

Section 232 Investigation: The Effect of Imports of Titanium Sponge on U.S. National Security**End Users 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 the U.S. titanium end users. 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, 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 Information furnished herewith is deemed confidential and will not be published or disclosed except in accordance with Section 705 of the Defense Production Act of 1950, as amended (50 U.S.C. Sec. 4555).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 end users 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 the titanium end user. 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

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.
Buy-to-Fly Ratio	This is the weight of the titanium used in a product's manufacturing process divided by the weight of the final product (e.g., if 100 pounds of titanium is required to make a 10 pound part, the ratio is 10:1).
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.
Critical Infrastructure	As defined by the Department of Homeland Security, critical infrastructure is defined as sectors of the economy whose assets, systems, and networks, whether physical or virtual, are considered vital to the United States's national security, economic security, public health and safety, or any combination of the above. More information may be found here: https://www.dhs.gov/cisa/critical-infrastructure-sectors
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.
Defense Priorities and Allocation System (DPAS)	This system, administered by the Department of Commerce, assigns priority ratings to prime contracts, subcontracts, and purchase orders for all authorized Department of Defense programs. Suppliers must accepted and fulfill rated orders according to their assigned priority.
Electrolysis	As applied to titanium sponge production, this is the process that separates magnesium chloride into magnesium and chlorine for subsequent use in the chlorination and vacuum distillation processes.
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 landed, duty paid values at the U.S. port of entry, including ocean freight and insurance costs, brokerage charges, and import duties (i.e., all charges except inland freight in the United States).
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 within a high frequency induction furnace in an inert atmosphere. 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.
Opportunity Zones	An Opportunity Zone is an economically-distressed community where new investments, under certain conditions, may be eligible for preferential tax treatment. A list of these zones may be found at: https://www.cdfifund.gov/Pages/Opportunity-Zones.aspx

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 -Related	Components/products produced and/or consumed by your organization that contain titanium metal.
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
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						
A.	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.						
B.	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. For the purposes of this section, "aircraft" includes both fixed-wing and rotary aircraft.						
C.	Activities	Number of U.S. Facilities	Number of Non-U.S. Facilities	Comments		
	Aircraft Manufacturing/Assembly					
	Aircraft Turbine Engine Manufacturing/Assembly					
	Land/Naval Turbine Engine Manufacturing/Assembly					
	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					
	Satellite and Other Space Manufacturing/Assembly					
	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)					
	Titanium Recycling					
	Titanium Milling					
	Titanium Forging					
	Titanium Finishing					
	Other	(Specify)				
	Other	(Specify)				
Other	(Specify)					
Other	(Specify)					
Comments:						

Provide the following financial line items for your organization's titanium-related U.S. cost center/business activity U.S. operations below for the 2015 to 2019 period.

Facility Name		Location				Facility Operation	Outlook	
		City	State	Country	Facility Located in a Free Trade Zone?		Facility Located in an Opportunity Zone?	Do you anticipate any significant changes in this particular operation over the next five years that may affect your titanium consumption and/or production?
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Is your organization considering the development of new titanium-related facilities, whether inside or outside the United States? If yes, describe.								
If any of your organization's facilities are located in an Opportunity Zone, explain the impact that these zones have had on your organization's operations. If your organization does not have facilities located in an Opportunity Zone, would your organization consider relocation?								
Comments:								

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3. 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 metal and titanium metal parts production**, 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.

A.	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
	1							
	2							
	3							
	4							
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	15							

Joint Ventures

From 2015-2019, record the total number of joint ventures and other business partnerships related to **all titanium metal and titanium metal parts production**, 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.

B.	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
	1							
	2							
	3							
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	14							
	15							

Comments:

4. Production

Has your organization certified titanium sponge for use in rotating parts? If yes, complete section A. If no, proceed to section B.

If your organization maintained certification for any manufacturers of rotating grade titanium sponge during the 2015-2019 period, list the supplier you have certified, date of certification, and describe the certification process. If the certification has been withdrawn, state the date and circumstances of withdrawal, if still active leave the cell blank. You may enter up to 5 manufacturers.

A		1	2	3	4	5
	1	Organization Certified				
	2	Date of Certification				
	3	Date of Certification Withdrawal (If Applicable)				
	4	Description of Certification Process				
	5	If the certification was withdrawn as indicated in A3, describe the reasons for withdrawal.				
Comments:						

Select from the drop down at right if your organization produces any of the below products containing titanium. If yes, complete section B. If no, proceed to section C.

