

Section 232 Investigation into Imports of Vanadium



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. vanadium industry. The survey results will be used to support an ongoing investigation on the effect of imports of vanadium products on the 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 vanadium imports are 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, capacity utilization, 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 vanadium 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 Information furnished herewith is deemed confidential and will not be published or disclosed except in accordance with Section 705 of the Defense Production Act of 1950, as amended (50 U.S.C. Sec. 4555).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 10 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.

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

Previous Page		Next Page
Table of Contents		
I	Cover Page	
II	Table of Contents	
III	General Instructions	
IV	Definitions	
1	Organization Information	
2	Facility Information	
3	U.S. Production, Inputs, and Costs	
4	Suppliers/Imports	
5	Customers/Exports	
6	Financials	
7	Employment	
8	National Defense Support	
9	Critical Infrastructure Support	
10	Competition and Trade	
11	Certification	
BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act		

[Previous Page](#)[Next Page](#)**General Instructions**

A.	<p>Your organization is required to complete this survey of the U.S. vanadium industry, which can be downloaded from the BIS website: http://www.bis.doc.gov/XXX</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.</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: Vanadium232@bis.doc.gov</p>
E.	<p>Questions related to the survey should be directed to BIS survey support staff at Vanadium232@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) 482-5481.</p>
F.	<p>For questions related to the overall scope of this Section 232 Investigation, contact Vanadium232@bis.doc.gov or:</p> <p>Jason D. Bolton Program Manager, Industrial Studies BIS/Export Administration/Office of Technology Evaluation 1401 Constitution Avenue, NW, Room 1093 Washington, DC 20230</p> <p>DO NOT submit completed surveys to Mr. Bolton's postal or personal e-mail address. All surveys must be submitted electronically to: Vanadium232@bis.doc.gov</p>

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

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.
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.
Tipping/Recycling Fees	Fees collected for the recycling of waste products.
Conversion	The process of converting one form of vanadium, typically vanadium pentoxide, into another form of vanadium, typically ferrovanadium.
Vanadium Master Alloys	Master alloys produced from high purity vanadium pentoxide, including Aluminum-Vanadium master alloys (containing 35% aluminum and 64.5% vanadium).
High Purity Vanadium Pentoxide	Vanadium Pentoxide with vanadium content of 99% percent or more vanadium content.
Primary/By-Product Production	The process of producing vanadium products from mining operations or in conjunction with mining operations for other minerals.
Secondary Production	The process of transforming waste materials (spent catalyst, slag, ash, residues, etc.) into vanadium products, including vanadium pentoxide, ferrovanadium, vanadium metals, and metal alloys that contain vanadium.
Co-Production	The process of extracting vanadium from titaniferous magnetite ores during steel production.
Distributor	An independent selling agent who has a contract to sell the products of a manufacturer.
Customer	Any organization (external or internal entity) for which your organization manufactures/processes any product comprised of, or containing, steel in any form.
Customer	Any organization (external or internal entity) for which your organization manufactures/processes any product comprised of, or containing, steel in any form.
Defense-related Activities	Any product or service that your organization produces that is ultimately used by the U.S. Government for defense purposes, whether by the armed services, the Department of Defense, or any other U.S. Government entity.
Development	The design, simulation, and testing of a prototype, including experimental software or hardware systems, to validate technological feasibility or concept of operation in order to reduce technological risk, or provide test systems prior to production approval.
Exports	Shipments to destinations outside the United States.

Definitions	
Term	Definition
Facility	A building or the minimum complex of buildings or parts of buildings that conduct steel production, 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.
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.
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.
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 capable of designing and/or manufacturing steel products.
Product/Process Development	Conceptualization and development of steel product or steel production techniques prior to the production of the product for customers (i.e., utilities, governmental agencies etc.).
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 steel, including sales to end-users, producers, financial entities, intermediaries, traders, distributors, et al.
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.
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.
BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act	

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 %
Identify the subject products that your organization currently uses/sources and sells/provides						
C.	Subject Products	Uses/Sources	Sells/Provides	HTSUS Code Used for Import/Export		
	Vanadium Ores and Concentrates	Import Only	Export Only			
	Vanadates	Source Domestically Only	Sell Domestically Only			
	Vanadium Carbides	Import and Source Domestically	Export and Sell Domestically			
	Vanadium Sulfates	Not Applicable	Not Applicable			
	Vanadium Hydrides, Nitrides, Azides, Silicides, and Borides					
	Vanadium Pentoxide - Up to 99% Vanadium					
	High Purity Vanadium Pentoxide - 99%+ Vanadium					
	Other Vanadium Oxides and Hydroxides (Excluding Pentoxide)					
	Vanadium-Bearing Feedstocks (Ash, Residues, Spent Catalysts, Vanadium Slag, Etc.)					
	Ferrovandium - 40-60% Vanadium					
	Ferrovandium - 80%+ Vanadium					
	Vanadium Master Alloys					
Vanadium, Wrought and Unwrought (Excluding Master Alloys)						
Other	(specify)					
At the global headquarters level, identify the total number of facilities that your organization currently operates, including standby/idle facilities, inside and outside the U.S., that manufacture and/or distribute any of the subject products listed below.						
D.	Subject Products	Number of U.S. Facilities		Number of Non-U.S. Facilities		
		Manufacture	Distribute Only	Manufacture	Distribute Only	
	Vanadium Ores and Concentrates					
	Vanadates					
	Vanadium Carbides					
	Vanadium Sulfates					
	Vanadium Hydrides, Nitrides, Azides, Silicides, and Borides					
	Vanadium Pentoxide - Up to 99% Vanadium					
	High Purity Vanadium Pentoxide - 99%+ Vanadium					
	Other Vanadium Oxides and Hydroxides (Excluding Pentoxide)					
	Vanadium-Bearing Feedstocks (Ash, Residues, Spent Catalysts, Vanadium Slag, Etc.)					
	Ferrovandium - 40-60% Vanadium					
	Ferrovandium - 80%+ Vanadium					
Vanadium Master Alloys						
Vanadium, Wrought and Unwrought (Excluding Master Alloys)						
Other	(Specify)					
Comments:						

