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OMB Control Number: 0694-0120

Expiration Date: March 31, 2020

Section 232 Investigation: The Effect of Imports of Titanium Sponge on U.S. National Security**Producers and Melters Survey****SCOPE OF ASSESSMENT**

The U.S. Department of Commerce, Bureau of Industry and Security (BIS), Office of Technology Evaluation (OTE), is conducting a survey of U.S. titanium sponge production and titanium production. The survey results will be used to support an ongoing investigation of the effect of imports of titanium sponge on U.S. national security initiated under Section 232 of the Trade Expansion Act of 1962, as amended.

The principal goal of this survey is to assist the U.S. Department of Commerce in determining whether titanium sponge is being imported into the United States in such quantities or under such circumstances as to threaten to impair the national security. Information collected will include facilities and production data, mergers and acquisitions, joint ventures, imports and exports, supply chain networks, customers, sales and demand data, employment information, conditions of domestic and global competition, research and development, and other factors. The resulting data will provide the U.S. Department of Commerce detailed titanium industry information that is otherwise not publicly available and needed to effectively conduct this Section 232 investigation.

RESPONSE TO THIS SURVEY IS REQUIRED BY LAW

A response to this survey is required by law (50 U.S.C. Sec. 4555). Failure to respond can result in a maximum fine of \$10,000, imprisonment of up to one year, or both. Information furnished herewith is deemed confidential and will not be published or disclosed except in accordance with Section 705 of the Defense Production Act of 1950, as amended (50 U.S.C. Sec. 4555). Section 705 prohibits the publication or disclosure of this information unless the President determines that its withholding is contrary to the national defense. Information will not be shared with any non-government entity, other than in aggregate form. The information will be protected pursuant to the appropriate exemptions from disclosure under the Freedom of Information Act (FOIA), should it be the subject of a FOIA request.

Notwithstanding any other provision of law, no person is required to respond to nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB Control Number.

BURDEN ESTIMATE AND REQUEST FOR COMMENT

Public reporting burden for this collection of information is estimated to average 11 hours per response, including the 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 to BIS Information Collection Officer, Room 6883, Bureau of Industry and Security, U.S. Department of Commerce, Washington, D.C. 20230, and to the Office of Management and Budget, Paperwork Reduction Project (OMB Control No. 0694-0120), Washington, D.C. 20503.

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| III. General Instructions | |
| A. | <p>Your organization is required to complete this survey of U.S. titanium sponge production and titanium production, using an Excel template, which can be downloaded from the BIS website: http://www.bis.doc.gov/TiSponge232</p> <p>If you are unable to download the survey document, at your request, BIS survey support staff will e-mail the Excel survey template directly to you.</p> <p>For your convenience, a PDF version of the survey and required drop-down content is available on the BIS website to aid internal data collection. DO NOT SUBMIT the PDF version of the survey as your response to BIS. Should this occur, your organization will be required to resubmit the survey in the requested Excel format.</p> |
| B. | <p>Respond to every question. Surveys that are not fully completed will be returned for completion. Use the comment boxes to provide any information to supplement responses provided in the survey form. Make sure to record a complete answer in the space provided, even if the space does not appear to expand to fit all of the information. This is a comprehensive survey of sponge production and consumption. As such, some questions may not be relevant to your organization. Read each question carefully to ensure its applicability to your organization.</p> <p>DO NOT CUT AND PASTE RESPONSES WITHIN THIS SURVEY OR PASTE IN RESPONSES FROM OUTSIDE THE SURVEY. Survey inputs should be completed by typing in responses or by using a drop-down menu. The use of cut and paste can corrupt the survey template. If your survey response is corrupted as a result of cut and paste response, your survey will be rejected and your organization must immediately resubmit the survey.</p> |
| C. | <p>Do not disclose any USG classified information in this survey form.</p> |
| D. | <p>Upon completion of the survey, final review, and certification, transmit the survey document via e-mail to: Titanium232@bis.doc.gov</p> |
| E. | <p>Questions related to the survey should be directed to BIS survey support staff at Titanium232@bis.doc.gov.</p> <p>E-mail is the preferred method of contact.</p> <p>You may speak with a member of the BIS survey support staff by calling (202) 482-3110.</p> |
| F. | <p>For questions related to the overall scope of this Section 232 Investigation, contact Titanium232@bis.doc.gov or:</p> <p>Brad Botwin, Director, Industrial Studies Office of Technology Evaluation, BIS, Room 1093 U.S. Department of Commerce 1401 Constitution Avenue, NW Washington, DC 20230</p> <p>DO NOT submit completed surveys to Mr. Botwin's postal or personal e-mail address. All surveys must be submitted electronically to: Titanium232@bis.doc.gov</p> |
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IV. Definitions

| Term | Definition |
|--|---|
| Authorizing Official | An executive officer of the organization or business unit or another individual who has the authority to execute this survey on behalf of the organization. |
| Applied Research | Systematic study to gain knowledge or understanding necessary to determine the means by which a recognized and specific need may be met. This activity includes work leading to the production of useful materials, devices and systems or methods, including design, development, and improvement of prototypes and new processes. |
| Basic Research | Systematic, scientific study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications towards processes or products in mind. |
| Capital Expenditures | Investments made by an organization in buildings, equipment, property, and systems where the expense is depreciated. This does not include expenditures for consumable materials, other operating expenses, and salaries associated with normal business operations. |
| Chlorination | As applied to titanium sponge production, chlorination is the process in which chlorine gas is introduced to rutile or ilmenite ore to produce titanium tetrachloride. |
| Crushing/Shearing | The process by which large masses of titanium sponge produced via chemical methods are reduced to smaller sizes suitable for melting into ingots and other forms. |
| Customer | Any organization (external or internal entity) for which your organization manufactures/processes any product comprised of, or containing, titanium in any form. |
| DPAS | The purpose of DPAS is to assure the timely availability of industrial resources to meet current national defense and emergency preparedness program requirements and to provide an operating system to support rapid industrial response in a national emergency. The Defense Production Act of 1950 authorized the President to require preferential treatment of national defense programs. |
| Electrolysis | As applied to titanium sponge production, electrolysis is the process used to separate magnesium and chloride into magnesium and chlorine, resulting in the recycling of magnesium and chlorine. |
| Exports | Shipments to destinations outside the United States, including shipments to Canada and Mexico. |
| Facility | A building or the minimum complex of buildings or parts of buildings in which an organization operates to serve a particular function, producing revenue, and incurring costs for the company. A facility may produce an item of tangible or intangible property or may perform a service. It may encompass a floor or group of floors within a building, a single building, or a group of buildings or structures. Often, a facility is a group of related locations at which organization employees work, together constituting a profit-and-loss center for the company, and it may be identified by a unique DUNS number. |
| Finishing | Finishing treats the exterior of a metal product with the application of a thin complementary layer. Finishing is performed to improve a metal object's appearance and/or durability, titanium finishing steps include heat treating, machining, grinding, sizing, cutting, flattening and other surface preparation processes as well as inspection and testing processes to ready the product for shipment to customers |
| Forging | This process shapes titanium metal through the application of localized compressive forces, usually a hammer or die. It can be performed at various temperatures depending on the requirement for the final product. |
| Full Time Equivalent (FTE) Employees | Employees who work for 40 hours in a normal work week. Convert part-time employees into "full time equivalents" by taking their work hours as a fraction of 40 hours. |
| Full Time Equivalent (FTE) Contractors | Contractors who work for 40 hours in a normal work week. Convert part-time contractors into "full time equivalents" by taking their work hours as a fraction of 40 hours. |
| Global Headquarters | A location that serves as the organization's hub of worldwide operations with all global branches or divisions reporting to it. |
| Harmonized Tariff Schedule (HTS) | A 10-digit numbering system that classifies a good based on its name, use, and/or the material used in its construction. The number provides Customs and Border Protection (CBP) with a standardized method of tracking all merchandise imported into the United States and sets out the tariff rates and statistical categories. |
| Import Value | Values reported should be the CIF duty un-paid value. |
| Inventory | The goods or materials an organization holds for its own use or for the ultimate goal of sale, or disposition or future conversion, enrichment, fabrication, or other use. This is material to which your organization has title; this does not include holding material for third-party use or storage. |

