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MATERION

May 10, 2013

Mr. David Weiner
Deputy Assistant United States Trade Representative for Europe
Office of the United States Trade Representative
Executive Office of the President
600 17th Street, NW
Washington, DC 20508

Reference: Docket # USTR-2013-0019

Submitted via www.regulations.gov

Dear Mr. Weiner:

The Materion Corporation is providing the enclosed comments in response to the April 1, 2013, *Federal Register* notice request for comments and notice of a public hearing regarding the Administration's intention to enter into negotiations for a Transatlantic Trade and Investment Partnership (TTIP).

A central point of these comments is the Office of the U.S. Trade Representative (USTR) should ensure a critical materials policy is part of the TTIP negotiations framework. This is particularly relevant for beryllium, which is the only strategic material identified by the USA and one of fourteen materials identified by the EU as critical. The ongoing supply of beryllium from the USA to the EU is only one example of a critical material whose value to society is being jeopardized by unnecessary regulatory activities in EU countries.

Thank you for the opportunity to comment. Materion Corporation remains ready, willing and able to assist USTR in developing a critical materials policy in TTIP in the upcoming negotiations.

Sincerely,

Marc E. Kolanz
Vice President, Environmental Health and Safety

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Enclosure

Materion Corporation

Comments to the Office of the United States Trade Representative

Regarding the Request for Comments and Notice of a Public Hearing

Docket #: USTR-2013-0019

May 10, 2013

The Materion Corporation (Materion) respectfully submits the following comments to the Office of the United States Trade Representative (USTR) in response to the April 1, 2013, *Federal Register* request for comments and notice of a public hearing concerning the Administration's intention to enter into negotiations for a Transatlantic Trade and Investment Partnership (TTIP) agreement.

Materion supplies highly engineered advanced enabling materials to leading and dynamic technology companies across the globe. Our product offerings include precious and non-precious specialty metals, precision optical filters, inorganic chemicals and powders, specialty coatings and engineered clad and plated metal systems.

As the world's only integrated "mine-to-mill" supplier of beryllium-based products, headquartered in Mayfield Heights, Ohio, Materion also offers beryllium, specialty engineered beryllium alloys and beryllium composites.

Our products, services and expertise help enable our customers' technologies. We supply sophisticated thin film coatings for hard disk drives, specialty inorganic chemicals for solar energy panels, bio-compatible materials for implantable medical devices, specialty alloys for miniature consumer electronics components, optical filters for thermal imaging, critical components for infrared sensing technology, special materials for LEDs and much more.

Materion offers the following specific comments on various aspects of the proposed TTIP agreement process and policy priorities.

1. Materion supports the United States (US) and European Union (EU) entering into negotiations to develop a TTIP agreement.

TTIP offers both trading partners opportunities to address investment, tariff and non-tariff barriers to trade that have emerged over time under historically different political, economic, statutory and regulatory philosophies. These differences have been acknowledged by the US-EU High Level Working Group on Jobs and Growth (HLWG) in discussions leading up to the proposal to develop a TTIP agreement. Leaving aside the reasons that may have justified such past restrictions to trade, the US and EU have agreed in principle to collaborate in removing barriers to trade and investment in order to enhance job creation and economic growth.

Materion wishes particularly to underscore its concurrence with the HLWG's focus on promoting modifications of regulations that serve as non-tariff barriers to trade. Indeed, Materion joins the many other industries and industry associations in applauding the "aim to achieve ambitious outcomes" involving "innovative approaches" to resolve regulatory issues and other non-tariff barriers through cooperation in achieving the goals of a TTIP agreement.

A focus on current regulatory barriers to trade that restrict innovation, job creation and economic growth should be pursued as a priority in the negotiating position of the US. The inability of the US and EU to agree on a common regulatory framework for assessing and managing environmental

and worker protections is a particular concern and, at the same time, an opportunity for TTIP to address.

2. A TTIP agreement should reflect the bilateral interests of the US and EU in enhancing their world leadership position in innovation and technology.