For all titanium products below answer the applicable categories to your organizations production by year. Only report production at U.S. facilities. Report all quantities in kilograms for the years 2014-2019.

	Type of Titanium Metal (Record all Responses in Kilograms)	2015	2016	2017	2018	2018 YTD (July)	2019 YTD (July)
B	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						
C	6 Titanium Sheet						
	7 Titanium Tube						
	8 Titanium Coil						
	9 Finished Titanium Products (List in Comments)						
	11 Other (List in Comments)						
	Comments:						

Select from the drop down to the right if your organization produces any of the below products in the U.S. and they contain titanium scrap. If yes, complete section C. If no, proceed to section D.

	Provide the median and maximum quantities of titanium scrap, in kilograms, that can be used for the following parts your organization produces.	Median Scrap Quantity	Maximum Scrap Quantity	Comments
C	1 Aircraft Manufacturing/Assembly			
	2 Aircraft Turbine Engine Manufacturing/Assembly			
	3 Land/Naval Turbine Engine Manufacturing/Assembly			
	4 Aerospace Structural Parts (e.g. spars, ribs)			
	5 Aerospace High-impact Parts (e.g. landing gear)			
	6 Aerospace External Engine Parts (e.g. cowl, fan)			
	7 Aerospace Internal Engine Parts (e.g. low pressure compressor)			
	8 Titanium Satellite Components/Finished Parts			
	9 Satellite and Other Space Manufacturing/Assembly			
	10 Land-Based Turbine Engine and Structural Parts			
	11 Maritime Turbine Engine and Structural Parts			
	12 Chemical Processing Equipment (e.g. tubing)			
	13 Specialty Titanium Parts Manufacturing (not to include aerospace)			
	14 Titanium Recycling			
	15 Titanium Milling			
	16 Titanium Forging			
	17 Titanium Finishing			
	18 Other (Explain in Comments)			
Comments:				

Select from the drop down to the right if your organization produces any of the below products in the U.S. If yes, complete section D and provide the percents allocated to defense vs. commercial use. If no, proceed to the next page.

	What percentage of your business (by weight) is used for defense products vs. commercial products?	Defense Products	Commercial Products	Comments
D	1 Aircraft Manufacturing/Assembly			
	2 Aircraft Turbine Engine Manufacturing/Assembly			
	3 Land/Naval Turbine Engine Manufacturing/Assembly			
	4 Aerospace Structural Parts (e.g. spars, ribs)			
	5 Aerospace High-impact Parts (e.g. landing gear)			
	6 Aerospace External Engine Parts (e.g. cowl, fan)			
	7 Aerospace Internal Engine Parts (e.g. low pressure compressor)			
	8 Titanium Satellite Components/Finished Parts			
	9 Satellite and Other Space Manufacturing/Assembly			
	10 Land-Based Turbine Engine and Structural Parts			
	11 Maritime Turbine Engine and Structural Parts			
	12 Chemical Processing Equipment (e.g. tubing)			
	13 Specialty Titanium Parts Manufacturing (not to include aerospace)			
	14 Titanium Recycling			
	15 Titanium Milling			
	16 Titanium Forging			
	17 Titanium Finishing			
	18 Other (Explain in Comments)			
Comments:				

5. Finished Products Containing Titanium

Provide the following information about your organization's finished products made in the U.S. containing titanium. Order these products by volume (highest to lowest) of titanium contained in the product. For the purposes of this section, a "finished product" is defined as an end product sold to the consumer. If your organization sells aircraft, for example, the "finished product" would be an individual aircraft; if your organization does not manufacture engines, do not report them as part of the aircraft. If your organization sells aircraft engines, the "finished product" would be an individual engine. "Production Cost" is defined as the cost of intermediate goods and services, labor, energy, transportation, and other factors making up the total cost of producing the product. "Cost of Titanium" is defined as the total cost of titanium for a given product, including metal acquisition, melting, and fabrication.

A	Finished Product Name		Product Category	For Defense End-Use?	Number of Units Produced in 2018	Estimated Titanium Content (kilograms)	Average Per-Unit Production Cost (USD)	Cost of Titanium As Percentage of Average Per-Unit Production Cost	Plurality Country of Origin for Titanium Used In Product	Product Titanium "Buy-to-Fly" Ratio
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Comments:

6. Facility Inventory

Provide all U.S. inventories held directly or indirectly by your organization for the 2015 to 2018 period, current as of the end of calendar year 2018.