Previous Page

Next Page

2. Facility Information

First, indicate in the box to the right how many of your organization's U.S. based facilities [including idle or on standby and facilities under construction] are involved in the importation, distribution, production, or exploration of vanadium products. Facilities supporting multiple product categories should be counted just once for the total number but duplicated for each product category supported in the facility description

Then, in accordance with the header, describe each U.S facility [including idle or on standby] involved in the importation, distribution or production of vanadium products. Remember to duplicate the facility in a dedicated row for each product category supported. In addition to standby or idle facilities, include any facilities shut down since 2015 and facilities under construction.

Facility Name	City	State	Type of Facility	Product Category Supported	Current Operating Status			Reconstitution from Standby/Idle/Shutdown		Future Operating Status	Comments
					Current Operating Status	Start Date of Standby/Idle or Shutdown (MM/DD/YYYY)	Primary Reason for Standby/Idle or Shutdown	Months to Reconstitute	Estimated Cost to Reconstitute (Thousands USD)	Primary Change in 2020-2023	
1			Primary/By-Product Production	Vanadium Ores and Concentrates	Operating		Vanadium Price			Expansion	
2			Secondary Production	Vanadates	Idle/Standby		Loss of Market Share to Imports			Upgrade	
3			Co-Production	Vanadium Carbides	Under Construction		Loss of Market Share to Domestic Competition			Starting Operations	
4			Conversion Services	Vanadium Sulfates	Shutdown		Declining Demand			Restarting Operations	
5			Master Alloy Production	Vanadium Hydrides, Sulfides, Nitrides, Silicides, and Borides			Low Profitability			Standby/Idle	
6			Distribution Only	Vanadium Pentoxide 99% to 99.9%			Firm Restructuring			Significant Modernization	
7			Other	High Purity Vanadium Pentoxide - 99%+ Vanadium			COVID-19/Pandemic			Closure	
8				Other Vanadium Oxides and Hydroxides (Excluding Protoxide)			Other			None	
9				Vanadium-bearing Feedstocks (Ash, Residues, Spent Catalysts, Slag, Etc.							
10				Ferovanadium - 40-60% Vanadium							
11				Ferovanadium - 80%+ Vanadium							
12				Vanadium Master Alloys							
13				Vanadium, Wrought and Unwrought (Excluding Master Alloys)							
14				Other Vanadium-Related							
15											
16											
17											
18											
19											
20											

Briefly explain the scope of your organization's vanadium-related activities.

1

For each identified facility scheduled to incur a change in operating status in 2020-2023, describe the circumstances behind your decision.

B. 2

For each identified idle/standby facility scheduled [or considering to schedule] for restart in 2020-2023, describe the circumstances behind your decision.

3

Comments:

3a. U.S. Production

Record the total annual quantity of each subject product your organization produced from 2015-2020 (YTD July). Then, document the current annual capacity, utilization rate, average marginal cost per kilogram/unit, and price V2O5 required to continue operations. Remember to confirm the units of measurement. If your organization toll produces any material, include the type and quantity produced here. If your organization is a tollee (i.e. provides material to a toller for conversion) , do not record this production below.

If you only distribute and do not manufacture any of the subject vanadium products, indicate so here and move to the next section.

Do not include data on subject products that your organization only distributes.

Record data in Kg contained vanadium. If unable to record data in Kg contained vanadium, indicate unit used here

	U.S. Production						Current Annual Capacity	Capacity Utilization Rate Required to Remain Profitable	Average Cost to Produce Per Kg	Price V2O5 required to continue operations
	2015	2016	2017	2018	2019	2020 (YTD July)				
Vanadium Ores and Concentrates										
Vanadates										
Vanadium Carbides										
Vanadium Sulfates										
Vanadium Hydrides, Nitrides, Azides, Silicides, and Borides										
Vanadium Pentoxide - Up to 99% Vanadium										
High Purity Vanadium Pentoxide - 99%+ Vanadium										
Other Vanadium Oxides and Hydroxides (Excluding Pentoxide)										
Vanadium-Bearing Feedstocks (Ash, Residues, Spent Catalysts, Slag, Etc.)										
Ferrovandium - 40-60% Vanadium										
Ferrovandium - 80%+ Vanadium										
Vanadium Master Alloys										
Vanadium, Wrought and Unwrought (Excluding Master Alloys)										
Comments:										

3b. U.S. Sales and Exports

For your organization's U.S. operations, answer the following questions about revenues, sales, and exports. Record Sales \$ in Thousands USD, e.g. \$12,000.00 = survey input of \$12. Average sales price per unit should not be in thousands USD. If your organization is a toll producer, do not include sales of vanadium materials below; if your organization is a tollee, record any vanadium sales below.