| | |
|---|--|
| Melting | This process heats titanium metal feedstock, including both scrap, sponge, and any alloy additions. This step is required to produce semi-fabricated titanium products, such as ingots. |
| Milling | This is the process of converting ingots and other melted forms into downstream products such as billet, bar, extrusions, plate, sheet, coil, tube and wire. Processes involved in milling include forging, hot rolling, cold rolling and finishing. |
| Major Non-NATO Ally Sales | Sales of titanium products to the militaries of Afghanistan, Argentina, Australia, Bahrain, Brazil, Egypt, Israel, Japan, Jordan, Kuwait, Morocco, New Zealand, Pakistan, the Philippines, Republic of Korea (South Korea), Thailand, and Taiwan (Republic of China). |
| NATO Military Sales | Sales of titanium products to militaries of North Atlantic Treaty Organization member states other than the United States. These states include Albania, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Iceland, Latvia, Lithuania, Luxembourg, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Spain, and the United Kingdom |
| Non-U.S. Facility | A facility that is physically located outside of the United States. |
| Organization | A company, firm, laboratory, or other entity that owns or controls one or more U.S. establishment or facility involved in titanium production or consumption. |
| Product/Process Development | The systematic application of knowledge or understanding, directed toward the production of useful materials, devices, and systems or methods, including design, development, and improvement of prototypes and new processes to meet specific requirements. |
| Production | The process of transforming inputs (raw materials, semi-finished goods, subassemblies, ideas, information, knowledge) into goods or services. |
| Research & Development | Basic and applied research in the engineering sciences, as well as design and development of prototype products and processes. Efforts that an organization conducts towards innovating, introducing and/or improving products and processes. |
| Sales | All reported and unreported sales of titanium, including sales to end-users, and sales within divisions of the organization. |
| Scrap | Titanium metal that is recovered from the titanium manufacturing process or through dismantling older objects containing titanium. Scrap can be used as feedstock for a melt. |
| Sponge | A porous, brittle form of titanium created from the reduction of titanium tetrachloride. This is most frequently achieved through the Kroll process. |
| Sponge - Standard Quality | Titanium sponge with chemical compositions suitable for use in structural non-aerospace applications. |
| Sponge - Non-Rotating Aerospace | Titanium sponge with chemical compositions suitable for use in aerospace applications such as struts, turbine frames, exhaust sidewalls, and other static aerospace structures. |
| Sponge - Rotating Grade | Titanium sponge with chemical compositions suitable for use in aerospace applications such as blade rotors, shafts, fan and compressor blades, and shifters. The titanium sponge must be of sufficient quality to ensure zero-tolerance for structural failure. |
| Supplier | An entity from which your organization obtains inputs, which may be goods or services. A supplier may be another organization with which you have a contractual relationship, or it may be another facility owned by the same parent organization. |
| Titanium Tube | This is tube manufactured from titanium. It is primarily used in aerospace ducting applications since it does not have the strength for most hydraulic applications. It is also used power generation, chemical processing, and medical applications |
| Titanium-Related | Components/products produced and/or consumed by your organization that contain titanium metal. |
| United States | The "United States" or "U.S." includes the 50 states, Puerto Rico, the District of Columbia, Guam, the Trust Territories, and the U.S. Virgin Islands. |
| Vacuum Distillation | Reduction of titanium tetrachloride with magnesium metal in a reactor followed by a distillation process to remove magnesium and chlorine impurities. |
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| 1. Organization Information | | |
| Provide the following information for your organization | | |
| Organization Name | | |
| Street Address | | |
| City | | |
| State | | |
| ZIP Code | | |
| Country of Global Headquarters | | |
| U.S. Point of Contact Name | | |
| U.S. Point of Contact Email | | |
| U.S. Point of Contact Phone | | |
| Is this organization owned, in whole or in part, by any private or government entity? Indicate Yes/No, then identify the entities below, if applicable. List entities with at least 5% ownership. | | |
| Entity Name | Global Headquarters Street Address | Global Headquarters City |
| Global Headquarters State/Province | Global Headquarters Country | Ownership % |
| | | |
| | | |
| | | |
| | | |
| For the listed titanium related activities, record the number of facilities your organization owns that conduct these activities. If one facility does more than one of the listed activities, count it in each category. | | |
| Activities | Number of U.S. Located Facilities | Number of Non-U.S. Located Facilities |
| Titanium Sponge Production | | |
| Titanium Melting | | |
| Titanium Recycling | | |
| Titanium Casting | | |
| Titanium Milling | | |
| Titanium Forging | | |
| Titanium Finishing | | |
| Aerospace Structural Parts (e.g. spars, ribs) | | |
| Aerospace High-impact Parts (e.g. landing gear) | | |
| Aerospace External Engine Parts (e.g. cowl, fan) | | |
| Aerospace Internal Engine Parts (e.g. low pressure compressor) | | |
| Titanium Satellite Components/Finished Parts | | |
| Land-Based Turbine Engine and Structural Parts | | |
| Maritime Turbine Engine and Structural Parts | | |
| Chemical Processing Equipment (e.g. tubing) | | |
| Specialty Titanium Parts Manufacturing (not to include aerospace) | | |
| Other (Explain in Comments) | | |
| Comments: | | |
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2. Mergers, Acquisitions, Divestitures and Joint Ventures

Mergers, Acquisitions, and Divestitures

From 2015-2019, record the total number of mergers, acquisitions, and divestitures related to all titanium related activities, product development and design, and R&D activities. Be sure to report related private/public partnerships in which your organization participated.

Identify your organization's mergers, acquisitions, and divestitures below, if applicable.

| | Organization Name | Type of Activity | % of Equity Held by Partner Organization | Partner Organization Country Headquarters | Year Initiated | Primary Scope of Activity | Primary Purpose of Activity | Explain |
|------|-------------------|------------------|--|---|----------------|---------------------------|-----------------------------|---------|
| A. 1 | | | | | | see below section | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | | | | | | |
| 12 | | | | | | | | |
| 13 | | | | | | | | |
| 14 | | | | | | | | |
| 15 | | | | | | | | |

Joint Ventures

From 2015-2019, record the total number of joint ventures and other business partnerships related to all titanium related activities, product development and design, and R&D, including public/private partnerships, in which your organization participated.

Identify your organization's joint venture relationships below, if applicable.

| | Organization Name | Type of Joint Venture | % of Equity Held by Organization | Organization Country Headquarters | Year Initiated | Primary Scope of Relationship | Primary Purpose of Relationship | Explain |
|------|-------------------|-----------------------|----------------------------------|-----------------------------------|----------------|-------------------------------|--|---------|
| B. 1 | | | | | | Titanium Sponge Production | | |
| 2 | | | | | | Titanium Melting | | |
| 3 | | | | | | Titanium Recycling | | |
| 4 | | | | | | Titanium Casting | | |
| 5 | | | | | | Titanium Milling | | |
| 6 | | | | | | Titanium Forging | | |
| 7 | | | | | | Titanium Finishing | | |
| 8 | | | | | | Titanium Ore Mining | | |
| 9 | | | | | | Aerospace Structural Parts | | |
| 10 | | | | | | Aerospace High-impact Parts | | |
| 11 | | | | | | Aerospace External Engine | | |
| 12 | | | | | | Aerospace Internal Engine | Chemical Processing Equipment (e.g. | |
| 13 | | | | | | Titanium Satellite | Specialty Titanium Parts Manufacturing | |
| 14 | | | | | | Land-Based Turbine Engine | Other (Explain in Comments) | |
| 15 | | | | | | Maritime Turbine Engine and | | |

Comments:

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4. Production

Indicate if your organization produced sponge between the years 2015-2019 in the box to the right. If yes, complete section A, B, and C. If no, proceed to section D. y/n

For years 2015-2019, provide the following capacity utilization rates by facility and aggregated production data for U.S. titanium sponge production. If your organization did not produce sponge during this time period move to section B of this tab.

| A | Facility Name | 2015 Capacity Utilization Rate | | 2016 Capacity Utilization Rate | | 2017 Capacity Utilization Rate | | 2018 Capacity Utilization Rate | | 2019 YTD (June) Capacity Utilization Rate | | |
|---|--------------------------------------|--------------------------------|--------------------|--------------------------------|--------------------|--------------------------------|--------------------|--------------------------------|--------------------|---|--------------------|--------------------------------|
| | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | |
| B | Type of Sponge (Record in kilograms) | | 2015 | | 2016 | | 2017 | | 2018 | | 2019 (YTD) | |
| | | | Kilograms Produced | Average cost per Kg to produce | Kilograms Produced | Average cost per Kg to produce | Kilograms Produced | Average cost per Kg to produce | Kilograms Produced | Average cost per Kg to produce | Kilograms Produced | Average cost per Kg to produce |
| 1 | Standard Quality | | | | | | | | | | | |
| 2 | Non-Rotating Aerospace | | | | | | | | | | | |
| 3 | Rotating Grade | | | | | | | | | | | |
| 4 | Total: | | | | | | | | | | | |

If your organization has obtained qualification/certification to produce Aerospace Rotating Grade sponge provide the following.

| C | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|--------------------------------------|---|-------------------------|---|---|---|---|---|---|---|----|
| | | 1 | Organization Certifying | | | | | | | | |
| 2 | Date of Certification | | | | | | | | | | |
| 3 | Description of Certification Process | | | | | | | | | | |

For all titanium products below answer the applicable questions to your organizations U.S. based production by year. Report all quantities in kilograms for the years 2015-2019.

| D | Type of Titanium Metal (Record all Responses in Kilograms) | 2015 | 2016 | 2017 | 2018 | 2019 (to date) |
|----|--|------|------------------------|------|------|----------------|
| | | 1 | Titanium Ingot (Total) | | | |
| 1a | Titanium Ingot Containing Standard Quality sponge | | | | | |
| 1b | Titanium Ingot Containing Aerospace Non-rotating Sponge | | | | | |
| 1c | Titanium Ingot Containing Rotating Grade sponge | | | | | |
| 2 | Titanium Billet (Total) | | | | | |
| 2a | Titanium Billet Containing Standard Quality sponge | | | | | |
| 2b | Titanium Billet Containing Aerospace Non-rotating Sponge | | | | | |
| 2c | Titanium Billet Containing Rotating Grade sponge | | | | | |
| 3 | Titanium Scrap | | | | | |
| 4 | Titanium Bar | | | | | |
| 5 | Titanium Plate | | | | | |
| 7 | Titanium Tube | | | | | |
| 8 | Titanium Sheet (Hot Rolled) | | | | | |
| 9 | Titanium Sheet (Cold Rolled) | | | | | |
| 10 | Titanium Coil | | | | | |
| 11 | Other (Explain in Comments) | | | | | |