Working Inventory

Indicate quantity of 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 Alloys 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							
	2							
	3							
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Strategic Inventory

Indicate quantity of 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 Alloys 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							
	2							
	3							
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Assuming different production rate scenarios, estimate how long your organization's current overall inventory of titanium-related material would last (in months) if neither direct titanium imports nor indirect titanium imports (e.g., supplier provided material derived from titanium imports) were made available.

Then, given both the production rate scenario and the number of months able to sustain operations without direct/indirect imported titanium material, how much titanium-related product can your organization produce over the same number of months, by kilogram and overall unit number.

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:								

7. National Defense Support

A	Did your organization, directly or indirectly, supply titanium products for U.S. defense systems between 2015 and 2019? If no, proceed to the next page. If yes, complete sections B, C, and D below.							
	From the list of U.S. Government agencies below, select those whose systems you supported between 2015 and 2019.							
B	U.S. Air Force		U.S. Coast Guard		Department of Energy			
	U.S. Army		U.S. Intelligence Community (such as CIA, NGA, NRO, NSA)		Other (Specify to the Right)			
	U.S. Marine Corps		Missile Defense Agency (MDA)		Other (Specify to the Right)			
	U.S. Navy		Defense Logistics Agency		Other (Specify to the Right)			
C	Identify the specific U.S. Government programs/systems your organization has supported since 2015. In the first column, select the defense system name from the dropdown menu. In the agency name column, select the applicable agency from the drop down options.							
	In the titanium related products 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 system name or agency name, provide as much information as possible. Do not disclose any classified information.							
	Defense System Name (select from dropdown)	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
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Comments:								
BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act								

8. Critical Infrastructure

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>

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)		Dams Sector (e.g. titanium parts for electric turbines used in dams)		Financial Services Sector (e.g. titanium parts for data systems used by financial services firms)		Information Technology Sector (e.g. titanium parts for batteries)
	Commercial Facilities Sector (e.g. cladding, structural supports)				Food and Agriculture Sector (e.g. titanium parts used in agricultural equipment)		Nuclear Reactors, Materials, and Waste Sector (e.g. waste storage, pipes and tubing for reactors, reactor shields)
	Communications Sector (e.g., titanium parts for communications satellites)		Emergency Services Sector (e.g. titanium applications for police, fire, and EMS)		Government and Facilities Sector (e.g. titanium parts provided for end use in U.S. government facilities)		Transportation Systems Sector (e.g. civil aviation, titanium parts for oil and gas pipelines, titanium parts for motor vehicles, ships, and railroad equipment)
	Critical Manufacturing Sector (e.g. titanium parts for various industrial machinery, titanium parts for aircraft engines)		Energy Sector (e.g. titanium parts for solar panels, titanium turbine parts, pipes for power plants)		Healthcare and Public Health Sector (e.g. replacement joints, prosthetics, medical instruments)		Water and Wastewater Systems Sector (e.g. pipes for water and sewer and treatment plant systems)

Write-in the critical infrastructure name and provide as much detail as possible spelling out all acronyms. The sector name column dropdown will be populated with the sectors listed above (in part A); select the applicable sector from the drop down. **Do not repeat items already reported in the National Defense Support section.**

In the titanium related products 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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Comments:

9. Prices

Provide the average prices per kilogram your organization has purchased the below titanium and/or titanium-related products over the 2015-2019 period. Provide all prices in U.S. dollars. (Include purchases of both U.S. and non-U.S.)

Product			Year					
			2015	2016	2017	2018	2018 YTD	2019 YTD
1	Titanium Ingot							
	A	Titanium Ingot Containing Standard Quality Sponge						
	B	Titanium Ingot Containing Aerospace Non-Rotating Sponge						
	C	Titanium Ingot Containing Rotating Grade Sponge						
2	Titanium Billet							
	A	Titanium Billet Containing Standard Quality Sponge						
	B	Titanium Billet Containing Aerospace Non-Rotating Sponge						
	C	Titanium Billet Containing Rotating Grade Sponge						
3	Titanium Bar							
4	Titanium Plate							
5	Titanium Sheet (Hot Rolled and Cold Rolled)							
6	Titanium Tube							
7	Titanium Coil							
8	Aerospace Structural Parts (e.g. spars, ribs)							
9	Aerospace High-impact Parts (e.g. landing gear)							
10	Aerospace External Engine Parts (e.g. cowl, fan)							
11	Aerospace Internal Engine Parts (e.g. low pressure compressor)							
12	Land-Based Turbine Engine and Structural Parts							
13	Maritime Turbine Engine and Structural Parts							
14	Chemical Processing Equipment (e.g. tubing)							
15	Titanium Satellite Components/Finished Parts							
16	Other	(specify)						
17	Other	(specify)						
18	Other	(specify)						
Comments:								