For your organization's U.S. operations, by subject product category, record both your U.S. sales and exports (shipments from the U.S. to destinations outside the U.S.) from 2015-2020 (YTD July). Distributors must complete this section.

Vanadium Ores and Concentrates

Select 'Not Applicable' if category is not relevant to your operations							
Record data in Kg contained vanadium. If unable to record data in Kg contained vanadium, indicate unit used here							
U.S. and Export Sales		2015	2016	2017	2018	2019	2020 (YTD July)
A.	U.S. Sales (Kg)						
	U.S. Sales (Thousands USD)						
	Average U.S. Sales Price per Kg (\$)						
	Export Sales (Kg)						
	Export Sales (Thousands USD)						
	Average Export Sales Price per Kg (\$)						
Percentage of Total 2019 Sales Attributable to Product							

Vanadates

Select 'Not Applicable' if category is not relevant to your operations							
Record data in Kg contained vanadium. If unable to record data in Kg contained vanadium, indicate unit used here							
U.S. and Export Sales		2015	2016	2017	2018	2019	2020 (YTD July)
B.	U.S. Sales (Kg)						
	U.S. Sales (Thousands USD)						
	Average U.S. Sales Price per Kg (\$)						
	Export Sales (Kg)						
	Export Sales (Thousands USD)						
	Average Export Sales Price per Kg (\$)						
Percentage of Total 2019 Sales Attributable to Product							

Vanadium Carbides

Select 'Not Applicable' if category is not relevant to your operations							
Record data in Kg contained vanadium. If unable to record data in Kg contained vanadium, indicate unit used here							
U.S. and Export Sales		2015	2016	2017	2018	2019	2020 (YTD July)
C.	U.S. Sales (Kg)						
	U.S. Sales (Thousands USD)						
	Average U.S. Sales Price per Unit (\$)						
	Export Sales (Kg)						
	Export Sales (Thousands USD)						
	Average Export Sales Price per Unit (\$)						
Percentage of Total 2019 Sales Attributable to Product							

Vanadium Sulfates

Select 'Not Applicable' if category is not relevant to your operations							
Record data in Kg contained vanadium. If unable to record data in Kg contained vanadium, indicate unit used here							
U.S. and Export Sales		2015	2016	2017	2018	2019	2020 (YTD July)
D.	U.S. Sales (Kg)						
	U.S. Sales (Thousands USD)						
	Average U.S. Sales Price per Unit (\$)						
	Export Sales (Kg)						
	Export Sales (Thousands USD)						
	Average Export Sales Price per Unit (\$)						
Percentage of Total 2019 Sales Attributable to Product							

Vanadium Hydrides, Nitrides, Azides, Silicides, and Borides							
Select 'Not Applicable' if category is not relevant to your operations							
Record data in Kg contained vanadium. If unable to record data in Kg contained vanadium, indicate unit used here							
U.S. and Export Sales		2015	2016	2017	2018	2019	2020 (YTD July)
E.	U.S. Sales (Kg)						
	U.S. Sales (Thousands USD)						
	Average U.S. Sales Price per Unit (\$)						
	Export Sales (Kg)						
	Export Sales (Thousands USD)						
	Average Export Sales Price per Unit (\$)						
Percentage of Total 2019 Sales Attributable to Product							
Vanadium Pentoxide - Up to 99% Vanadium							
Select 'Not Applicable' if category is not relevant to your operations							
Record data in Kg contained vanadium. If unable to record data in Kg contained vanadium, indicate unit used here							
U.S. and Export Sales		2015	2016	2017	2018	2019	2020 (YTD July)
F.	U.S. Sales (Kg)						
	U.S. Sales (Thousands USD)						
	Average U.S. Sales Price per Unit (\$)						
	Export Sales (Kg)						
	Export Sales (Thousands USD)						
	Average Export Sales Price per Unit (\$)						
Percentage of Total 2019 Sales Attributable to Product							
High Purity Vanadium Pentoxide - 99%+ Vanadium							
Select 'Not Applicable' if category is not relevant to your operations							
Record data in Kg contained vanadium. If unable to record data in Kg contained vanadium, indicate unit used here							
U.S. and Export Sales		2015	2016	2017	2018	2019	2020 (YTD July)
G.	U.S. Sales (Kg)						
	U.S. Sales (Thousands USD)						
	Average U.S. Sales Price per Unit (\$)						
	Export Sales (Kg)						
	Export Sales (Thousands USD)						
	Average Export Sales Price per Unit (\$)						
Percentage of Total 2019 Sales Attributable to Product							
Other Vanadium Oxides and Hydroxides (Excluding Pentoxide)							
Select 'Not Applicable' if category is not relevant to your operations							
Record data in Kg contained vanadium. If unable to record data in Kg contained vanadium, indicate unit used here							
U.S. and Export Sales		2015	2016	2017	2018	2019	2020 (YTD July)
H.	U.S. Sales (Kg)						
	U.S. Sales (Thousands USD)						
	Average U.S. Sales Price per Unit (\$)						
	Export Sales (Kg)						
	Export Sales (Thousands USD)						
	Average Export Sales Price per Unit (\$)						
Percentage of Total 2019 Sales Attributable to Product							
Vanadium Bearing Feedstocks (Ash, Residue, Spent Catalysts, Slag, Etc.)							
Select 'Not Applicable' if category is not relevant to your operations							
Record data in Kg contained vanadium. If unable to record data in Kg contained vanadium, indicate unit used here							
U.S. and Export Sales		2015	2016	2017	2018	2019	2020 (YTD July)
I.	U.S. Sales (Kg)						
	U.S. Sales (Thousands USD)						
	Average U.S. Sales Price per Unit (\$)						
	Export Sales (Kg)						
	Export Sales (Thousands USD)						
	Average Export Sales Price per Unit (\$)						
Percentage of Total 2019 Sales Attributable to Product							

