April 28, 2021

The Honorable Lloyd J. Austin III
Secretary
U.S. Department of Defense
1000 Defense Pentagon
Washington, DC 20301-1000

Re: Notice of Request for Comments on Executive Order "America's Supply Chains"; 86 FR 19230; Docket No. DoD-2021-OS-0022

Dear Secretary Austin:

The American Chemistry Council (ACC) represents a diverse set of companies engaged in the business of chemistry, an innovative, $565 billion enterprise. We work to solve some of the biggest challenges facing our nation and our world. Our mission is to deliver value to our members through advocacy, using best-in-class member engagement, political advocacy, communications, and scientific research. We are committed to fostering progress in our economy, environment, and society.

The business of chemistry:

- Drives innovations that enable a more sustainable future.
- Provides 544,000 skilled good paying jobs—plus over 3.9 million related jobs—that support families and communities.
- Enhances safety through our diverse set of products and investments in R&D.

Every year, the chemistry industry invests tens of millions of dollars to support product and worker safety. In addition to research initiatives, ACC programs focus on anticipating and preventing accidents, as well as educating the public about how to use our products safely. Chemistry makes it possible to satisfy a growing world population. Among other things, our products protect our food supply, deliver safe drinking water, ensure safe living conditions, and provide access to efficient and affordable energy sources and lifesaving medical treatments in communities around the globe. To enable these ongoing innovations, we advocate for public policies that support the creation of groundbreaking products to improve lives, protect our environment and enhance the economic vitality of communities.

The chemical industry – and innovations in chemistry – are critical to achieving efficient and effective cutting-edge solutions in a range of areas, including technology, aerospace, environmental sustainability, and food production and safety. For example, many low-carbon solutions rely on innovations in chemistry – from high capacity batteries (HCBs) to high-performance building insulation and windows to lightweight plastic packaging and auto parts that reduce energy needs, and carbon emissions, in shipping and transportation. As a significant manufacturing sector, we are continuously improving the energy efficiency and intensity of our own operations. The chemical industry is developing transformational technologies that cut emissions, improve energy efficiency and enable a socially, environmentally and economically sustainable future.

Secure and Resilient Supplies of Critical Minerals Are Core to U.S. Chemical Manufacturing

Critical minerals are crucial to modern life as they are used in everything from vehicles and jet engines; to clean technology products; to mobile phones, consumer electronics and cameras; to medical imaging products and other healthcare applications; and safety equipment. In 2018, the Department of the Interior, after a public consultation where it received comments from 453 stakeholders, published a Final List of Critical Minerals[1], which included 35 minerals: Aluminum (bauxite), antimony, arsenic, barite, beryllium, bismuth, cesium, chromium, cobalt, fluorspar, gallium, germanium, graphite (natural), hafnium, helium, indium, lithium, magnesium, manganese, niobium, platinum group metals, potash, the rare earth elements group, rhenium, rubidium, scandium, strontium, tantalum, tellurium, tin, titanium, tungsten, uranium, vanadium, and zirconium.

U.S. chemical manufacturers use many of these minerals – and others – to produce important chemistries of value in a wide range of products used by downstream sectors. Certain minerals allow chemical manufacturers to power innovation in areas like the auto industry, energy generation and storage, and military applications. And they are critical to the future of U.S. energy security. But before any of these products can be produced, the constituent materials and chemistry must be shepherded through the process from design, to large scale production, to commercialization, and to mass marketing.

For example, the economic contributions of rare earth chemistry extend downstream as well. Rare earth products are an essential input in magnets and magnetic powders, catalysts, metallurgical additives, polishing powers, phosphors, glass additives, ceramics and other engineered rare earth materials as well as batteries, motors and generators, lasers, drives, sensors, and other components and systems used in a variety of industries producing intermediate goods. In turn these products are used in health care, clean energy, automotive, lighting, communications, audio equipment, defense technologies, other electronics, advanced optics, oil refining, and a variety of other economic activity. In 2019, the rare earth industry supported more than $251 billion in economic output in "downstream" end-market products and technologies that employ nearly half a million workers (with a combined payroll of $32 billion) in the United States.