10. Suppliers/Purchases

For each type of titanium purchased by your organization with receipt at a U.S. facility from 2015-2019, state the supplier, amounts purchased, and prices paid. If your organization has more than ten suppliers for a given product, provide the top ten suppliers by volume. For any category of items you do not purchase, enter a 0 in the corresponding box.

[illegible]

Titanium (Other - Explain in Comments)																			
Identify your organization's total number of suppliers for Titanium (Other). Where necessary, input 0.																			
K	Supplier	Supplier Headquarters	Is This Supplier a Related Party?	Manufacturer/Processor (if different from supplier)	Country of Other Titanium Fabrication	End-Use	Comments	2015		2016		2017		2018		YTD 2018 (July)		YTD 2019 (July)	
	Volume	Value (\$USD)	Volume	Value (\$USD)	Volume	Value (\$USD)	Volume	Value (\$USD)	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 suppliers for Titanium (Other). Where necessary, input 0.																			
L	Supplier	Supplier Headquarters	Is This Supplier a Related Party?	Manufacturer/Processor (if different from supplier)	Country of Other Titanium Fabrication	End-Use	Comments	2015		2016		2017		2018		YTD 2018 (July)		YTD 2019 (July)	
	Volume	Value (\$USD)	Volume	Value (\$USD)	Volume	Value (\$USD)	Volume	Value (\$USD)	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 suppliers for Titanium (Other). Where necessary, input 0.																			
M	Supplier	Supplier Headquarters	Is This Supplier a Related Party?	Manufacturer/Processor (if different from supplier)	Country of Other Titanium Fabrication	End-Use	Comments	2015		2016		2017		2018		YTD 2018 (July)		YTD 2019 (July)	
	Volume	Value (\$USD)	Volume	Value (\$USD)	Volume	Value (\$USD)	Volume	Value (\$USD)	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 suppliers for Titanium (Other). Where necessary, input 0.																			
N	Supplier	Supplier Headquarters	Is This Supplier a Related Party?	Manufacturer/Processor (if different from supplier)	Country of Other Titanium Fabrication	End-Use	Comments	2015		2016		2017		2018		YTD 2018 (July)		YTD 2019 (July)	
	Volume	Value (\$USD)	Volume	Value (\$USD)	Volume	Value (\$USD)	Volume	Value (\$USD)	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 suppliers for Titanium (Other). Where necessary, input 0.																			
O	Supplier	Supplier Headquarters	Is This Supplier a Related Party?	Manufacturer/Processor (if different from supplier)	Country of Other Titanium Fabrication	End-Use	Comments	2015		2016		2017		2018		YTD 2018 (July)		YTD 2019 (July)	
	Volume	Value (\$USD)	Volume	Value (\$USD)	Volume	Value (\$USD)	Volume	Value (\$USD)	Volume	Value (\$USD)	Volume	Value (\$USD)	Volume	Value (\$USD)	Volume	Value (\$USD)	Volume	Value (\$USD)	
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BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act																			

11. Customers

For each type of titanium and/or titanium-related product sold by your organization from 2015-2019, state the customer, amounts purchased and prices. If your organization has more than ten customers for a given product, provide the top ten customers by volume. Titanium (Other) should include finished products. For those items for which you do not have customers, enter a 0 in the corresponding box.

Titanium Scrap (Kilograms)

Identify your organization's total number of customers for Titanium Scrap. Where necessary, input 0.

[illegible]

Titanium Ingot (Kilograms)

Identify your organization's total number of customers for Titanium Ingot. Where necessary, input 0.

[illegible]

Titanium Billet (Kilograms)

Identify your organization's total number of customers for Titanium Billet. Where necessary, input 0.

[illegible]

Titanium Bar (Kilograms)

Identify your organization's total number of customers for Titanium Bar. Where necessary, input 0.

[illegible]

Titanium Plate (Kilograms)

Identify your organization's total number of customers for Titanium Plate. Where necessary, input 0.