The mutual economic and national security interests of the US and EU and their leadership in innovation, manufacturing and technology-dependent services should be reflected in a TTIP agreement.

The HLWG and stakeholders concluded from their discussions that today's common interests lie in growth of manufacturing, technology advancement, high-quality jobs, enhanced exports, and a growing share of world trade. Overall quality of life is linked to removing historic trade barriers that were constructed and maintained because of nationalism and other US-EU competitive interests. Removing these barriers is today's higher value.

US and EU representatives recognize non-transatlantic trading partners may pose a more serious competitive threat than each other. Other parts of the world are gaining ground with the US and Europe, particularly in innovating and manufacturing high-technology products. The risk of maintaining *status quo* with respect to the rules governing US-EU trade is this: foreign competition will displace the US and Europe's high-technology customer relationships.

In order for the US and EU to maintain their leadership edge in innovative technologies, the substantial regulatory differences that exist between the US and EU must be addressed head on, in particular related to critical raw materials. They are interfering with innovation, technology development and market expansion for products that are able to enhance nearly every aspect of our lives. Many of these regulatory encumbrances are due to momentum from past decisions reflected in laws that are not keeping up with the rate of technology advancement and the needs of people represented by these great trading partners. New science that is better able to inform regulators is replacing notions of what was theorized to be needed to protect the public. If rules do not change to reflect the realities of international competitiveness, both the US and EU will be at a higher risk of losing their technology advantage.

The time is now for reflecting national self-interests – particularly for advanced technologies – in a US-EU bilateral trade agreement.

3. US-EU leadership in innovation and technology is inextricably linked to reliable access to and use of critical materials.

Sovereign interests of the US and EU Member States dictate forming a close TTIP-based alliance in protecting the sourcing, engineering, use, recycling, and recovery of critical materials. Materion urges TTIP negotiators to elevate to a very high priority the creation of a favorable critical materials policy in a TTIP agreement. Such a policy must remove barriers to technology innovation, product development and use in the US and EU.

Raising a critical materials policy as a priority objective for the negotiations may require USTR to take a sector or hybrid approach for a limited number of high-priority sector issues. A more generic and broader regulatory framework approach is unlikely to meet US industry needs to protect critical materials as it will be process driven and lack the specificity needed to eliminate particular non-tariff barriers to trade related to critical materials. We urge USTR to weigh the very high priority of technology leadership and the direct link to critical materials in embracing a critical materials policy in TTIP.

Materion is not alone in its sector-approach or hybrid recommendation. During the HLWG meetings, USTR heard from the biotechnology community over the need for regulatory harmony in addressing the commercial applications of genetically modified organisms (GMOs). Other sectors are confronting similar difficulties of trade being disadvantaged through regulatory structures that need to be reframed for a 21st century highly competitive world economy. While a sector-by-sector approach is likely to require significant energies on the part of both the US and EU to resolve differences, the investment of policy capital in such an effort will be well worthwhile. Recall, the HLWG aspires for a TTIP agreement to set the stage for an enhanced world model for removing barriers to trade. Investing in the difficult task of resolving sector disputes will enable the US and Europe to leverage success with other trading partners in the future to realize the economic and social progress that are TTIP's goals.

TTIP discussions should lead to the US and EU establishing policies that preserve the availability and broad applicability of critical materials in their respective research development and regulatory systems. Removing obstacles along technology development pathways that impede advancement, including the sourcing, engineering, use, recycling, recovery, and regulation of critical materials must be a high priority for the US and EU.

Regarding regulatory cooperation, the US and EU should support general principles articulated by other industry trade associations to reduce non-tariff barriers to trade. It is truly necessary for TTIP to incorporate discrete principles of transparency, stakeholder involvement, risk management, and regulatory impact analyses in focusing on critical raw materials. The US and EU will strengthen the free movement of goods among industrialized nations in applying these principles in practice.

