these facilities no longer operate any of these processes. These facilities will only be required to fill out two sections of this survey: Corporate Information and Certification. Concurrent with development of a facility mailing list, EPA will finalize the questionnaire instrument. Responses to questionnaires are used in part to develop hazardous waste identification and control regulations. It will also be used to determine which sites should be visited and what samples collected.

Phase 2

Once the questionnaire is developed, it must be mailed to the respondents and the receipt of completed questionnaires must be tracked.

To assure that the desired response rate is achieved, telephone or letter follow-up efforts will be conducted. These follow-up efforts will be designed to obtain a maximum response rate. Telephone follow-up efforts also will be conducted to obtain missing responses noted by EPA during the initial review.

Phase 3

Once the questionnaires have been completed and received by EPA, all of the questions and answers will be reviewed to ensure the technical integrity of the

responses. After the technical review, additional telephone or letter follow-ups may be necessary to procure technically correct and consistent information. Sites will be selected for site visits and samples collected. Data received from the questionnaire and site visits will be entered and managed in an intra-Agency database known as the Industry Studies Database.

All requests for confidentiality must be acknowledged and the proper steps taken to provide appropriate protection. The Agency will handle all such requests in compliance with the CBI Security Plan (Appendix C). Protected CBI data, along with all other data collected, must be stored appropriately. CBI data must be stored in such a manner that it remains protected but accessible to those cleared for and requiring use of it.

5(b) Collection Methodology and Management

As mentioned previously, the RCRA Section 3007 questionnaire was reviewed and revised to ensure that questions were asked in a clear and concise manner. During the past 15 years, RCRA Section 3007 prequestionnaires and questionnaires have been administered to a number of industries and responses have been carefully evaluated. The current RCRA Section 3007 Questionnaire is designed specifically to obtain the desired information with the least amount of burden and confusion to the respondent.

A number of steps however, will be taken to ensure the accuracy and reliability of the data from the Inorganic Chemicals RCRA Section 3007 Questionnaire. First, efforts will be taken to ensure that EPA obtains a reasonable response rate. EPA will strive for a 100% response rate to the Inorganic Chemicals Section 3007 Questionnaire. To obtain this response rate, EPA will include a cover letter with each Questionnaire stating the obligations that each respondent has in responding. EPA also will provide a help-line. This number will be printed on the cover of the questionnaire and respondents will be encouraged to use the help-line for any questions concerning the completion of this survey.

In addition to providing aid to assist respondents in the completion of Questionnaires, EPA will conduct follow-up telephone calls or send reminder letters encouraging facilities to complete and return the survey. Once received by EPA, each Questionnaire will be reviewed by an engineer for technical integrity and completeness of responses. Engineers performing these technical reviews will identify any major problems and contact the respondents for clarification or additional information required for questionnaire completion.

Following engineering reviews of the completed surveys, response data will be entered into the Industry Studies Database (ISDB), the EPA data repository used by EPA as the primary information source for regulatory determinations on new hazardous waste

listing determinations. The ISDB is designed and maintained in accordance with Agency CBI procedures, although non-CBI datasets and outputs are developed for public consumption during the rulemaking process.

5(c) Small Entity Flexibility

Small businesses generally operate a few simple processes and, therefore, generate fewer wastes. A small inorganic chemicals facility with fewer processes can generally complete the questionnaire in a fraction of the estimated time. Also, small businesses will not be asked to perform any special analyses or tests to fulfill the information requirements. If data are not available upon which to base a response, the respondent can use his/her best engineering judgement for providing a response. Most of the facilities in the U.S. inorganic chemicals industry operate as part of larger corporate entities; EPA estimates that less than 10% of the respondents to this survey will be small businesses.

5(d) Collection Schedule

Following notification in the Federal Register and subsequent approval by OMB, EPA estimates that the inorganic chemicals questionnaire will be mailed to facilities in August, 1998. Facilities will be given 60 days to respond to the questionnaire. EPA will visit approximately 22 facilities in 1998 to verify questionnaire information and collect samples of residuals of concern. EPA will enter questionnaire responses and site visit information into the ISDB beginning in September 1998. Following QA of the ISDB data system, analysis of inorganic chemicals questionnaire data will begin in October 1998.

6. ESTIMATING THE BURDEN AND COST OF THE DATA COLLECTION

6(a) Estimating Respondent Burden

EPA has estimated the burden for the inorganic chemicals questionnaire and for sampling site visits. For the questionnaire data collection activity, EPA estimates that a respondent will need, on average, a total of 38 hours to complete the questionnaire and 32 hours for site visits. This estimate includes burden associated with justification of CBI claims for questionnaire responses. In instances where the facility operates none of the targeted 14 processes, the burden to complete the survey will be less than 5 hours. For facilities that employ only 1 of the target processes, these respondents may be able to complete this survey in a fraction of the estimated time. This estimate differs from previous ICR questionnaire estimates based on the reductions in the management unit characterization, unit-specific media characterization, and general facility sections. More detailed questions on these topics will be asked of only a subset of the inorganic chemicals industry through phone calls or letters.