Despite the small volume of rare earths used, ***literally hundreds of billions of individual products used by businesses, workers, and consumers are made possible by rare earths***, which are a critical and essential element in many advanced technologies. Rare earth products include automotive catalytic converters, petroleum refining catalysts, glass manufacture and polishing, ceramics, permanent magnets, metallurgical additives and alloys, and rare earth phosphors for lighting, television, computer monitors, radar and x-ray intensifying film, among a myriad of applications. Rare earth salts, metals and compounds are used in a diversity of applications including catalysts, magnets, metallurgy, batteries, glass and ceramics, chemicals, and other intermediate goods as well as health care, electric and other light vehicles, appliances, consumer electronics, lighting, communications, electronics, defense technologies, oil refining, electric power and other final goods and services.

U.S. chemical manufacturers play an important role in multiple stages of the critical mineral supply chain:

- extraction of raw materials;
- concentration and purification of those materials;
- conversion of material into derivatives;

[1] https://www.federalregister.gov/documents/2018/05/18/2018-10667/final-list-of-critical-minerals-2018

- manufacturing of derivatives into chemical products; and
- recycling critical minerals to high purities and grades for use in new applications.

In this light, it is important to define the key chemistries that rely on critical minerals and provide examples of downstream products that contain those chemistries (see Table 1 below).

Table 1: Key Chemistries, Associated Critical Minerals, and Examples of Downstream Products

Key Chemistries	**Critical Minerals**	**Examples of Downstream Products**
Renewable Energy	Graphite, lithium, nickel	High capacity batteries
Magnets and Magnetic Powders	Rare earths; cobalt Possible others: boron	High performance motors, actuators, dynamos, speakers, hard and optical disk drives, sensors, generators
Catalysts	Rare earths; platinum; uranium Possible others: alumina; palladium; rhodium; zeolite	Fluid cracking catalysts; combustion catalysts; automotive exhaust catalysts; emission control catalysts; polymerization catalysts; dehydrogenation catalysts; telomerization catalysts
Metal alloys and Metallurgical Additives	Rare earths; aluminum; chromium; cobalt; graphite; magnesium; niobium; scandium; titanium; zirconium Possible others: crystalline silica; nickel; silicon; zinc	Jet engine alloys; automotive body, chassis, and mechanical applications; pipeline products; shipbuilding products; rail products; helicopter parts; batteries; optical disk drives; pipe, vessels, drums, etc. that keep safe containment of certain acids and other challenging substances.
Polishing Powders	Rare earths (cerium; cerium oxide)	Glass polishes; stone polishes
Phosphors	Rare earths	Color TV screens; computer monitors; lighting; medical imaging products; consumer electronics;
Ceramics	Rare earths; chromium; manganese; magnesium; silicon; titanium; vanadium zirconium Possible others: barium	Colorants in glazes, refractories, electronic ceramics, and other applications; jet engines; enamels; glazes; pigments; sensors; windows; lenses; lamps; ovens; optical shutters and modulators; color filters; image storage devices; capacitors for microelectronics; fuel cells
Flame Retardants	Rare earths; fluorspar	Fire-retardant clothing, insulating foam, thermoplastics

Plastics and Polymers	Rare earths; titanium	Opacifier and whitener to protect foods; UV protection
Glass additives	Rare earths; titanium	Decolorizers, color tint, refractive index enhancers, color filters, and radiation and UV protection; safety goggles; glass containers; glasses
Refrigerants	Fluorspar	Air-conditioning systems in automobiles or other vehicles
Water purification chemicals	Rare earths	
Other components and systems	Rare earths; aluminum	Garnets, laser crystals, nuclear applications, carbon arc electrodes, drying agents in paints, textiles specialties; microwave devices; cell phones; resonators in frequency meters, magnetic field measurement devices, tunable transistors, and Gunn oscillators; synthetic gemstones; neutron absorbers and moderators; tubing; shield material; pharmaceutical and healthcare applications

The U.S. Chemical Industry Is More Competitive Because of Free and Open Trade

Over the past four years, our industry has witnessed firsthand how trade policy uncertainty and the levying of high and broad tariffs on our imports and exports has disrupted the chemical value chain and the industries that rely on the business of chemistry. As a general matter, ACC advocates for the elimination and reduction of tariff and non-tariff barriers wherever possible. Reducing trade barriers is a better way to support production in the U.S. as opposed to the wielding of blunt trade instruments, which only increase uncertainty and costs and weaken competitiveness. We are also mindful that enabling greater U.S. production may require additional incentives from the U.S. and state governments. These incentives should be constructed in a way that does not distort trade and investment. As we have learned, when the United States implements trade actions such as tariffs, U.S. trading partners respond in kind, often retaliating against competitive U.S. exports, including chemicals.