If your organization produces any of the below products indicate so in the box to the right. If yes, complete sections E and F. If no, proceed to the next page. y/n

| E | Provide the median, and maximum quantities of titanium scrap that can be used for the following parts. | Comments | Median Scrap Quantity (%) | Maximum Scrap Quantity (%) |
|---|--|----------|---------------------------|----------------------------|
| | | | | |
| 2 | Aerospace High-impact Parts (e.g. landing gear) | | | |
| 3 | Aerospace External Engine Parts (e.g. cowling, fan) | | | |
| 4 | Aerospace Internal Engine Parts (e.g. low pressure compressor) | | | |
| 5 | Land-Based Turbine Engine and Structural Parts | | | |
| 6 | Maritime Turbine Engine and Structural Parts | | | |
| 7 | Chemical Processing Equipment (e.g. tubing) | | | |
| 8 | Titanium Satellite Components/Finished Parts | | | |
| 9 | Other (Explain in Comments) | | | |

| F | What percentage of your business (by weight) is used for defense products vs. commercial products? | Defense Products | Commercial Products | Comments |
|----|--|------------------|---|----------|
| | | 1 | Aerospace Structural Parts (e.g. spars, ribs) | |
| 2 | Aerospace High-impact Parts (e.g. landing gear) | | | |
| 3 | Aerospace External Engine Parts (e.g. cowling, fan) | | | |
| 4 | Aerospace Internal Engine Parts (e.g. low pressure compressor) | | | |
| 5 | Land-Based Turbine Engine and Structural Parts | | | |
| 6 | Maritime Turbine Engine and Structural Parts | | | |
| 7 | Chemical Processing Equipment (e.g. tubing) | | | |
| 8 | Titanium Satellite Components/Finished Parts | | | |
| 9 | Other (Explain in Comments) | | | |
| 10 | Total (Explain in comments if defense plus commercial does not equal 100%): | | | |

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| 5. Cost of Production Inputs | | | | | | | | | | | | | | | | |
|--|---------|------------------|--|---|--|--|--|--|---|---|---------|--|--|--|--|--|
| For all facilities owned by your organization (U.S. and non-U.S.) producing titanium sponge use the drop down to select all relevant input costs to each facility. If your facility is currently idled but had production between 2015-2019, report for the applicable years. All dollar values should be reported as \$1000s USD. | | | | | | | | | | | | | | | | |
| Facility Location (City, State) | Country | Operating Status | Estimated Total Annual Operating Costs | Primary Inputs to Titanium Sponge Production | 2015 Average Annual Cost of Input Used | 2016 Average Annual Cost of Input Used | 2017 Average Annual Cost of Input Used | 2018 Average Annual Cost of Input Used | 2018 YTD (June) Average Annual Cost of Input Used | 2019 YTD (June) Average Annual Cost of Input Used | Explain | | | | | |
| 1 | | operating/idled | | Labor | | | | | | | | | | | | |
| | | | | Electricity | | | | | | | | | | | | |
| | | | | Rutile | | | | | | | | | | | | |
| | | | | Ilmenite | | | | | | | | | | | | |
| | | | | Coke | | | | | | | | | | | | |
| | | | | Chlorine | | | | | | | | | | | | |
| | | | | Magnesium | | | | | | | | | | | | |
| | | | | TiCl4 | | | | | | | | | | | | |
| | | | | Slag | | | | | | | | | | | | |
| | | | | Inert Gas | | | | | | | | | | | | |
| | | | | Transportation | | | | | | | | | | | | |
| | | | | Other Facility Overhead Costs | | | | | | | | | | | | |
| | | | | 2 | | | | Labor | | | | | | | | |
| | | | | | | | | Electricity | | | | | | | | |
| Rutile | | | | | | | | | | | | | | | | |
| Ilmenite | | | | | | | | | | | | | | | | |
| Coke | | | | | | | | | | | | | | | | |
| Chlorine | | | | | | | | | | | | | | | | |
| Magnesium | | | | | | | | | | | | | | | | |
| TiCl4 | | | | | | | | | | | | | | | | |
| Slag | | | | | | | | | | | | | | | | |
| Inert Gas | | | | | | | | | | | | | | | | |
| Transportation | | | | | | | | | | | | | | | | |
| Other Facility Overhead Costs | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | Labor | | | | | | | | |
| | | | | | | | | Electricity | | | | | | | | |
| | | | | Rutile | | | | | | | | | | | | |
| | | | | Ilmenite | | | | | | | | | | | | |
| | | | | Coke | | | | | | | | | | | | |
| | | | | Chlorine | | | | | | | | | | | | |
| | | | | Magnesium | | | | | | | | | | | | |
| | | | | TiCl4 | | | | | | | | | | | | |
| | | | | Slag | | | | | | | | | | | | |
| | | | | Inert Gas | | | | | | | | | | | | |
| | | | | Transportation | | | | | | | | | | | | |
| | | | | Other Facility Overhead Costs | | | | | | | | | | | | |
| | | | | Comments: | | | | | | | | | | | | |
| | | | | For all of your organization's U.S. and non-U.S. ingot productions, use the drop down to select all relevant input costs. The values presented should be an average of all of your organization's ingot production operations. All dollar values should be reported as \$1000s USD. | | | | | | | | | | | | |
| Primary Inputs to Titanium Ingot Production | | | | | 2015 Average Annual Cost of Input Used | 2016 Average Annual Cost of Input Used | 2017 Average Annual Cost of Input Used | 2018 Average Annual Cost of Input Used | 2018 YTD (June) Average Annual Cost of Input Used | 2019 YTD (June) Average Annual Cost of Input Used | Explain | | | | | |
| Labor | | | | | | | | | | | | | | | | |
| Electricity | | | | | | | | | | | | | | | | |
| Titanium Sponge | | | | | | | | | | | | | | | | |
| Aluminum | | | | | | | | | | | | | | | | |
| Vanadium | | | | | | | | | | | | | | | | |
| Other Alloying Elements (Specify in Comments) | | | | | | | | | | | | | | | | |
| Transportation | | | | | | | | | | | | | | | | |
| Other Facility Overhead Costs | | | | | | | | | | | | | | | | |
| Comments: | | | | | | | | | | | | | | | | |

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| 6. Surge Capacity | | | | | | | | | |
|--|---|---|--|--|---|--|--|---|--|
| Provide the following information regarding your organization's U.S. 2018 production capacity for the below titanium products: | | | | | | | | | |
| | | What is 2018 utilization rate averaged across U.S. facilities for the below products? | Current shift schedule (expressed as number of shifts/length of shift/days per week operational) | Time needed to reach 100% capacity utilization? (Months) | | Estimate costs to reach 100% capacity utilization? (USD) | Time needed to hire and train personnel to reach 100% capacity utilization? (Months) | Total additional number of FTE's required to reach 100% capacity utilization? | Shift Schedule under 100% capacity utilization (expressed as number of shifts/length of shift/days per week operational) |
| | | | | | | | | | |
| A | 1 | Standard Quality Sponge | | | | | | | |
| | 2 | Aerospace Non-Rotating Sponge | | | | | | | |
| | 3 | Rotating Sponge | | | | | | | |
| B | 1 | Titanium Ingot | | | | | | | |
| | 2 | Titanium Billet | | | | | | | |
| | 3 | Titanium Scrap | | | | | | | |
| | 4 | Titanium Bar | | | | | | | |
| | 5 | Titanium Plate | | | | | | | |
| | 6 | Titanium Sheet | | | | | | | |
| | 7 | Titanium Tube | | | | | | | |
| | 8 | Titanium Sheet | | | | | | | |
| | 9 | Other (Explain in Comments) | | | | | | | |
| | | Do any factors exist that inhibit surge capacity beyond 100% capacity utilization? | If yes, list and describe the inhibiting factors. | Amount of Potential Surge Capacity Beyond 100% Capacity Utilization (MT) | Time needed to reach surge capacity? (Months) | Estimate costs to reach surge capacity? (USD) | Time needed to hire and train personnel to reach surge capacity? (Months) | Total additional number of FTE's required to reach surge capacity? | Shift Schedule under surge capacity (expressed as number of shifts/length of shift/days per week operational) |
| C | 1 | Standard Quality Sponge | | | | | | | |
| | 2 | Aerospace Non-Rotating Sponge | | | | | | | |
| | 3 | Rotating Sponge | | | | | | | |
| D | 1 | Titanium Ingot | Yes | | | | | | |
| | 2 | Titanium Billet | No | | | | | | |
| | 3 | Titanium Scrap | | | | | | | |
| | 4 | Titanium Bar | | | | | | | |
| | 5 | Titanium Plate | | | | | | | |
| | 6 | Titanium Sheet | | | | | | | |
| | 7 | Titanium Tube | | | | | | | |
| | 8 | Titanium Sheet | | | | | | | |
| | 9 | Other (Explain in Comments) | | | | | | | |
| Comments: | | | | | | | | | |

BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act

| Previous Page | | 7. Facility Inventory | | | | | | Next Page | |
|---|--|---|--|-----------------------------------|------|-----------------------------|------|----------------|----------|
| Provide all U.S. inventories held directly or indirectly by you for the 2015 to 2018 period, current as of the end of calendar year 2018. | | | | | | | | | |
| Working Inventory | | | | | | | | | |
| Indicate titanium your organization maintains in working inventory, and the amounts of each in inventory for the 2015 to 2019 period. Report all amounts in kilograms. If your organization has more than one alloy of a given product in inventory, list each alloy separately. (e.g., if your organization has Titanium Billet with Alloy A and B, provide two entries for Titanium Billet with 'A' in the Alloy column for the first entry and 'B' in the Alloy column for the second). For this question, working inventory is defined as the combination of work-in-progress material and finished material held as inventory in anticipation of future sales. | | | | | | | | | |
| A | | Types of Titanium in Inventory | | Alloy | 2015 | 2016 | 2017 | 2018 | Comments |
| | 1 | Titanium Sponge - Standard Grade | | | | | | | |
| | 2 | Titanium Sponge - Rotating Grade | | | | | | | |
| | 3 | Titanium Sponge - Aerospace Non-Rotating Grade | | | | | | | |
| | 4 | Titanium Ingot Containing Standard Grade Sponge | | | | | | | |
| | 5 | Titanium Ingot Containing Rotating Grade Sponge | | | | | | | |
| | 6 | Titanium Ingot Containing Aerospace Non-Rotating Grade Sponge | | | | | | | |
| | 7 | Titanium Billet Containing Standard Grade Sponge | | | | | | | |
| | 8 | Titanium Billet Containing Rotating Grade Sponge | | | | | | | |
| | 9 | Titanium Billet Containing Aerospace Non-Rotating Grade Sponge | | | | | | | |
| | 10 | Titanium Scrap | | | | | | | |
| | 11 | Titanium Bar | | | | | | | |
| | 12 | Titanium Plate | | | | | | | |
| | 13 | Titanium Sheet (Hot Rolled) | | | | | | | |
| | 14 | Titanium Sheet (Cold Rolled) | | | | | | | |
| | 15 | Titanium Tube | | | | | | | |
| | 16 | Titanium Coil | | | | | | | |
| | 17 | Titanium Satellite Components/Finished Parts | | | | | | | |
| | 18 | Aerospace Structural Parts (e.g. spars, ribs) | | | | | | | |
| | 19 | Aerospace High-impact Parts (e.g. landing gear) | | | | | | | |
| | 20 | Aerospace External Engine Parts (e.g. cowling) | | | | | | | |
| | 21 | Aerospace Internal Engine Parts (e.g. low pressure compressor) | | | | | | | |
| | 22 | Land-Based Turbine Engine and Structural Parts | | | | | | | |
| | 23 | Maritime Turbine Engine and Structural Parts | | | | | | | |
| | 24 | Other (Explain in Comments) | | | | | | | |
| | 25 | | | | | | | | |
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| | 38 | | | | | | | | |
| | 39 | | | | | | | | |
| 40 | | | | | | | | | |
| Strategic Inventory | | | | | | | | | |
| Indicate titanium your organization maintains in strategic inventory, and the amounts of each in inventory for the 2015 to 2018 period. Report all amounts in kilograms. If your organization has more than one alloy of a given product in inventory, list each alloy separately. (e.g., if your organization has Titanium Billet with Alloy A and B, provide two entries for Titanium Billet with 'A' in the Alloy column for the first entry and 'B' in the Alloy column for the second). For this question, strategic inventory is defined as material kept by your organization as a reserve or hedge against supply disruption, market conditions, etc. | | | | | | | | | |
| B | | Types of Titanium in Inventory | | Alloy | 2015 | 2016 | 2017 | 2018 | Comments |
| | 1 | Titanium Sponge - Standard Grade | | | | | | | |
| | 2 | Titanium Sponge - Rotating Grade | | | | | | | |
| | 3 | Titanium Sponge - Aerospace Non-Rotating Grade | | | | | | | |
| | 4 | Titanium Ingot | | | | | | | |
| | 5 | Titanium Billet | | | | | | | |
| | 6 | Titanium Scrap | | | | | | | |
| | 7 | Titanium Bar | | | | | | | |
| | 8 | Titanium Plate | | | | | | | |
| | 9 | Titanium Sheet (Hot Rolled) | | | | | | | |
| | 10 | Titanium Sheet (Cold Rolled) | | | | | | | |
| | 11 | Titanium Tube | | | | | | | |
| | 12 | Titanium Coil | | | | | | | |
| | 13 | Titanium Satellite Components/Finished Parts | | | | | | | |
| | 14 | Specialty Titanium Parts Manufacturing (not to include aerospace) | | | | | | | |
| | 15 | Aerospace Structural Parts (e.g. spars, ribs) | | | | | | | |
| | 16 | Aerospace High-impact Parts (e.g. landing gear) | | | | | | | |
| | 17 | Aerospace External Engine Parts (e.g. cowling) | | | | | | | |
| | 18 | Aerospace Internal Engine Parts (e.g. low pressure compressor) | | | | | | | |
| | 19 | Land-Based Turbine Engine and Structural Parts | | | | | | | |
| | 20 | Maritime Turbine Engine and Structural Parts | | | | | | | |
| | 21 | Chemical Processing Equipment (e.g. tubing) | | | | | | | |
| | 22 | Other (Explain in Comments) | | | | | | | |
| | 23 | | | | | | | | |
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| Given your organization's current levels of production and the levels of inventory reported in Sections A and B, how long would your reported inventory last if you could not access direct titanium imports or material from suppliers derived from imports? Provide answers in months for the following scenarios: | | | | | | | | | |
| C | Rate of Production | | | Months Able to Sustain Operations | | Amount Produced (kilograms) | | Units Produced | |
| | Current Utilization Rate | | | | | | | | |
| | 100% Utilization Rate | | | | | | | | |
| | Defense Contracts Only Critical Infrastructure Contracts Only | | | | | | | | |
| Comments: | | | | | | | | | |

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| Previous Page | 8. National Defense Support | | | | | | Next Page | | |
|---|--|---------------------|--|--|---|---|---|---|---|
| A | Did your organization directly or indirectly supply titanium products for U.S. defense systems between 2015 and 2019? If no, proceed to next tab. If yes, complete sections B, C, and D below. | | | | | | yes/no | | |
| B | From the list of U.S. Government agencies below, select those whose systems you supported between 2015 and 2019. | | | | | | | | |
| | U.S. Air Force | yes/no | U.S. Coast Guard | yes/no | Department of Energy | yes/no | | | |
| | U.S. Army | yes/no | U.S. Intelligence Community (such as CIA, NGA, NRO, NSA) | yes/no | Other (Specify to the Right) | write in | | | |
| | U.S. Marine Corps | yes/no | Missile Defense Agency (MDA) | yes/no | Other (Specify to the Right) | write in | | | |
| | U.S. Navy | yes/no | Defense Logistics Agency | yes/no | Other (Specify to the Right) | write in | | | |
| C | Identify the specific U.S. Government programs/systems your organization has supported since 2015. In the first column, write-in the DEFENSE SYSTEM NAME. Provide as much detail as possible and spell out all acronyms. The AGENCY NAME column dropdown will be populated with the agencies you identified above (in part B), select the applicable agency. | | | | | | | | |
| | In the TITANIUM-RELATED PRODUCT columns, write in the products that your organization has provided. If additional products are provided in support of a specific government program/system, repeat the program/system on a new row and select the remaining products. | | | | | | | | |
| | NOTE: If your organization is unsure of the specific GOVERNMENT PROGRAM/SYSTEM NAME or AGENCY NAME, provide as much information as possible. Do not disclose any classified information. | | | | | | | | |
| | | Defense System Name | Agency Name (select from dropdown) | Estimated Total Amount of Titanium Provided for System (kilograms) | Titanium Product and/or Finished Good 1 | Titanium Product and/or Finished Good 2 | Titanium Product and/or Finished Good 3 | Titanium Product and/or Finished Good 4 | Titanium Product and/or Finished Good 5 |
| | 1 | | | | | | | | |
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| D | Are any of your organization's titanium related contracts rated under the Defense Priorities & Allocations System (DPAS)? Further information about DPAS can be found here: https://www.dcms.mil/DPAS/ | | yes/no | If yes, specify the nature and product of the DPAS rating. | | | | | |
| Comments: | | | | | | | | | |
| BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act | | | | | | | | | |

| | | | | | | | | |
|--|---|------------------------------------|--|--|---|--|---|-----|
| Previous Page | 9. Critical Infrastructure | Next Page | | | | | | |
| From the list of Critical Infrastructure Sectors below, indicate which sectors your organization has supplied with titanium products. In-depth definitions of each sector may be found at : https://www.dhs.gov/cisa/critical-infrastructure-sectors | | | | | | | | |
| A | Chemical Sector (e.g. pipes and tubes for chemical factories, pressure vessels, heat exchangers) | y/n | Dams Sector (e.g. titanium parts for electric turbines used in dams) | y/n | Financial Services Sector (e.g. titanium parts for data systems used by financial services firms) | y/n | Information Technology Sector (e.g. titanium parts for batteries) | y/n |
| | Commercial Facilities Sector (e.g. cladding, structural supports) | y/n | | Food and Agriculture Sector (e.g. titanium parts used in agricultural equipment) | y/n | Nuclear Reactors, Materials, and Waste Sector (e.g. waste storage, pipes and tubing for reactors, reactor shields) | y/n | |
| | Communications Sector (e.g., titanium parts for communications satellites) | y/n | Emergency Services Sector (e.g. titanium applications for police, fire, and EMS) | y/n | Government and Facilities Sector (e.g. titanium parts provided for end use in U.S. government facilities) | y/n | Transportation Systems Sector (e.g. civil aviation, titanium parts for oil and gas pipelines, titanium parts for motor vehicles, ships, and railroad equipment) | y/n |
| | Critical Manufacturing Sector (e.g. titanium parts for various industrial machinery, titanium parts for aircraft engines) | y/n | Energy Sector (e.g. titanium parts for solar panels, titanium turbine parts, pipes for power plants) | y/n | Healthcare and Public Health Sector (e.g. replacement joints, prosthetics, medical instruments) | y/n | Water and Wastewater Systems Sector (e.g. pipes for water and sewer and treatment plant systems) | y/n |
| Identify the specific critical infrastructure in the first column, write-in the CRITICAL INFRASTRUCTURE SYSTEM NAME . Provide as much detail as possible and spell out all acronyms. The SECTOR NAME column dropdown will be populated with the sectors you identified above (in part A), select the applicable sector. Do not repeat items already reported in the National Defense Support section. | | | | | | | | |
| In the TITANIUM-RELATED PRODUCT columns, state the titanium-related products your organization provides in support of the specific sector. If additional products are provided in support of a specific sector, repeat the program/system on a new row and select the remaining products. | | | | | | | | |
| NOTE: If your organization is unsure of the specific CRITICAL INFRASTRUCTURE SYSTEM name , provide as much information as possible. Do not disclose any classified information. | | | | | | | | |
| | Critical Infrastructure System | Sector Name (select from dropdown) | Titanium-Related Product 1 | Titanium-Related Product 2 | Titanium-Related Product 3 | Titanium-Related Product 4 | Titanium-Related Product 5 | |
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| B | 8 | | | | | | | |
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| | 18 | | | | | | | |
| | 19 | | | | | | | |
| | 20 | | | | | | | |
| Comments: | | | | | | | | |
| BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act | | | | | | | | |

For each type of titanium input purchased (purchases include both domestic and imports) by your organization from 2015-2019, state the supplier, amounts purchased, and prices paid. When applicable specify the alloy.