All estimates are based on the Agency's past experience with administering the RCRA Section 3007 Questionnaires and site visits as well as on other data collection activities involving environmental engineering data from facilities. Exhibit 6-1 presents burden hour estimates for the Inorganic Chemicals Questionnaire broken down by survey section and respondent labor category.

Exhibit 6-1 Estimated Burden Hours for Data Collection Inorganic Chemical Industry Questionnaire and Site Visits

Respondent Activity	Labor Category						
	Environmental Engineer	Lawyer	Process Engineer	Process Chemist	Operations Personnel	Questionnaire Reviewer	Total
a. Read and Complete Questionnaire							
- Part 1 (Corporate and Facility Information)						1.0	1.0
- Part 2 (Process Information and Residual Identification)	4.0		4.0	1.0		1.0	10.0
- Part 3 (Residual Generation and Management)	3.0		1.0		1.0	1.0	6.0
- Part 4 (Residual Characterization)	2.0			2.0		1.0	5.0
- Part 5 (Residual Management Unit Characterization)	3.0					1.0	4.0
- Part 6 (General Facility)	2.0					1.0	3.0
- Part 7 (Certification)							
b. Review and Sign-off							
- Legal/Managerial Review	2.0	1.0				1.0	4.0
- CBI Justification		4.0	1.0				5.0
Total Hours for Questionnaire	16.0	5.0	6.0	3.0	1.0	7.0	38.0
c. Site Visit (Selected Sites)							
- Prepare for, secure access and escort sampling team	20.0		2.0	2.0	8.0		32.0
Total Hours for Site Visit	20.0	0.0	2.0	2.0	8.0	0.0	32.0

6(b) Estimating Respondent Costs

As this is a one-time survey without record keeping requirements, there are no capital and operation and maintenance costs. Therefore, the only respondent costs associated with the Inorganic Chemical Questionnaire and site visits are labor costs.

6(b)(I) Estimating Labor Costs

For each of the activities presented in Exhibit 6-1, EPA has estimated the averaged associated costs. The costs will vary depending on the complexity of the production process (e.g., number of process units) and the complexity of facility operations. The

more time-consuming and labor-intensive the activity, the higher the estimated cost to the respondent.

EPA estimates that a facility will spend an average of \$1,347 to complete the questionnaire. These are a result of the time and labor required to gather and compile the information required to complete the form, and provide a thorough QA of the form. For those facilities that receive a site visit an average of \$915.40 will be spent to cover the time and labor required to coordinate the visit and escort the sampling team.

The average annual salaries of the professionals listed in Exhibit 6-2 are based on data found in the following references:

- ▶ The American Salaries and Wages Survey, 3rd Edition (1995)
- ▶ The American Almanac of Jobs and Salaries, 114th Edition (1997-98)
- ▶ Occupational Outlook Handbook (1996-1997).

Wages were calculated using the salaries of mid-level employees in the private sector. When the data used were categorized by scholastic degree, the salaries of those with Masters degrees were used. When more than one amount was found in the literature, the figures were averaged. These methods provide salary estimates for the experienced managers, engineers, and other employees who would be participating in this survey. The labor category "Questionnaire Reviewer" was calculated as an average of all other labor categories listed, since any of the other categories could fill this role.

The total costs for respondents are broken down by data collection activity and labor category and are presented in Exhibit 6-2. Exhibit 6-2 includes loaded labor rates, which are based on recent labor statistics.

**Exhibit 6-2 Respondent Costs in Dollars, per Questionnaire and Site Visit
(Averaged)**

Labor Category	Average hours per Annual Salary Year (\$)	Average Hourly Rate* (\$)	Questionnaire	
			Hours	\$
Environmental Engineer	42,224	30.5	16	488.0
Process Engineer	44,350	32.0	6	192
Process Chemist	53,000	38.3	3	115
Lawyer	78,078	56.3	5	282.0
Operations Personnel	28,572	20.6	1	21.0
Questionnaire Reviewer	49,244	35.5	7	249.0
Total for Questionnaire			38	1347.0
			Site Visit	
Environmental Engineer	42,224	30.5	20	610.0
Process Engineer	44,350	32.0	2	64.0
Process Chemist	53,000	38.3	2	76.6
Operations Personnel	28,572	20.6	8	164.8
Total for Site Visit			32	915.4

*Hourly rates include 50% overhead; Questionnaire Reviewer's salary is an average of all other categories, as any of these could fill this role.

6(b)(ii) Estimating Capital and Operations and Maintenance Costs

There are no capital nor operations and maintenance costs associated with this information collection activity.

6(c) Estimating Agency Burden and Costs

EPA estimates that a total Agency burden of 808 hours is required for the inorganic chemicals industry. Approximately 32% of these hours are estimated for Agency

employees managing the effort. The remaining hours will be used by government contractors to actually gather, administer, and manage the data from the RCRA Section 3007 Inorganic Chemicals Questionnaire and conduct site visits.