Ferrovanadium - 40-60% Vanadium						
Select 'Not Applicable' if category is not relevant to your operations						
Record data in Kg contained vanadium. If unable to record data in Kg contained vanadium, indicate unit used here						
U.S. and Export Sales	2015	2016	2017	2018	2019	2020 (YTD July)
J. U.S. Sales (Kg)						
U.S. Sales (Thousands USD)						
Average U.S. Sales Price per Unit (\$)						
Export Sales (Kg)						
Export Sales (Thousands USD)						
Average Export Sales Price per Unit (\$)						
Percentage of Total 2019 Sales Attributable to Product						
Ferrovanadium - 80%+ Vanadium						
Select 'Not Applicable' if category is not relevant to your operations						
Record data in Kg contained vanadium. If unable to record data in Kg contained vanadium, indicate unit used here						
U.S. and Export Sales	2015	2016	2017	2018	2019	2020 (YTD July)
H. U.S. Sales (Kg)						
U.S. Sales (Thousands USD)						
Average U.S. Sales Price per Unit (\$)						
Export Sales (Kg)						
Export Sales (Thousands USD)						
Average Export Sales Price per Unit (\$)						
Percentage of Total 2019 Sales Attributable to Product						
Vanadium Master Alloys						
Select 'Not Applicable' if category is not relevant to your operations						
Record data in Kg contained vanadium. If unable to record data in Kg contained vanadium, indicate unit used here						
U.S. and Export Sales	2015	2016	2017	2018	2019	2020 (YTD July)
I. U.S. Sales (Kg)						
U.S. Sales (Thousands USD)						
Average U.S. Sales Price per Unit (\$)						
Export Sales (Kg)						
Export Sales (Thousands USD)						
Average Export Sales Price per Unit (\$)						
Percentage of Total 2019 Sales Attributable to Product						
Vanadium, Wrought and Unwrought (Excluding Master Alloys)						
Select 'Not Applicable' if category is not relevant to your operations						
Record data in Kg contained vanadium. If unable to record data in Kg contained vanadium, indicate unit used here						
U.S. and Export Sales	2015	2016	2017	2018	2019	2020 (YTD July)
J. U.S. Sales (Kg)						
U.S. Sales (Thousands USD)						
Average U.S. Sales Price per Unit (\$)						
Export Sales (Kg)						
Export Sales (Thousands USD)						
Average Export Sales Price per Unit (\$)						
Percentage of Total 2019 Sales Attributable to Product						
Comments:						

3c. Production Feedstock, End Uses, Substitutes, and Supply Disruptions

Answer the following questions related to your organization's manufacturing inputs and market end uses.

Answer the following questions regarding your organization's vanadium production end uses and potential substitutes for vanadium end uses.

Vanadium End Use	Percent of 2019 Production Attributable to End Use	Average Percent Cost of Vanadium Attributable to End Product Total Cost	Average Percent Vanadium Content Attributable to End Product	Primary Vanadium Product/Grade Needed for End Use	Substitutes Available for Vanadium Usage?	Indicate Primary Substitute, if relevant	Comments
1 Steel - High Strength Low Alloy							
2 Steel - Full Alloy							
3 Steel - Carbon							
4 Steel - Other							
5 Vanadium-Redox Flow Battery							
6 Aerospace (Master Alloys)							
7 Chemical							
8 Other - Specify							

Indicate the subject vanadium products and specific grades for which your organization has capabilities. Select "Distribute Only" if your organization does not produce vanadium products and only distributes them, and proceed to Section 4.

Subject Product Capability	Current Capability	Indicate any other products your organization could produce with little to no capital investment and/or changes in processes	Explain
1	Yes		
2	No		
3	Idle Capability		
4			
5			
6			
7			
8			

Indicate whether your organization uses vanadium or vanadium-bearing feedstock to produce and/or sell other vanadium products. (including Toll production and recycling).