Slag (Kilograms)

Identify your organization's total number of suppliers for Slag. Where necessary, input 0.

| | Supplier | Supplier Headquarters | Is the Supplier a Related Party? | Manufacturer/Processor (if different from supplier) | Country of Titanium Origin | Alloy | End-Use | 2015 | | 2016 | | 2017 | | 2018 | | 2019 | |
|----|----------|-----------------------|----------------------------------|---|----------------------------|-------|-------------------------------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|
| | | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) |
| 1 | | | | | | | Commercial | | | | | | | | | | |
| 2 | | | | | | | Research | | | | | | | | | | |
| 3 | | | | | | | U.S. Government (Non-defense) | | | | | | | | | | |
| 4 | | | | | | | U.S. Government (Defense) | | | | | | | | | | |
| 5 | | | | | | | Other | | | | | | | | | | |
| 6 | | | | | | | Unknown | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |

Rutile (Kilograms)

Identify your organization's total number of suppliers for Rutile. Where necessary, input 0.

| | Supplier | Supplier Headquarters | Is the Supplier a Related Party? | Manufacturer/Processor (if different from supplier) | Country of Titanium Origin | Alloy | End-Use | 2015 | | 2016 | | 2017 | | 2018 | | 2019 | |
|----|----------|-----------------------|----------------------------------|---|----------------------------|-------|---------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|
| | | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) |
| 1 | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | |
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| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |

Ilmenite (Kilograms)

Identify your organization's total number of suppliers for Ilmenite. Where necessary, input 0.

| | Supplier | Supplier Headquarters | Is the Supplier a Related Party? | Manufacturer/Processor (if different from supplier) | Country of Titanium Origin | Alloy | End-Use | 2015 | | 2016 | | 2017 | | 2018 | | 2019 | |
|----|----------|-----------------------|----------------------------------|---|----------------------------|-------|---------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|
| | | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) |
| 1 | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |

Titanium Sponge Standard Quality (Kilograms)

Identify your organization's total number of suppliers for Titanium Sponge - Standard Quality. Where necessary, input 0.

| | Supplier | Supplier Headquarters | Is the Supplier a Related Party? | Manufacturer/Processor (if different from supplier) | Country of Titanium Origin | Alloy | End-Use | 2015 | | 2016 | | 2017 | | 2018 | | 2019 | |
|----|----------|-----------------------|----------------------------------|---|----------------------------|-------|---------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|
| | | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) |
| 1 | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
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| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |

| Titanium Sponge Aerospace Non-Rotating Quality (Kilograms) | | | | | | | | | | | | | | | | | | |
|--|-----------------------|----------------------------------|---|----------------------------|-------|---------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|------|--|
| Identify your organization's total number of suppliers for Titanium Sponge - Aerospace Non-Rotating Quality. Where necessary, input 0. | | | | | | | | | 2015 | | 2016 | | 2017 | | 2018 | | 2019 | |
| Supplier | Supplier Headquarters | Is the Supplier a Related Party? | Manufacturer/Processor (if different from supplier) | Country of Titanium Origin | Alloy | End-Use | 2015 | | 2016 | | 2017 | | 2018 | | 2019 | | | |
| | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | | |
| 1 | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | |
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| 9 | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | |

| Titanium Sponge Aerospace Rotating Parts Quality (Kilograms) | | | | | | | | | | | | | | | | | | |
|--|-----------------------|----------------------------------|---|----------------------------|-------|---------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|------|--|
| Identify your organization's total number of suppliers for Titanium Sponge - Aerospace Rotating Parts Quality. Where necessary, input 0. | | | | | | | | | 2015 | | 2016 | | 2017 | | 2018 | | 2019 | |
| Supplier | Supplier Headquarters | Is the Supplier a Related Party? | Manufacturer/Processor (if different from supplier) | Country of Titanium Origin | Alloy | End-Use | 2015 | | 2016 | | 2017 | | 2018 | | 2019 | | | |
| | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | | |
| 1 | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | |
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| 9 | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | |

| Titanium Scrap (Kilograms) | | | | | | | | | | | | | | | | | | |
|--|-----------------------|----------------------------------|---|----------------------------|-------|---------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|------|--|
| Identify your organization's total number of suppliers for Titanium Scrap. Where necessary, input 0. | | | | | | | | | 2015 | | 2016 | | 2017 | | 2018 | | 2019 | |
| Supplier | Supplier Headquarters | Is the Supplier a Related Party? | Manufacturer/Processor (if different from supplier) | Country of Titanium Origin | Alloy | End-Use | 2015 | | 2016 | | 2017 | | 2018 | | 2019 | | | |
| | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | | |
| 1 | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | |
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| 9 | | | | | | | | | | | | | | | | | | |
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| Titanium Ingot (Kilograms) | | | | | | | | | | | | | | | | | | |
|--|-----------------------|----------------------------------|---|----------------------------|-------|---------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|------|--|
| Identify your organization's total number of suppliers for Titanium Ingot. Where necessary, input 0. | | | | | | | | | 2015 | | 2016 | | 2017 | | 2018 | | 2019 | |
| Supplier | Supplier Headquarters | Is the Supplier a Related Party? | Manufacturer/Processor (if different from supplier) | Country of Titanium Origin | Alloy | End-Use | 2015 | | 2016 | | 2017 | | 2018 | | 2019 | | | |
| | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | | |
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| Titanium Slab (Kilograms) | | | | | | | | | | | | | | | | |
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| Identify your organization's total number of suppliers for Titanium Slab. Where necessary, input 0. | | | | | | | | | | | | | | | | |
| | Supplier | Supplier Headquarters | Is the Supplier a Related Party? | Manufacturer/Processor (if different from supplier) | Country of Titanium Origin | Alloy | End-Use | 2015 | | 2016 | | 2017 | | 2018 | | 2019 |
| | | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume |
| I-1 | | | | | | | | | | | | | | | | |
| I-2 | | | | | | | | | | | | | | | | |
| I-3 | | | | | | | | | | | | | | | | |
| I-4 | | | | | | | | | | | | | | | | |
| I-5 | | | | | | | | | | | | | | | | |
| I-6 | | | | | | | | | | | | | | | | |
| I-7 | | | | | | | | | | | | | | | | |
| I-8 | | | | | | | | | | | | | | | | |
| I-9 | | | | | | | | | | | | | | | | |
| I-10 | | | | | | | | | | | | | | | | |
| Titanium Billet (Kilograms) | | | | | | | | | | | | | | | | |
| Identify your organization's total number of suppliers for Titanium Billet. Where necessary, input 0. | | | | | | | | | | | | | | | | |
| | Supplier | Supplier Headquarters | Is the Supplier a Related Party? | Manufacturer/Processor (if different from supplier) | Country of Titanium Origin | Alloy | End-Use | 2015 | | 2016 | | 2017 | | 2018 | | 2019 |
| | | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume |
| J-1 | | | | | | | | | | | | | | | | |
| J-2 | | | | | | | | | | | | | | | | |
| J-3 | | | | | | | | | | | | | | | | |
| J-4 | | | | | | | | | | | | | | | | |
| J-5 | | | | | | | | | | | | | | | | |
| J-6 | | | | | | | | | | | | | | | | |
| J-7 | | | | | | | | | | | | | | | | |
| J-8 | | | | | | | | | | | | | | | | |
| J-9 | | | | | | | | | | | | | | | | |
| J-10 | | | | | | | | | | | | | | | | |
| Titanium Bar (Kilograms) | | | | | | | | | | | | | | | | |
| Identify your organization's total number of suppliers for Titanium Bar. Where necessary, input 0. | | | | | | | | | | | | | | | | |
| | Supplier | Supplier Headquarters | Is the Supplier a Related Party? | Manufacturer/Processor (if different from supplier) | Country of Titanium Origin | Alloy | End-Use | 2015 | | 2016 | | 2017 | | 2018 | | 2019 |
| | | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume |
| K-1 | | | | | | | | | | | | | | | | |
| K-2 | | | | | | | | | | | | | | | | |
| K-3 | | | | | | | | | | | | | | | | |
| K-4 | | | | | | | | | | | | | | | | |
| K-5 | | | | | | | | | | | | | | | | |
| K-6 | | | | | | | | | | | | | | | | |
| K-7 | | | | | | | | | | | | | | | | |
| K-8 | | | | | | | | | | | | | | | | |
| K-9 | | | | | | | | | | | | | | | | |
| K-10 | | | | | | | | | | | | | | | | |
| Titanium Plate (Kilograms) | | | | | | | | | | | | | | | | |
| Identify your organization's total number of suppliers for Titanium Plate. Where necessary, input 0. | | | | | | | | | | | | | | | | |
| | Supplier | Supplier Headquarters | Is the Supplier a Related Party? | Manufacturer/Processor (if different from supplier) | Country of Titanium Origin | Alloy | End-Use | 2015 | | 2016 | | 2017 | | 2018 | | 2019 |
| | | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume |
| L-1 | | | | | | | | | | | | | | | | |
| L-2 | | | | | | | | | | | | | | | | |
| L-3 | | | | | | | | | | | | | | | | |
| L-4 | | | | | | | | | | | | | | | | |
| L-5 | | | | | | | | | | | | | | | | |
| L-6 | | | | | | | | | | | | | | | | |
| L-7 | | | | | | | | | | | | | | | | |
| L-8 | | | | | | | | | | | | | | | | |
| L-9 | | | | | | | | | | | | | | | | |
| L-10 | | | | | | | | | | | | | | | | |