The 14 critical materials listed by the EC should be the starting point for inclusion in a TTIP agreement. An opportunity to expand the list should be incorporated in the policy framework, since it is likely the US and EU will identify additional critical materials in the future.

Successful TTIP negotiations should reflect an affirmative transatlantic policy bias promoting the sourcing, engineering, use, recycling, and recovery of critical materials. The degree to which critical materials are data rich or data lean with regard to their assessment profiles should not disadvantageously place them in an imbalanced position with regard to other materials in commerce. These principles should be reflected as overriding values and be viewed as absolutely essential for continued US and EU leadership in technology development.

4. Beryllium is a critical material in both the US and EU.

Beryllium has also been determined to be the only strategic and critical metal by the US Department of Defense (DoD) (Report of Meeting, Department of Defense Strategic Materials, Office of the Under Secretary of Defense Acquisition, Report of Meeting Department of Defense The Strategic Materials Protection Board, December 12, 2008). This determination is based on the fact that

> *"High purity beryllium is essential for important defense systems and unique in the function it performs, and that full involvement and support is necessary to sustain and shape the strategic direction of the market such that there must not be a significant and unacceptable risk of supply disruption."* The report further states, *"High purity beryllium is both a strategic and a critical material. High purity beryllium is essential for important defense systems, and it is unique in the function it performs. High purity beryllium possesses unique properties that make it indispensable in many of today's critical U.S.*

defense systems, including sensors, missiles and satellites, avionics, and nuclear weapons."

The US Department of Energy (DoE) has identified other substances that it has designated as critical as well. Ongoing discussions within the White House Office of Science and Technology Policy are likely to yield another perspective on critical materials.

Beryllium has been designated in the EU as one of fourteen critical materials (European Commission Critical Raw Materials for the EU - Report of the Ad-hoc Working Group on defining critical raw materials, 2010). Raw materials are designated as being "critical" when the risks for supply shortage and their impacts on the economy are higher compared to other raw materials. According to the Commission paper,

'The most significant threats originate from perceived risks associated with the use of beryllium in electronic products. EU regulatory fears and NGO-propagated "banning" of the use of materials containing beryllium lead to unwarranted attempts to find substitutes that do not offer the same qualities with respect to performance, sustainability and environmental protection. The data that authorities rely on is not current and does not reflect the most recent scientific studies. In general, authorities are reluctant to break from the past and are not open to new scientific studies even if they are conducted in accord with OECD guidelines or originate from proven workplace strategies. Because the cost of beryllium is high compared with that of other materials, it is used in applications in which its properties are crucial."

A combined critical materials list from DoD, DoE, OSTP, and the EC may be an appropriate starting point for USTR for purposes of preparing a critical materials policy in TTIP.

5. Beryllium uses are hallmarks of innovation that are only possible through critical materials.

Beryllium is a very unique critical material that provides functionality in a number of high-tech applications on which both commercial and defense customers rely. The following discussion describes these uses in significant detail to provide USTR and other US agencies a sufficiently full and compelling justification for supporting a critical materials policy in TTIP, and for including beryllium among the list of critical materials.

The EU lacks both a commercially viable domestic source of beryllium and the capability to process ores or raw materials of beryllium to beryllium metal or any of the alloys of beryllium. All beryllium-containing materials are imported from the United States, Kazakhstan and Japan in semi-finished forms. These materials are then processed within the EU to make engineered components for eventual inclusion in the manufacturing of critical end-use products.

80% of the beryllium used goes into copper beryllium alloys, that are used to exploit an unmatched combination of physical properties to produce highly reliable components of systems that protect lives and where failure could be either life-threatening or would provide lower performance and reduced quality of life.