If you indicated Yes, answer the following questions:

Subject Product	Primary Feedstock Used to Produce Subject Product	Primary Original Country Source of Feedstock	Primary Reason for Sourcing	Impact on Operations if Unable to Import Feedstock	Domestic Feedstock Sources Available?	Supply Disruption or Shortage Experienced?	Explain
1 Vanadates	Vanadium Ore and Concentrate		Financial Consideration	Positive	Significant Domestic Sources	Ongoing	
2 Vanadium Carbides	Vanadium Slag		Technical Specification	Negative	Limited Domestic Sources	Past	
3 Vanadium Sulfates	Ash		Relationship	Neutral	No Domestic Sources	Future Expected	
4 Vanadium Hydrides, Sulfides, Nitrides, Silicides, and Borides	Residues		Delivery			None	
5 Vanadium Pentoxide - Up to 99% Vanadium	Spent Catalysts		Other				
6 High Purity Vanadium Pentoxide - 99%+ Vanadium	Vanadium Pentoxide - Up to 99% Vanadium						
7 Other Vanadium Oxides and Hydroxides (Excluding Pentoxide)	High Purity Vanadium Pentoxide - 99%+ Vanadium						
8 Ferrovandium - 40-60% Vanadium	Vanadates						
9 Ferrovandium - 80%+ Vanadium	Vanadium Carbides						
10 Vanadium Master Alloys	Vanadium Sulfates						
11 Vanadium, Wrought and Unwrought (Excluding Master Alloys)	Vanadium Hydrides, Nitrides, Silicides, and Borides						

Have feedstock sourcing issues impacted your organization's ability to fulfill contracts for vanadium products?

Explain:

Comments:

Formulation - 40% Venidium											
Identify your total number of suppliers for this product category. If none, input 0.											
Record data in kg contained venidium. If unable to provide in kg contained venidium, indicate unit used here:											
Record your total purchases for this product category by volume and value for each applicable year.											
Percentage of Purchases that are Imported											
Supplier Name (in descending order by period volume)											
Country of Fabrication											
Country of Feedback Origin											
Common Ownership With Year Organization?											
Primary Source of Disruption Experienced, if Applicable											
Single/sole Source?											
Primary End Use											
Top Factor Influencing Purchase from Supplier											
2015											
2016											
2017											
2018											
2019											
2020 (YTD to date)											
Volume Value (\$000) Volume Value (\$000) Volume Value (\$000) Volume Value (\$000) Volume Value (\$000) Volume Value (\$000) Volume Value (\$000) Volume Value (\$000)											
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
Formulation - 80% Venidium											
Identify your total number of suppliers for this product category. If none, input 0.											
Record data in kg contained venidium. If unable to provide in kg contained venidium, indicate unit used here:											
Record your total purchases for this product category by volume and value for each applicable year.											
Percentage of Purchases that are Imported											
Supplier Name (in descending order by period volume)											
Country of Fabrication											
Country of Feedback Origin											
Common Ownership With Year Organization?											
Primary Source of Disruption Experienced, if Applicable											
Single/sole Source?											
Primary End Use											
Top Factor Influencing Purchase from Supplier											
2015											
2016											
2017											
2018											
2019											
2020 (YTD to date)											
Volume Value (\$000) Volume Value (\$000) Volume Value (\$000) Volume Value (\$000) Volume Value (\$000) Volume Value (\$000) Volume Value (\$000) Volume Value (\$000)											
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
Venidium Master Alloys											
Identify your total number of suppliers for this product category. If none, input 0.											
Record data in kg contained venidium. If unable to provide in kg contained venidium, indicate unit used here:											
Record your total purchases for this product category by volume and value for each applicable year.											
Percentage of Purchases that are Imported											
Supplier Name (in descending order by period volume)											
Country of Fabrication											
Country of Feedback Origin											
Common Ownership With Year Organization?											
Primary Source of Disruption Experienced, if Applicable											
Single/sole Source?											
Primary End Use											
Top Factor Influencing Purchase from Supplier											
2015											
2016											
2017											
2018											
2019											
2020 (YTD to date)											
Volume Value (\$000) Volume Value (\$000) Volume Value (\$000) Volume Value (\$000) Volume Value (\$000) Volume Value (\$000) Volume Value (\$000) Volume Value (\$000)											
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
Venidium, Weight and Shearweight (Excluding Master Alloys)											
Identify your total number of suppliers for this product category. If none, input 0.											
Record data in kg contained venidium. If unable to provide in kg contained venidium, indicate unit used here:											
Record your total purchases for this product category by volume and value for each applicable year.											
Percentage of Purchases that are Imported											
Supplier Name (in descending order by period volume)											
Country of Fabrication											
Country of Feedback Origin											
Common Ownership With Year Organization?											
Primary Source of Disruption Experienced, if Applicable											
Single/sole Source?											
Primary End Use											
Top Factor Influencing Purchase from Supplier											
2015											
2016											
2017											
2018											
2019											
2020 (YTD to date)											
Volume Value (\$000) Volume Value (\$000) Volume Value (\$000) Volume Value (\$000) Volume Value (\$000) Volume Value (\$000) Volume Value (\$000) Volume Value (\$000)											
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
Comments:											

Ferrovanadium - 40-60% Vanadium																
Identify your total number of customers for this product category. If none, input 0.																
Record data in Kg contained vanadium. If unable to provide data in Kg contained vanadium, indicate unit used here:																
Customer Name	Country Destination	Common Ownership With Your Organization?	Primary End Use of Product	Industry/Sector Represented by Customer (NAICS)	2015		2016		2017		2018		2019		2020 (YTD July)	
					Volume	Value (\$000)	Volume	Value (\$000)	Volume	Value (\$000)	Volume	Value (\$000)	Volume	Value (\$000)	Volume	Value (\$000)
J. 1																
2																
3																
4																
5																
6																
7																
8																
9																
10																