| Titanium Sheet (Kilograms) | | | | | | | | | | | | | | | | | |
|--|----------|-----------------------|----------------------------------|---|----------------------------|-------|---------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|
| Identify your organization's total number of suppliers for Titanium Sheet. Where necessary, input 0. | | | | | | | | | | | | | | | | | |
| | Supplier | Supplier Headquarters | Is the Supplier a Related Party? | Manufacturer/Processor (if different from supplier) | Country of Titanium Origin | Alloy | End-Use | 2015 | | 2016 | | 2017 | | 2018 | | 2019 | |
| | | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) |
| M | 1 | | | | | | | | | | | | | | | | |
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| Titanium Tube (Kilograms) | | | | | | | | | | | | | | | | | |
| Identify your organization's total number of suppliers for Titanium Tube. Where necessary, input 0. | | | | | | | | | | | | | | | | | |
| | Supplier | Supplier Headquarters | Is the Supplier a Related Party? | Manufacturer/Processor (if different from supplier) | Country of Titanium Origin | Alloy | End-Use | 2015 | | 2016 | | 2017 | | 2018 | | 2019 | |
| | | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) |
| N | 1 | | | | | | | | | | | | | | | | |
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| Titanium (Other - Explain in Comments) | | | | | | | | | | | | | | | | | |
| Identify your organization's total number of suppliers for Titanium (Other). Where necessary, input 0. | | | | | | | | | | | | | | | | | |
| | Supplier | Supplier Headquarters | Is the Supplier a Related Party? | Manufacturer/Processor (if different from supplier) | Country of Titanium Origin | Alloy | End-Use | 2015 | | 2016 | | 2017 | | 2018 | | 2019 | |
| | | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) |
| O | 1 | | | | | | | | | | | | | | | | |
| | 2 | | | | | | | | | | | | | | | | |
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| Comments: | | | | | | | | | | | | | | | | | |

BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act

| 11. Customers | | | | | | | | | | | | | | | | | |
|---|----------|-----------------------|-----------------------------------|---------------------------------------|-----------------------------------|-------|-------------------------------|--------|---------------|--------|---------------|--------|---------------|----------|---------------|----------|---------------|
| For each type of titanium sold by your organization from 2015-2019, state the customer (both U.S. and non-U.S.), amount sold, and price received. When applicable, specify the alloy. | | | | | | | | | | | | | | | | | |
| Titanium Sponge Standard Quality (Kilograms) | | | | | | | | | | | | | | | | | |
| Identify your organization's total number of customers for Titanium Sponge - Standard Quality. Where necessary, input 0. | | | | | | | | | | | | | | | | | |
| | Customer | Customer Headquarters | Is This Customer a Related Party? | End User (If Different from Customer) | Country of Titanium Sponge Origin | Alloy | End-Use | 2015 | | 2016 | | 2017 | | YTD 2018 | | YTD 2019 | |
| | | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) |
| A | | | Yes | | | | Commercial | | | | | | | | | | |
| | | | No | | | | Research | | | | | | | | | | |
| | | | | | | | U.S. Government (Non-defense) | | | | | | | | | | |
| | | | | | | | U.S. Government (Defense) | | | | | | | | | | |
| | | | | | | | Other | | | | | | | | | | |
| | | | | | | | Unknown | | | | | | | | | | |
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| Titanium Sponge Aerospace Non-Rotating Quality (Kilograms) | | | | | | | | | | | | | | | | | |
| Identify your organization's total number of suppliers for Titanium Sponge - Aerospace Non-Rotating Quality. Where necessary, input 0. | | | | | | | | | | | | | | | | | |
| | Customer | Customer Headquarters | Is This Customer a Related Party? | End User (If Different from Customer) | Country of Titanium Sponge Origin | Alloy | End-Use | 2015 | | 2016 | | 2017 | | YTD 2018 | | YTD 2019 | |
| | | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) |
| B | | | | | | | | | | | | | | | | | |
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| Titanium Sponge Aerospace Rotating Parts Quality (Kilograms) | | | | | | | | | | | | | | | | | |
| Identify your organization's total number of suppliers for Titanium Sponge - Aerospace Rotating Parts Quality. Where necessary, input 0. | | | | | | | | | | | | | | | | | |
| | Customer | Customer Headquarters | Is This Customer a Related Party? | End User (If Different from Customer) | Country of Titanium Sponge Origin | Alloy | End-Use | 2015 | | 2016 | | 2017 | | YTD 2018 | | YTD 2019 | |
| | | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) |
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| Titanium Scrap (Kilograms) | | | | | | | | | | | | | | | | | |
| Identify your organization's total number of customers for Titanium Scrap. Where necessary, input 0. | | | | | | | | | | | | | | | | | |
| | Customer | Customer Headquarters | Is This Customer a Related Party? | End User (If Different from Customer) | Country of Titanium Scrap Origin | Alloy | End-Use | 2015 | | 2016 | | 2017 | | YTD 2018 | | YTD 2019 | |
| | | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) |
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| Titanium Ingot (Kilograms) | | | | | | | | | | | | | | | | | |
| Identify your organization's total number of customers for Titanium Ingot. Where necessary, input 0. | | | | | | | | | | | | | | | | | |
| | Customer | Customer Headquarters | Is This Customer a Related Party? | End User (If Different from Customer) | Country of Ingot Fabrication | Alloy | End-Use | 2015 | | 2016 | | 2017 | | YTD 2018 | | YTD 2019 | |
| | | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) |
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| Titanium Billet (Kilograms) | | | | | | | | | | | | | | | | |
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| Identify your organization's total number of customers for Titanium Billet. Where necessary, input 0. | | | | | | | | | | | | | | | | |
| Customer | Customer Headquarters | Is This Customer a Related Party? | End User (If Different from Customer) | Country of Billet Fabrication | Alloy | End-Use | 2015 | | 2016 | | 2017 | | YTD 2018 | | YTD 2019 | |
| | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) |
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| Titanium Bar (Kilograms) | | | | | | | | | | | | | | | | |
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| Identify your organization's total number of customers for Titanium Bar. Where necessary, input 0. | | | | | | | | | | | | | | | | |
| Customer | Customer Headquarters | Is This Customer a Related Party? | End User (If Different from Customer) | Country of Bar Fabrication | Alloy | End-Use | 2015 | | 2016 | | 2017 | | YTD 2018 | | YTD 2019 | |
| | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) |
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| Titanium Plate (Kilograms) | | | | | | | | | | | | | | | | |
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| Identify your organization's total number of customers for Titanium Plate. Where necessary, input 0. | | | | | | | | | | | | | | | | |
| Customer | Customer Headquarters | Is This Customer a Related Party? | End User (If Different from Customer) | Country of Plate Fabrication | Alloy | End-Use | 2015 | | 2016 | | 2017 | | YTD 2018 | | YTD 2019 | |
| | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) |
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| Titanium Sheet (Kilograms) | | | | | | | | | | | | | | | | |
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| Identify your organization's total number of customers for Titanium Sheet. Where necessary, input 0. | | | | | | | | | | | | | | | | |
| Customer | Customer Headquarters | Is This Customer a Related Party? | End User (If Different from Customer) | Country of Sheet Fabrication | Alloy | End-Use | 2015 | | 2016 | | 2017 | | YTD 2018 | | YTD 2019 | |
| | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) |
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| Titanium Tube (Kilograms) | | | | | | | | | | | | | | | | |
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| Identify your organization's total number of customers for Titanium Tube. Where necessary, input 0. | | | | | | | | | | | | | | | | |
| Customer | Customer Headquarters | Is This Customer a Related Party? | End User (If Different from Customer) | Country of Tube Fabrication | Alloy | End-Use | 2015 | | 2016 | | 2017 | | YTD 2018 | | YTD 2019 | |
| | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) |
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| Titanium (Other - Explain in Comments) | | | | | | | | | | | | | | | | |
|---|-----------------------|-----------------------------------|---------------------------------------|---------------------------------------|----------|---------|--------|---------------|--------|---------------|--------|---------------|----------|---------------|----------|---------------|
| Identify your organization's total number of customers for Titanium Finished Goods. Where necessary, input 0. | | | | | | | | | | | | | | | | |
| Customer | Customer Headquarters | Is This Customer a Related Party? | End User (If Different from Customer) | Country of Other Titanium Fabrication | Comments | End-Use | 2015 | | 2016 | | 2017 | | YTD 2018 | | YTD 2019 | |
| | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) |
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| 10 | | | | | | | | | | | | | | | | |
| Titanium (Other - Explain in Comments) | | | | | | | | | | | | | | | | |
| Identify your organization's total number of customers for Titanium (Other). Where necessary, input 0. | | | | | | | | | | | | | | | | |
| Customer | Customer Headquarters | Is This Customer a Related Party? | End User (If Different from Customer) | Country of Other Titanium Fabrication | Comments | End-Use | 2015 | | 2016 | | 2017 | | YTD 2018 | | YTD 2019 | |
| | | | | | | | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) | Volume | Value (\$USD) |
| 1 | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | |
| Comments: | | | | | | | | | | | | | | | | |