Similarly, EPA estimates that the total costs to the Federal Government for this data collection will be \$35,280. Although EPA will manage all of the data collection activities, it is the contractors that will actually mail and track questionnaires, as well as assist in follow-up efforts and review all received information. EPA with the support of the contractors will conduct the site visits.

The federal government burden information is presented in Exhibit 6-3. Exhibit 6-3 displays the data collection activities with hours and dollars expended by labor category.

Exhibit 6-3 Estimated Costs to Federal Government

Activity	U.S. EPA		Contractor			
	Hours	\$	Hours	\$	Hours	\$
Questionnaire						
- Development and approval of questionnaire	50	1,500	200	10,000	250	11,500
- Mailing of 119 copies	30	900	0	0	30	900
Site visit to 22 facilities	176	5,280	352	17,600	528	22,880
Grand Total	256	7,680	552	27,600	808	35,280

6(d) Estimating the Respondent Universe and Total Burden and Costs

EPA estimates that potentially 119 facilities in the inorganic chemicals industry will be requested to complete a questionnaire and 22 will receive site visits. Based on the variety of facilities and activities, EPA estimates that the total hour burden to the regulated community is 5,226 hours (approximately 38 hours per questionnaire and 32 hours per site visit). The total cost to the regulated community is estimated at approximately \$181,432. Exhibit 6-4(a) presents total respondent burden hours and costs to questionnaire respondents and those receiving site visits.

Respondent Universe

The Respondent Universe is limited to all facilities in 14 process-specific subsectors of the inorganic chemicals industry. The inorganic chemicals facilities universe is comprised of a list taken from the lists of inorganic facilities from the sources listed in Section 3(a). The 4 most important sources were SRI, USITC, Kirk-Othmer, and ChemExpo. Facilities that were identified from these sources were cross-referenced with each other, then cross-referenced with data collected by EPA during the 1980s industry study.

Based on the industry overview developed using these sources, EPA projects that many facilities will reply negatively to the first question in Section 2, which asks respondents to indicate which of the 14 processes operate at that facility. Therefore, the burden to these facilities would be only a few hours to read the questionnaire and understand its requirements as they would have to fill out only a small portion of the questionnaire, then return it.

The total number of facilities in this universe of potential inorganic chemicals facilities of concern is 119. Of these, based on information gathered for development of the industry overview, EPA estimates that 55 of the 119 facilities will report that they do not operate any of the 14 inorganic processes.

Estimating Respondent Costs

Respondent costs were estimated using the following criteria and assumptions. As with industries surveyed previously by EPA, the burden for completing this questionnaire will vary substantially across the range of inorganic chemicals facilities. EPA anticipates that average respondent burden will break down by questionnaire section as shown in Exhibit 6.1.

Based on information collected to date, EPA assumes that approximately 46% of questionnaire respondents will report that they do not currently operate any of the inorganic processes, 90% of the remaining facilities will report employing only 1 of the 14 processes, and only 10% (or approximately 6 facilities) will report using 2 or more processes. Based on information collected by EPA during the 1970s and 1980s, EPA expects that no inorganic chemicals manufacturing facility will report operating more than 3 of the 14 processes.

6(e) Respondent Bottom Line Burden Hours and Costs

6(e)(I) Respondent Tally

See Exhibit 6-4(a) for the total estimated respondent burden and cost summary.

6(e)(ii) The Agency Tally

Exhibit 6-4(b) presents the total burden hours and costs to inorganic chemicals facilities and to the federal government.

Exhibit 6-4 Bottom Line Burden Hours and Costs

a: Estimated Hours and Costs to Respondents (Inorganic Chemicals Plants)

Activity	Events	# Hours per Event	Total Hours	Total Dollars (\$)
Questionnaire	119	38	4,522	160,293.00
Site visit	22	32	704	20,138.80

b: Estimated Total Costs

Activity	Respondents		Federal Government		Total	
	Hours	\$K	Hours	\$K	Hours	\$K
Questionnaire	4,522	160	280	12	4,802	172
Site visit	704	20	528	23	1,232	43

6(e)(iii) Variations in the Annual Bottom Line

As this is a one-time data collection activity, there are no variations in the annual bottom line.

6(f) Reasons for Change in Burden

This section does not apply to this ICR since EPA is not renewing or modifying an existing ICR at this time.

6(g) Burden Statement

EPA has developed the following burden box for the questionnaire which is shown in Exhibit 6-5. The burden box is a brief statement of the estimated burden for the Inorganic Chemicals Questionnaire along with a request for comments and suggestions regarding the respondent burden of the questionnaire.

Exhibit 6-5. Burden Statement for the Inorganic Chemicals Questionnaire

Public reporting burden for this collection of information is estimated to be 38 hours per response. This includes time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden to: Chief, OPPE Regulatory Information Division, U.S. Environmental Protection Agency, 2136, 401 M St., SW, Washington, D.C. 20460; and to Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503, marked "Attention Desk Officer for EPA." Include the ICR number in any correspondence.