Ferrovanadium - 80%+ Vanadium																
Identify your total number of customers for this product category. If none, input 0.																
Record data in Kg contained vanadium. If unable to provide data in Kg contained vanadium, indicate unit used here:																
Customer Name	Country Destination	Common Ownership With Your Organization?	Primary End Use of Product	Industry/Sector Represented by Customer (NAICS)	2015		2016		2017		2018		2019		2020 (YTD July)	
					Volume	Value (\$000)	Volume	Value (\$000)	Volume	Value (\$000)	Volume	Value (\$000)	Volume	Value (\$000)	Volume	Value (\$000)
K. 1																
2																
3																
4																
5																
6																
7																
8																
9																
10																

Vanadium Master Alloys																
Identify your total number of customers for this product category. If none, input 0.																
Record data in Kg contained vanadium. If unable to provide data in Kg contained vanadium, indicate unit used here:																
Customer Name	Country Destination	Common Ownership With Your Organization?	Primary End Use of Product	Industry/Sector Represented by Customer (NAICS)	2015		2016		2017		2018		2019		2020 (YTD July)	
					Volume	Value (\$000)	Volume	Value (\$000)	Volume	Value (\$000)	Volume	Value (\$000)	Volume	Value (\$000)	Volume	Value (\$000)
L. 1																
2																
3																
4																
5																
6																
7																
8																
9																
10																

Vanadium, Wrought and Unwrought (Excluding Master Alloys)																
Identify your total number of customers for this product category. If none, input 0.																
Record data in Kg contained vanadium. If unable to provide data in Kg contained vanadium, indicate unit used here:																
Customer Name	Country Destination	Common Ownership With Your Organization?	Primary End Use of Product	Industry/Sector Represented by Customer (NAICS)	2015		2016		2017		2018		2019		2020 (YTD July)	
					Volume	Value (\$000)	Volume	Value (\$000)	Volume	Value (\$000)	Volume	Value (\$000)	Volume	Value (\$000)	Volume	Value (\$000)
M. 1																
2																
3																
4																
5																
6																
7																
8																
9																
10																

Comments:																
-----------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

6. Financials

Provide the following financial line items for your location for the last five years below.

Source of Income Statement Items:

Reporting Schedule:

Income Statement (Select Line Items) Record \$ in Thousands, e.g. \$12,000.00 = survey input of \$12

		2015	2016	2017	2018	2019
A.	Net Sales (and other revenue)					
	1 <i>Defense-Related Sales Percentage</i>					
	2 <i>Non-U.S. Sales Percentage</i>					
B.	Cost of Sales / Cost of Goods Sold					
C.	Depreciation and Amortization					
D.	Total Operating Income (Loss)					
E.	Earnings Before Interest and Taxes					
F.	Net Income					

Source of Balance Sheet Items:

Reporting Schedule:

Balance Sheet (Select Line Items) Record \$ in Thousands, e.g. \$12,000.00 = survey input of \$12

		2015	2016	2017	2018	2019
A.	Cash					
B.	Inventories					
C.	Current Assets					
D.	Total Assets					
E.	Current Liabilities					
F.	Total Liabilities					
G.	Retained Earnings					
H.	Total Owner's Equity					

Source of Other Items:

Reporting Schedule:

Other Select Items Record \$ in Thousands, e.g. \$12,000.00 = survey input of \$12

		2015	2016	2017	2018	2019
A.	Research & Development (R&D) Expenditure					
	1 <i>National Security/Critical Infrastructure-Related R&D Percentage (see Definitions tab)</i>					
B.	Capital Expenditure (CapEx)					
	1 <i>National Security/Critical Infrastructure-Related CapEx Percentage (see Definitions tab)</i>					
C.	Total Security Expenditures					
	1 <i>Cybersecurity Expenditures Percentage</i>					
	2 <i>Physical Security Expenditures Percentage</i>					

Is your organization involved in any R&D work with the U.S. Department of Defense? If yes, answer the following questions.

	Program Name	Contract Number	
A.			
B.			
C.			

Comment:

Data Confirmation
2019 Net Sales
None

7. Employment

Record the total number of full time equivalent (FTE) employees and contractors for the 2015 to 2019 period for U.S. facilities that produce subject products.

		2015	2016	2017	2018	2019
A	FTE Employees					
	FTE Contractors					
	Production Line FTE Employees or Contractors					

Identify the key workforce issues your organization has experienced or anticipates in the next five years.

Issue	Primary Occupation Affected	Timeframe	Explain
Attracting Workers to Location	Engineers	Ongoing, Expected to Continue	
Employee Turnover	Information Technology Workers	Past Only (Resolved)	
B Finding Experienced Workers	Production Line workers	Expected In Future	
Finding Qualified Workers	Scientists	No or Not Applicable	
Finding U.S. Citizens	Testing Operators, QC, & Support Technicians		
Significant Portion of Workforce Retiring	Other		
Other (specify)	None		
C For 2019, indicate the percentage of your organization's total operating costs represented by personnel-related expenditures			
D Describe any significant changes in the recruitment, hiring and/or retention of human capital as a consequence of volatile vanadium prices.			
E If you resumed operations at an idled or shutdown facility, do you reasonably anticipate being able to hire or rehire workers? Provide an estimate of how long it would take to restore requisite personnel levels in the Explain box.		Explain:	

Comments:

8 National Defense Support

A						Since 2015, has your organization directly or indirectly supplied any of the subject product categories for incorporation into U.S. defense systems or related installations? If no, proceed to the next tab. If yes, complete sections B, C and D.					
From the list of U.S. Government agencies below, select those whose systems you supported between 2015 and 2020 YTD.											
B	U.S. Air Force		Yes	U.S. Coast Guard		Department of Energy (including National Labs)					
	U.S. Army		No	U.S. Intelligence Community (such as CIA, NGA, NRO, NSA)		Other		(Identify Agency)			
	U.S. Marine Corps			Missile Defense Agency (MDA)		Other		(Identify Agency)			
	U.S. Navy			Defense Logistics Agency		Other		(Write-In)			
In accordance with the header criteria, indicate which product categories you directly or indirectly provide for U.S. defense systems, installations or known U.S. defense end uses.											
C	Product		Defense Support?	Percentage of 2019 Sales Attributable to Defense Sales		Primary DOD ACAT/MDAP Supported, if known*		Comments			
	1	Vanadium Ores and Concentrates		Direct							
	2	Vanadates		Indirect							
	3	Vanadium Carbides		Both							
	4	Vanadium Sulfates		None							
	5	Vanadium Hydrides, Nitrides, Azides, Silicides, and Borides		Unknown							
	6	Vanadium Pentoxide - Up to 99% Vanadium									
	7	High Purity Vanadium Pentoxide - 99%+ Vanadium									
	8	Other Vanadium Oxides and Hydroxides (Excluding Pentoxide)									
	9	Vanadium-Bearing Feedstocks (Ash, Residues, Spent Catalysts, Slag, Etc.)									
	10	Ferrovanadium - 40-60% Vanadium									
	11	Ferrovanadium - 80%+ Vanadium									
	12	Vanadium Master Alloys									
13	Vanadium, Wrought and Unwrought (Excluding Master Alloys)										
*U.S. Department of Defense Acquisition Category (ACAT) and Major Defense Acquisition Program (MDAP)											
D.			DO Rated		DX Rated						
	1	Since 2018, provide the number of priority rated contracts or orders under the Defense Priorities and Allocations System (DPAS) regulation (15 CFR part 700) that you have received by their level of priority (DO or DX).									
	2	Since 2018, provide the number of priority rated contracts or orders you have placed with other entities by their level of priority.									
	3	Since 2018, indicate which of your subject product categories has most frequently received a priority rated contract or order.									
Comments:											

[Previous Page](#)

[Next Page](#)

9. Critical Infrastructure

Describe your organization's support for each Critical Infrastructure Sector in accordance with the header criteria.

Definitions of each sector may be found at: <https://www.dhs.gov/cisa/critical-infrastructure-sectorsectors>

Critical Infrastructure Sector	Sector Support	Primary Product Support	Primary Customer Associated with Sector/Product Support	Explain
Chemical Sector	Yes	Vanadium Ores and Concentrates		
Commercial Facilities Sector	No	Vanadates		
Communications Sector		Vanadium Carbides		
Critical Manufacturing Sector		Vanadium Sulfates		
Dams Sector		Vanadium Hydrides, Sulfides, Nitrides, Silicides, and Borides		
A Defense Industrial Base Sector		Vanadium Pentoxide - Up to 99% Vanadium		
Emergency Services Sector		High Purity Vanadium Pentoxide - 99%+ Vanadium		
Energy Sector		Other Vanadium Oxides and Hydroxides (excluding Pentoxide)		
Financial Services Sector		Vanadium-Bearing Feedstocks (Ash, Residues, Spent Catalysts, Slag, Etc.)		
Food and Agriculture Sector		Ferrovandium - 40-60% Vanadium		
Government and Facilities Sector		Ferrovandium - 80%+ Vanadium		
Healthcare and Public Health Sector		Vanadium Master Alloys		
Information Technology Sector		Vanadium, Wrought and Unwrought (Excluding Master Alloys)		
Nuclear Reactors, Materials, and Waste Sector		Other Vanadium-Related		
Transportation Systems Sector				
Waste and Wastewater Systems Sector				

B. How have current market conditions involving the subject product categories affected your ability to meet current Critical Infrastructure Sector requirements?

C. Do you recommend any actions by the U.S. Government to better facilitate your ability to meet current Critical Infrastructure Sector requirements?

Comments:

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

10. Competition and Trade

Since 2018, by subject product category and in accordance with the header criteria, has there been a significant change in import competition? Do not limit your organization's response to the categories in which you operate if you also have visibility into other product category imports.

Product Category	Change in Import Competition	Primary Source Country of Import Competition	Impact on Your Organization	Explain
1 Vanadium Ores and Concentrates	Increase		Positive	
2 Vanadates	Decrease		Negative	
3 Vanadium Carbides	No Change		Neutral	
4 Vanadium Sulfates				
5 Vanadium Hydrides, Nitrides, Azides, Silicides, and Borides				
6 Vanadium Pentoxide - Up to 99% Vanadium				
7 High Purity Vanadium Pentoxide - 99%+ Vanadium				
8 Other Vanadium Oxides and Hydroxides (Excluding Pentoxide)				
9 Vanadium-Bearing Feedstocks (Ash, Residues, Spent Catalysts, Slag, Etc.)				
10 Ferrovandium - 40-60% Vanadium				
11 Ferrovandium - 80%+ Vanadium				
12 Vanadium Master Alloys				
13 Vanadium, Wrought and Unwrought (Excluding Master Alloys)				

Do you anticipate any impact on your business due to future imports of subject products into the United States from any country? Indicate your anticipated primary future source of import competition, the impact this competition will likely have on your organization, and explain.