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| Previous Page | | 12. Prices | | | | | | Next Page |
|--|--|------------|------|------|------|----------|----------|---------------------------|
| Provide the average prices in U.S. dollars your organization has sold the following products at per kilogram over the 2015-2019 period. Internal consumption and transfers within your organization should be listed at fair market value. | | | | | | | | |
| | Product | Year | | | | | | |
| | | 2015 | 2016 | 2017 | 2018 | 2018 YTD | 2019 YTD | |
| 1 | Standard Quality Sponge | | | | | | | |
| 2 | Aerospace Non-Rotating Sponge | | | | | | | |
| 3 | Rotating Grade Sponge | | | | | | | |
| 4 | Titanium Scrap | | | | | | | |
| Titanium Ingot | | | | | | | | |
| 5 | A Titanium Ingot Containing Standard Quality Sponge | | | | | | | |
| | B Titanium Ingot Containing Aerospace Non-Rotating Sponge | | | | | | | |
| | C Titanium Ingot Containing Rotating Grade Sponge | | | | | | | |
| Titanium Billet | | | | | | | | |
| 6 | A Titanium Billet Containing Standard Quality Sponge | | | | | | | |
| | B Titanium Billet Containing Aerospace Non-Rotating Sponge | | | | | | | |
| | C Titanium Billet Containing Rotating Grade Sponge | | | | | | | |
| 7 | Titanium Bar | | | | | | | |
| 8 | Titanium Plate | | | | | | | |
| 9 | Titanium Sheet | | | | | | | |
| 10 | Titanium Tube | | | | | | | |
| 11 | Other (Explain in Comments) | | | | | | | |
| 12 | Aerospace Structural Parts (e.g. spars, ribs) | | | | | | | |
| 13 | Aerospace High-impact Parts (e.g. landing gear) | | | | | | | |
| 14 | Aerospace External Engine Parts (e.g. cowl, fan) | | | | | | | |
| 15 | Aerospace Internal Engine Parts (e.g. low pressure compressor) | | | | | | | |
| 16 | Land-Based Turbine Engine and Structural Parts | | | | | | | |
| 17 | Maritime Turbine Engine and Structural Parts | | | | | | | |
| 18 | Chemical Processing Equipment (e.g. tubing) | | | | | | | |
| 19 | Titanium Satellite Components/Finished Parts | | | | | | | |
| 20 | Other (Explain in Comments) | | | | | | | |
| Comments: | | | | | | | | |

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| Previous Page | | 13. Employment - Sponge Production | | | | | | Next Page | | |
|--|---|---|----------------|---|--------------------------------------|-------------------------------|--|------------------------------------|----------------------|-------------|
| Indicate in the box to the right if your organization produced titanium sponge at a U.S. facility between 2015-2019. If yes, complete sections A-F. If no, proceed to the next page. | | | | | | | | y/n | | |
| Record the total number of full time equivalent (FTE) employees and contractors for the 2015 to 2019 period for U.S. facilities producing titanium sponge. | | | | | | | | | | |
| A | FTE Employees | | 2015 | 2016 | 2017 | 2018 | 2019 | | | |
| | FTE Contractors | | | | | | | | | |
| Record the total number of employees for each occupation type below for 2015 to 2019. | | | | | | | | | | |
| B | Occupation | | 2015 | 2016 | 2017 | 2018 | 2019 | Comments | | |
| | Chlorination | | | | | | | | | |
| | Sponge Mass Production | | | | | | | | | |
| | Electrolysis | | | | | | | | | |
| | Crushing/Shearing | | | | | | | | | |
| | Inspection | | | | | | | | | |
| | Laboratory Testing | | | | | | | | | |
| | Blending/Packaging | | | | | | | | | |
| | Maintenance and Engineering | | | | | | | | | |
| | Administrative, Management, Legal Staff, IT Staff | | | | | | | | | |
| | Marketing and Sales | | | | | | | | | |
| | Other | | (specify here) | | | | | | | |
| | Provide the following information about employment difficulties, workforce age, educational requirements, vacancies, and changes in employment for the 2015 to 2019 period. | | | | | | | | | |
| | C | Occupation | | Explanation for Difficulty, if Applicable | Current Average Age of Worker (2018) | Formal Education Requirements | On the Job Training Requirements (OTJ) | Current Number of Vacancies (2018) | Average Weeks Vacant | Explanation |
| Chlorination | | | | | | | | | | |
| Sponge Mass Production | | | | | | | | | | |
| Electrolysis | | | | | | | | | | |
| Crushing/Shearing | | | | | | | | | | |
| Inspection | | | | | | | | | | |
| Laboratory Testing | | | | | | | | | | |
| Blending/Packaging | | | | | | | | | | |
| Maintenance and Engineering | | | | | | | | | | |
| Administrative, Management, Legal Staff, IT Staff | | | | | | | | | | |
| Marketing and Sales | | | | | | | | | | |
| Other | | (specify here) | | | | | | | | |
| D | | Are the skills associated with the workforce in your organization transferable to other non-titanium industries? | | | | | | | | |
| E | | If you resumed operations at an idled facility, do you reasonably anticipate being able to hire or rehire workers? What would the hiring timeline be? | | | | | | | | |
| F | Does the geographic location of your organization's facilities play any role in the challenges in hiring, retaining, and rehiring employees? | | | | | | | | | |
| Comments: | | | | | | | | | | |

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| Previous Page | | 14. Employment - Non-Sponge Titanium Production | | | | | Next Page | | |
|--|---|---|---|--------------------------------------|-------------------------------|--|------------------------------------|----------------------|-------------|
| Record the total number of full time equivalent (FTE) employees and contractors for the 2015 to 2019 period for U.S. facilities. Do not include any sponge employees on this page. | | | | | | | | | |
| A | FTE Employees | 2015 | 2016 | 2017 | 2018 | 2019 | | | |
| | FTE Contractors | | | | | | | | |
| Record the total number of employees for each occupation type below for 2015 to 2019. | | | | | | | | | |
| B | Occupation | | 2015 | 2016 | 2017 | 2018 | 2019 | Comments | |
| | Furnace/Melt Shop Operators | | | | | | | | |
| | Grinders, Cutters, Forge Operators | | | | | | | | |
| | Casters, Finishers | | | | | | | | |
| | Machinists and Technicians | | | | | | | | |
| | Inspection and Quality Control | | | | | | | | |
| | Other Production Staff | | | | | | | | |
| | Maintenance, Engineering, and Chemical | | | | | | | | |
| | Administrative, Management, Legal Staff, IT Staff | | | | | | | | |
| | Marketing and Sales | | | | | | | | |
| | Other (specify here) | | | | | | | | |
| Provide the following information about employment difficulties, workforce age, educational requirements, vacancies, and changes in employment for the 2015 to 2019 period. | | | | | | | | | |
| C | Occupation | | Explanation for Difficulty, if Applicable | Current Average Age of Worker (2018) | Formal Education Requirements | On the Job Training Requirements (OTJ) | Current Number of Vacancies (2018) | Average Weeks Vacant | Explanation |
| | Furnace/Melt Shop Operators | | | | | | | | |
| | Grinders, Cutters, Forge Operators | | | | | | | | |
| | Casters, Finishers | | | | | | | | |
| | Machinists and Technicians | | | | | | | | |
| | Inspection and Quality Control | | | | | | | | |
| | Other Production Staff | | | | | | | | |
| | Maintenance, Engineering, and Chemical | | | | | | | | |
| | Administrative, Management, Legal Staff, IT Staff | | | | | | | | |
| | Marketing and Sales | | | | | | | | |
| | Other (specify here) | | | | | | | | |
| D | Does the industry experience any amount of workforce cross-over between commercial and U.S. government titanium activities? | | | | | | | | |
| E | Are the skills associated with the workforce in your organization transferable to other non-titanium industries? | | | | | | | | |
| F | If you resumed operations at an idled facility, do you reasonably anticipate being able to hire or rehire workers? What would the hiring timeline be? | | | | | | | | |
| G | Does the geographic location of your organization's facilities play any role in the challenges in hiring, retaining, and rehiring employees? | | | | | | | | |
| Comments: | | | | | | | | | |

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[Previous Page](#)[Next Page](#)**15. Financials**

Provide the following financial line items for your organization's titanium-related cost center/business activity U.S. operations below for the 2015 to 2019 period. Only complete section B if your organization operated a sponge facility between 2015-2019.

| | | | | | | |
|---|---|--|------|------|------|-----------------|
| Source of Financial Data: | | | | | | |
| Reporting Schedule: | | | | | | |
| A. Income Statement (Select Line Items) | | Record \$ in Thousands, e.g. \$12,000.00 = survey input of \$12 | | | | |
| | | 2015 | 2016 | 2017 | 2018 | 2019 (estimate) |
| 1 | Net Sales (and other revenue) | | | | | |
| 2 | Cost of Goods Sold | | | | | |
| 3 | Total Operating Income (Loss) | | | | | |
| 4 | Earnings Before Interest and Taxes | | | | | |
| 5 | Net Income | | | | | |
| B. Income Statement (Select Sponge Line Items) | | Record \$ in Thousands, e.g. \$12,000.00 = survey input of \$12 | | | | |
| | | 2015 | 2016 | 2017 | 2018 | 2019 (estimate) |
| 1 | Sponge Net Sales | | | | | |
| 2 | Cost of Sponge Sold | | | | | |
| 3 | Sponge Total Operating Income (Loss) | | | | | |
| 4 | Sponge Earnings Before Interest and Taxes | | | | | |
| 5 | Sponge Net Income | | | | | |
| C. Balance Sheet (Select Line Items) | | Record \$ in Thousands, e.g. \$12,000.00 = survey input of \$12 | | | | |
| | | 2015 | 2016 | 2017 | 2018 | 2019 (estimate) |
| 1 | Cash | | | | | |
| 2 | Inventories | | | | | |
| 3 | Total Current Assets | | | | | |
| 4 | Total Assets | | | | | |
| 5 | Total Current Liabilities | | | | | |
| 6 | Total Liabilities | | | | | |
| 7 | Retained Earnings | | | | | |
| 8 | Total Owner's Equity | | | | | |
| Comments: | | | | | | |
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16. Sales

From 2015 to 2019, record your organization's total sales data for all titanium products, including sponge.