We encourage the Administration in its review of critical mineral supply chains to focus on what makes the U.S. chemical industry competitive. Factors of competitiveness include:

- Abundant sources of natural gas and natural gas liquids, the primary feedstocks and energy sources for manufacturing chemicals in the United States;
- Low cost imported intermediate inputs into manufacturing of chemicals;
- High skilled labor, including through immigration;

- Rule of law, including unbiased court systems that reliably and predictably enforce contractual commitments;
- Strong protection of intellectual property rights, including trade secrets;
- World-class ecosystem for industry-university-government collaborative research & development and innovation; and
- High standard protections for human health, safety, and the environment.

By enhancing our competitiveness in the above areas, U.S. chemical manufacturers will be in a stronger position to produce more in the United States. Demand for the products of chemistry will increase in the U.S. over time, but this increase in demand will be even more rapid in the rest of the world. In that regard, it is critical that the U.S. strategy on supply chain resilience prioritize opening new markets. Commercially meaningful new market access allows our companies to take advantage of economies of scale, thereby manufacturing more important chemistries at home in the United States and exporting more of those chemistries to the world. Enhancing our competitiveness will lead to more competitiveness in the long run – and therefore greater supply chain resiliency.

And where U.S. trading partners are not playing by the rules and tilting the playing field in the favor of their domestic companies extracting, processing, or manufacturing critical minerals, we urge the Administration to enforce U.S. trade agreements and U.S. trade remedies laws. Furthermore, we encourage the Administration to seek higher standards for environmental protection globally, so that chemical products, processes, and jobs do not move out of the United States into jurisdictions with weaker environmental protections.

U.S. Tariffs Limit the Supply of Critical Minerals Relevant to Chemical Manufacturing

A straightforward way to incentivize U.S. production of chemicals containing critical minerals is to provide relief from tariffs – both on the critical minerals and other intermediate inputs necessary for manufacturing chemicals containing critical minerals. ACC encourages the Department of Defense to work with the Department of Commerce and the Office of the U.S. Trade Representative to identify the relevant critical minerals exposed to most-favored-nation customs duties – particularly from trusted partners – and additional tariffs under Section 301 of the Trade Act of 1974. Quick Congressional renewal of the Miscellaneous Tariff Bill may provide temporary suspension or reduction of the MFN duties imposed on imports of critical minerals. Furthermore, if they are also subject to additional tariffs under Section 301, USTR may be in a position to exclude these intermediate inputs from the China Section 301 tariffs. Avoiding the payment of MFN duties and additional tariffs of up to 25 percent under Section 301 will help U.S. chemical manufacturers respond quickly to increased demand for their products, instead of paying tariffs on critical minerals and intermediate inputs.

U.S. Government Support for the Entire Critical Mineral Value Chain is Essential

Many of the critical minerals in Table 1 above are used by multiple downstream sectors and subsectors. It is clear that the U.S. chemical industry and its customers require secure and resilient supplies of critical minerals to power the innovations of today and the future. We encourage the Administration to support every stage of the critical mineral supply chain – including the manufacture of chemicals that contain critical minerals – in order to create the requisite demand for critical mineral extraction and processing in the United States.

To ensure that U.S. chemical manufacturers are in a stronger position to meet the increased demand for products containing critical minerals in the United States and globally, we encourage the Administration to consider appropriate incentives for producing the necessary minerals, materials, and technologies in the

United States. The right mix of incentives will strengthen the business case for producing, processing, and recycling critical minerals in North America. A strong North American supply chain for critical minerals will therefore strengthen the U.S. defense industrial base, grow high-value, high skilled jobs, address important environmental objectives (e.g., reducing greenhouse gas emissions), bolster U.S. technology and innovation leadership, and provide support for U.S. trading partners and allies.