[illegible]

[illegible]

Titanium (Other - Explain in Comments)																				
Identify your organization's total number of customers for Titanium (Other). Where necessary, input 0.																				
K		Customer	Customer Headquarters	Is This Customer a Related Party?	End User (If Different from Customer)	Country of Other Titanium Fabrication	End-Use	Comments	2015		2016		2017		2018		YTD 2018 (July)		YTD 2019 (July)	
									Volume	Value (\$USD)	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 (Other). Where necessary, input 0.																				
L		Customer	Customer Headquarters	Is This Customer a Related Party?	End User (If Different from Customer)	Country of Other Titanium Fabrication	End-Use	Comments	2015		2016		2017		2018		YTD 2018 (July)		YTD 2019 (July)	
									Volume	Value (\$USD)	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 (Other). Where necessary, input 0.																				
M		Customer	Customer Headquarters	Is This Customer a Related Party?	End User (If Different from Customer)	Country of Other Titanium Fabrication	End-Use	Comments	2015		2016		2017		2018		YTD 2018 (July)		YTD 2019 (July)	
									Volume	Value (\$USD)	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 (Other). Where necessary, input 0.																				
N		Customer	Customer Headquarters	Is This Customer a Related Party?	End User (If Different from Customer)	Country of Other Titanium Fabrication	End-Use	Comments	2015		2016		2017		2018		YTD 2018 (July)		YTD 2019 (July)	
									Volume	Value (\$USD)	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 (Other). Where necessary, input 0.																				
O		Customer	Customer Headquarters	Is This Customer a Related Party?	End User (If Different from Customer)	Country of Other Titanium Fabrication	End-Use	Comments	2015		2016		2017		2018		YTD 2018 (July)		YTD 2019 (July)	
									Volume	Value (\$USD)	Volume	Value (\$USD)	Volume	Value (\$USD)	Volume	Value (\$USD)	Volume	Value (\$USD)	Volume	Value (\$USD)
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Comments:																				
BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act																				

12. Research & Development and Capital Expenditures

A	Has your organization conducted titanium-related research and development (R&D) in the United States from 2015-2019?			If no, proceed to Section C below.				
Record your organization's total R&D dollar expenditures and type of R&D expenditure for the 2015 to 2019 period. Lines 6-8 will address specific titanium-related expenditures.								
B			Record \$ in Thousands, e.g. \$12,000.00 = survey input of \$12					
			2015	2016	2017	2018	2019	
	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-related Basic Research [as a % of B1]						
	7	Titanium-related Applied Research [as a % of B1]						
	8	Titanium-related Product/Process Development [as a % of B1]						
Total of 6-8		0%	0%	0%	0%	0%	0%	
Provide any additional comments relating to R&D expenditures to the right.								
C	Has your organization conducted titanium-related capital expenditures in the United States from 2015-2019?			If no, proceed to the next page.				
Record your organization's titanium-related capital expenditures in the United States corresponding to the select categories below for the 2015-2019 period.							Below, provide any additional comments in relation to your organization's capital expenditures made in the past 5 years (2015-2019).	
Capital Expenditure Activity Type		Record \$ in Thousands, e.g. \$12,000.00 = survey input of \$12						
		2015	2016	2017	2018	2019		
D	Total Titanium-Related Capital Expenditures							
1	Machinery, Equipment, and Vehicles [as a % of A]							
2	IT, Computers, Software [as a % of A]							
3	Land, Buildings, and Leasehold Improvements [as a % of A]							
4	Other (Specify) [as a % of A]							
5	Other (Specify) [as a % of A]							
Lines 1 through 5 must total 100%		0%	0%	0%	0%	0%		
Comments:								

[Previous Page](#)[Next Page](#)**13. Financials**

Provide the following financial line items for your organization's titanium-related U.S. cost center/business activity operations for the 2015 to 2019 period.

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	
	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.	Balance Sheet (Select Line Items)	Record \$ in Thousands, e.g. \$12,000.00 = survey input of \$12					
		2015	2016	2017	2018	2019	
	6	Cash					
	7	Inventories					
	8	Total Current Assets					
	9	Total Assets					
	10	Total Current Liabilities					
	11	Total Liabilities					
	12	Retained Earnings					
	13	Total Owner's Equity					
	Comments:						
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*Data Confirmation***2019 Net Sales**

None

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14. 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.

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How many hours did it take to complete this survey?	
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