In Line 1, indicate your total sales (including commercial and government sales).

In Line 2, indicate what percent of your total sales which were non-U.S. sales (sales from U.S. facilities which are exported outside of the U.S.)

In Line 3, indicate what percent of your total sales (Line A) that were U.S. defense-related (including commercial, government)

In Line 4, indicate what percent of your total sales (Line A) that were NATO (non-U.S.) military-related

In Line 5, indicate what percent of your total sales (Line A) that were Major Non-NATO Ally military-related

Note: "Non-U.S." means export sales from U.S. locations.

| | | | | | | | | | | |
|---|--|--|---|------|---|------|---|------|---|----------|
| A. | Sales | | | | | | | | | |
| | <Corporate/Whole Organization, Division/Business Unit> | | | | | | | | | |
| | <Calendar Year/Fiscal Year> | | | | | | | | | |
| | Record in \$ Thousands, e.g. \$12,000.00 = survey input \$12 | | | | | | | | | |
| | | 2015 | | 2016 | | 2017 | | 2018 | | 2019 YTD |
| | 1 | Total Sales, all domestic and foreign customers | | | | | | | | |
| | Lines 2-5 need not sum to 100%. Estimates are acceptable. | | | | | | | | | |
| | 2 | Total non-U.S. Sales (as a % of A) | | % | | % | | % | | % |
| | 3 | Total U.S. Defense Related Sales (as a % of A) | | % | | % | | % | | % |
| | 4 | Total NATO (Non-U.S.) Military Sales (as a % of A) | | % | | % | | % | | % |
| 5 | Total Major Non-NATO Ally Military Sales (as a % of A) | | % | | % | | % | | % | |
| Explain any irregularities with the sales data: | | | | | | | | | | |
| Comments: | | | | | | | | | | |
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| | | | | | | |
|---|--|--|------------------------|---------|------|------|
| Previous Page | 17. Research & Development and Capital Expenditures | Next Page | | | | |
| <p>A. Has your organization conducted titanium sponge, titanium melt, or titanium fabrication related research and development (R&D) from 2015-2019? y/n If no, proceed to Section D below.</p> | | | | | | |
| <p>Record your organization's total R&D dollar expenditures and type of R&D expenditure for the 2015 to 2019 period.</p> | | | | | | |
| Record \$ in Thousands, e.g. \$12,000.00 = survey input of \$12 | | | | | | |
| | | 2015 | 2016 | 2017 | 2018 | 2019 |
| B. | 1 | Total R&D Expenditures | | | | |
| | 2 | Basic Research [as a % of B1] | | | | |
| | 3 | Applied Research [as a % of B1] | | | | |
| | 4 | Product/Process Development [as a % of B1] | | | | |
| | 5 | Total of 2 - 4 [must equal 100%] 0% 0% 0% 0% 0% | | | | |
| | 6 | Titanium sponge and/or titanium melting and/or titanium fabrication -related R&D [as a % of B1] | | | | |
| <p>C. 1 From 2015-2019, were your investments in R&D related to titanium sponge and/or titanium melting and/or titanium fabrication diminished by financial constraints? y/n</p> | | | | | | |
| <p>1 If yes, identify the reasons for these constraints:</p> | | | | | | |
| <p>Record your organization's titanium sponge, titanium melting, and titanium fabrication related capital expenditures corresponding to the select categories below for the 2015-2019 period.</p> | | | | | | |
| Record \$ in Thousands, e.g. \$12,000.00 = survey input of \$12 | | | | | | |
| Below, provide any additional comments in relation to capital expenditures made in the past 5 years (2015-2019). | | | | | | |
| Capital Expenditure Activity Type | | 2015 | 2016 | 2017 | 2018 | 2019 |
| D. | Total Capital Expenditures | | | | | |
| 1 | Machinery, Equipment, and Vehicles [as a % of D] | | | | | |
| 2 | IT, Computers, Software [as a % of D] | | | | | |
| 3 | Land, Buildings, and Leasehold Improvements [as a % of D] | | | | | |
| 4 | Other (Specify) [as a % of D] | | | | | |
| 5 | Other (Specify) [as a % of D] | | | | | |
| Lines 1 through 5 must total 100% | | 0% | 0% | 0% | 0% | 0% |
| <p>E. For the below categories, indicate whether your organization experienced significant changes (increases, decreases, or both), in titanium sponge and/or titanium melting and/or titanium fabrication expenditures over the past ten years (2010-2019). Explain what factors have been affecting changes in your organization's capital expenditures from 2010 to 2019, including, but not limited to, U.S. Government or state government policies or regulations, domestic and foreign competition, and declining sponge prices.</p> | | | | | | |
| | | Yes/No | If Yes, Type of Change | Explain | | |
| 1 | Machinery, Equipment, and Vehicles | y/n | | | | |
| 2 | IT, Computers, Software | | | | | |
| 3 | Land, Buildings, and Leasehold Improvements | | | | | |
| 4 | Other (Specify) | | | | | |
| 5 | Other (Specify) | | | | | |
| <p>Comments:</p> | | | | | | |
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| Previous Page | 18. Competition and Demand Trends | | | | Next Page |
|---|---|--------|---------|-------------------|---------------------------|
| <p>From 2009 to 2019, indicate whether import competition has affected your U.S. titanium related operations, sales, employment, planned expansions, etc. with respect to the production of any type of titanium. Indicate Yes/No to the right and explain below.</p> | | | | | |
| A | Item | Yes/No | Explain | | |
| | 1 Manufacturing Operations | | | | |
| | 2 Sales | | | | |
| | 3 Employment | | | | |
| | 4 Planned Expansions | | | | |
| | 5 Other: | | | | |
| <p>Does your organization anticipate any negative effects on its business due to future imports of titanium sponge and finished products into the United States from the listed countries below? Indicate Yes/No to the right and explain below.</p> | | | | | |
| B | Item | Sponge | Explain | Finished Products | Explain |
| | 1 Russia | y/n | | y/n | |
| | 2 Kazakhstan | | | | |
| | 3 China | | | | |
| | 4 Japan | | | | |
| | 5 Ukraine | | | | |
| | 6 India | | | | |
| | 7 Saudi Arabia | | | | |
| | 8 Other: | | | | |
| | 9 Other: | | | | |
| 10 Other: | | | | | |
| <p>Is your organization aware of any government assistance and/or non-market support given to sponge producers in the following countries? Indicate Yes/No to the right and explain below.</p> | | | | | |
| C | Item | Yes/No | Explain | | |
| | 1 Russia | | | | |
| | 2 Kazakhstan | | | | |
| | 3 China | | | | |
| | 4 Japan | | | | |
| | 5 Ukraine | | | | |
| | 6 India | | | | |
| 7 Saudi Arabia | | | | | |
| D | <p>1 If there were no U.S. facilities producing titanium sponge would your operations be impacted? Explain.</p> | | | | |
| | <p>2 What steps has your organization taken to protect business if in a hypothetical situation imports of sponge were unavailable? Explain.</p> | | | | |
| | <p>3 Has your organization ever experienced a shortage or complete cut off of sponge imports? Explain.</p> | | | | |
| E | Describe the top five most significant challenges to the competitive position of your organization in the U.S. titanium market. | | | | |
| | 1 | 1 | | | |
| | | 2 | | | |
| | | 3 | | | |
| | | 4 | | | |
| | | 5 | | | |
| | Describe the top five most significant challenges to the competitive position of your organization in the non-U.S. titanium market. | | | | |
| | 2 | 1 | | | |
| | | 2 | | | |
| | | 3 | | | |
| 4 | | | | | |
| 5 | | | | | |
| Comments: | | | | | |
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19. Certification

The undersigned certifies that the information herein supplied in response to this questionnaire is complete and correct to the best of his/her knowledge. It is a criminal offense to willfully make a false statement or representation to any department or agency of the United States Government as to any matter within its jurisdiction (18 U.S.C. 1001 (1984 & SUPP. 1197)).

| | |
|---------------------------------|--|
| Organization Name | |
| Organization's Internet Address | |
| Name of Authorizing Official | |
| Title of Authorizing Official | |
| E-mail Address | |
| Phone Number and Extension | |
| Date Certified | |

In the box below, provide any additional comments or any other information you wish to include regarding this survey assessment.

How many hours did it take to complete this survey?

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