Product Category	Primary Future Source of Import Competition	Primary Impact from Import Competition	Explain
1 Vanadium Ores and Concentrates		Positive	
2 Vanadates		Negative	
3 Vanadium Carbides		Neutral	
4 Vanadium Sulfates			
5 Vanadium Hydrides, Nitrides, Azides, Silicides, and Borides			
6 Vanadium Pentoxide - Up to 99% Vanadium			
7 High Purity Vanadium Pentoxide - 99%+ Vanadium			
8 Other Vanadium Oxides and Hydroxides (Excluding Pentoxide)			
9 Vanadium-Bearing Feedstocks (Ash, Residues, Spent Catalysts, Slag, Etc.)			
10 Ferrovandium - 40-60% Vanadium			
8 Ferrovandium - 80%+ Vanadium			
9 Vanadium Master Alloys			
10 Vanadium, Wrought and Unwrought (Excluding Master Alloys)			

Identify the primary challenges/issues affecting your competitive position in the overall [U.S. and non-U.S.] subject product markets. Rank the leading 5 most significant challenges (1 being the most important issue/impact; 2 being the next most important issue/impact, etc.). Explain your response.

Challenge/Issue	Challenge Experienced?	Rank Top 5	Explain
1 Aging equipment, facilities, or infrastructure	Yes		
2 Aging workforce	No		
3 Counterfeit parts			
4 Cyber security			
5 Domestic competition			
6 Environmental regulations/remediation			
7 Export controls/ITAR & EAR			
8 Financing/credit availability			
9 Foreign competition			
10 Government acquisition process			
11 Government purchasing volatility			
12 Government regulatory burden			
13 Healthcare			
14 Industrial espionage - domestic			
15 Industrial espionage - foreign			
16 Input availability			
17 Intellectual property/patent infringement			
18 Labor availability/costs			
19 Natural disasters (including disease/quarantine)			
20 Obsolescence			
21 Pension costs			
22 Proximity to customers			
23 Proximity to suppliers			
24 Qualifications/certifications			
25 Quality of inputs			
26 R&D costs			
27 Reduction in USG demand			
28 Taxes			
29 Trade disputes/tariffs			
30 Worker/skills retention			
31 Other (specify)			
32 Other (specify)			

Describe one of the five leading challenges/issues affecting your organization's competitive position in the marketplace for subject product categories. Then, describe in detail both how long and in what manner this leading challenge/issue has affected your competitive position in the marketplace.

Challenge/Issue	How long and in what manner has this affected your competitive position in the market for subject products? Describe.
1 (specify)	
2 How can the U.S. Government aid in the response to/mitigation of this challenge?	

Comments:

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

11. COVID-19 Impacts

Identify any impacts or actions resulting from the COVID-19 pandemic at your organization, ranking the three most significant impacts and three most important actions (1 being the most important impact/action; 2 being the next most important impact/action, etc.):

Impacts Experienced	-Yes/No-	Rank Top 3	Actions Taken	Short Term/ Long Term	Rank Top 3
Increased cost of materials	Yes		Reduce workforce	Short Term	
Inability to access work location	No		Increase online/remote work capabilities	Long Term	
Inability to fulfill contracts			Seek government assistance	Both	
Reduced sales			Delay or reject new contracts		
Foreign supplier manufacturing delays			Begin to produce pandemic-related products		
Domestic supplier manufacturing delays			Increase use of domestic suppliers		
Increased demand			Reduce use of suppliers located in China		
Transportation-based disruptions			Reduce use of suppliers located outside the U.S. and China		
Financing difficulties			Increase inventories		
Labor shortages			Increase supplier redundancy		
Other			Other		
			(specify)		
Other			Other		
			(specify)		

A.

Identify any USG actions that could have better mitigated/prevented COVID-19 impacts to your organization:

Identify any USG actions that will limit future COVID-19-related impacts to your organization:

Comments:

[Previous Page](#)

12. 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)).

Once your organization has completed this survey, save a copy and submit it via email to Vanadium232@bis.doc.gov. Be sure to retain your survey for your records and to facilitate any necessary edits or clarifications.

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?	
---	--

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

[Previous Page](#)

[Next Page](#)

11. 2018 Trade Remedy Impacts

Describe whether the trade remedies imposed on grain-oriented electrical steel as a result of the Section 232 Steel investigation in 2018 have impacted your organization's operations in the categories below.							
Impact Category		Organization Impact	If negative, has your organization made any changes to address this impact?	Have these changes helped your organization remain competitive?	Have these impacts been severe enough to warrant idling or shutting down facilities?	Without the changes your organization has implemented, would your organization be able to continue operations?	Explain
A.	1	Operating Costs	Positive Impact	Yes			
	2	Suppliers/Sourcing Decisions	Negative Impact	No			
	3	Customers/Contracts	No Change				
	4	Input Decisions using substitutes for GOES) (i.e.	N/A				
	5	Other (Specify)					
	6	Other (Specify)					
B.	Has Canada and Mexico's exemption from Grain-Oriented Electric Steel tariffs impacted your organization?		Positive Impact/Negative Impact/No Change	Explain:			
Comments:							

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