Although the need for massive critical mineral investment is clear given the growing demand for products that contain them, the business case for where to produce chemistries that rely on critical minerals is dependent upon many factors. The U.S. government and state governments could help solidify that business case by considering additional ways beyond tariff relief for incentivizing chemical manufacturers to increase production, update existing facilities, or build new facilities in the United States. Because the significant investments in building manufacturing capabilities takes years of planning and development, these incentives must be in place promptly in order to drive decisions for future production.

Such incentives could include:

- Tax credits and abatements;
- Expedited permitting for plant construction or upgrading;
- Timely review and approval of new chemistries under TSCA;
- Programs to educate the workforce in response to industry needs;
- Facilitation of high skilled immigration;
- Access to worker training/retraining programs;
- Public-private partnerships for research and development of new materials and technologies; and
- Potential cost-shared grants to support domestic capital investments for key upstream materials, including chemical inputs, as well as infrastructure;
- Low-interest loans that support critical mineral mine development;
- Funding to support new downstream industry development due to the new on-shore supply of critical minerals (like rare earths); and
- Relief/insurance for domestic supply chain disruptions, e.g., hurricanes, wildfires, and winter storms.

Supply security may also be supported by cooperation and support under the U.S.-Mexico-Canada Agreement (USMCA), with other U.S. FTA partners, or additional trusted partners around the world. Critical minerals supplied by these partners would be expected to flow more freely without restrictions and security risks.

Building Domestic Capacity for Recycling of Critical Minerals Is Also Important to the U.S. Economy

Recycling and recovery of critical minerals is developing, will play a critical role in the security of supply for these minerals, and will also contribute to a more sustainable, circular economy. Historically, recycling critical minerals has been limited due to dispersion in end-use devices and the high cost of collection, recovery, separation, and re-purification. The Administration should not take recycling for granted. It is critical that the Administration incorporate a circular economy approach into its analysis and any recommendations. Greater recycling will alleviate the need for extraction of critical minerals, lessening environmental impacts. U.S. chemical manufacturers are using and developing advanced chemical processes to recover critical minerals and concentrate and purify them to higher standards for new uses. Ensuring that critical mineral recycling can stand up, become commercially viable, and grow

should also be an essential goal for the Administration. The examples of possible incentives in the section above are also applicable to building up greater recycling capacity.

U.S. Regulation Also Impacts Chemicals Relevant to Critical Minerals

As the Department of Defense reviews risks to the critical mineral supply chain, it would be important for it to work with U.S. government agencies to explore ongoing regulatory initiatives and actions relevant to new chemistries containing critical minerals. U.S. government agencies, such as EPA, which has authority under TSCA to review the risk of new chemicals entering commerce, must therefore be prepared to review new chemistries, assess risks, and approve them in a timely manner.

Many critical minerals are produced and processed outside the United States. Both the import of critical minerals and development of a domestic supply chain by those seeking to produce and process in the U.S. could face regulatory barriers under TSCA. ACC advocates for an efficient new chemicals review and approval process so as to support innovation around chemistries containing critical minerals. For example, the Administration is increasing its efforts to develop a domestic manufacturing ecosystem for high capacity batteries to support its broader electric vehicle and electricity storage goals. Because high capacity batteries rely on chemicals containing critical minerals, ensuring an efficient and operational new chemicals review program would be essential to U.S. innovation in this area.

Conclusion

U.S. chemical manufacturers, our customers, and workers have benefited from global supply chains and also recognize that risks arise and must be mitigated. We welcome the Biden Administration's focus on risks to the critical mineral supply chain, of which the business of chemistry is a vital part. In the Department of Defense's review, we encourage a holistic examination of risks that includes trade policy and regulation, as well as consideration for incentivizing domestic development of the critical minerals in Table 1. Robust interagency and stakeholder consultation will be key to arriving at effective recommendations that are fit for purpose and support free and open trade and investment. ACC is ready to serve as a source of information and experience regarding the role of the business of chemistry in enabling production of chemistries using critical minerals in the United States.

Sincerely,

Ed Brzytwa

Director for International Trade
American Chemistry Council