Copper beryllium alloys are used for the manufacture of high performance electrically conductive terminals such as:

- Extreme reliability automobile connectors for air-bag crash sensor and deployment systems, anti-lock brake systems and many other life safety applications;
- Life saving medical applications such as the connections in medical operating theatre and monitoring equipment;

- Critical connections and relays in electrical, electronic and telecommunications equipment where failure would disrupt the communications of emergency services like firefighters and police;
- No-fail aircraft electrical and electronic connectors which enable fly-by-wire commercial airliners to achieve previously impossible fuel efficiencies, and critical aircraft components such as altimeter diaphragms;
- Extremely long service life fire sprinkler water control valve springs that must react to fires after decades of inactivity to save lives and control fire damage;
- Household appliance temperature and other function controls that provide reliability and safety to consumers while minimizing energy and water use; and
- Relays used for telephone exchanges and controlling industrial, domestic and automobile electrical equipment.

Copper beryllium alloys are used for the manufacture of mechanical components such as:

- Non magnetic equipment components used in oil & gas exploration, production and directional drilling equipment to improve extraction efficiencies and reduce land despoliation at drill sites by reducing the number and footprint of drill sites;
- Coal and mineral mining equipment bearings that operate longer underground;
- Mine detection and minesweeping systems that keep the global forces safe;
- Undersea fiber optic cable signal amplification “repeater” housings that carry more simultaneous transmissions than ever conceived of in the original cable systems;
- Low friction high strength aircraft landing gear bearings, control rod ends and wing aileron / flap bearing bushings that allow significant weight loss to reportedly lower global fuel consumption by 6.34 billion gallons (24 billion liters) per year, and reduces associated carbon dioxide emissions by over 11 million metric tons per year;
- High thermal efficiency, reduced icing, aircraft components such as pitot tubes to provide enhanced aircraft safety for passengers;
- Electrode holders and components of welding robots for automated automobile and appliance welding allowing better working environments for factory workers;
- Property modifier for aluminum and magnesium castings with enhanced properties that reduce weight to achieve fuel and pollution reduction in automobiles and trucks; and
- Plastic and metal casting moulds with enhanced thermal efficiency that improve productivity and provide plastic products with enhanced tolerances to maintain the leadership of EU and US producers.

20% of the beryllium used is in the form of pure metal, as a metal matrix containing over 50% beryllium or as a beryllium oxide ceramic. Applications include:

- X-Ray transparent windows used to control and focus X-Ray beams in all medical, scientific and analytical devices incorporating X-Ray sources, providing finer resolution thereby allowing earlier cancer detection in mammography and other medical interventions to save lives;
- Gyroscope gimbals and yokes for use in guidance, navigational and targeting systems used on aircraft, armored vehicle and marine missile systems providing levels of precision that give our forces tactical advantages and minimize collateral damage;
- Satellite mounted directional control devices for astronomical and other telescopes and instruments to provide accurate GPS locations signals and a wealth of scientific, agricultural and climatic data to help mankind live better and sustain the planet;
- Satellite structural components that reduce weight, provide unmatchable rigidity at deep space low temperatures and enable longer, more capable space missions;
- Mirrors for terrestrial and space mounted astronomical telescopes that expand our knowledge of the universe;

- World leading science and technology programs like JET, CERN and ITER depend upon beryllium metal for critical components that cannot be substituted by any other material;
- Beryllium is critical for the success of the multi-national ITER fusion energy project located in Cadaraches, France that offers the opportunity to provide sustainable energy sourced from non-radioactive nuclear fusion;
- Medical isotope production nuclear reactors in Belgium, Holland and the USA produce critical isotopes for treatment of many types of cancer as a result of the unique neutron beam reflective capabilities of beryllium;

Beryllium Oxide Ceramics are used to produce components with extremely high thermal conductivity while providing electrical insulation, a unique combination of properties exploited for use in the manufacture of such equipment as:

- Substrates for mounting high powered civil aviation radar systems and power amplifiers that need cooling to prevent self destruction, and for mobile telephone infrastructure equipment; and
- Medical excimer laser beam focusing and control components, allowing surgeons unprecedented fine control of the high-energy laser beam during surgery.

The assessments described in the preceding paragraphs define multiple critical and strategic uses of beryllium and beryllium-containing alloys. These reflect leading edge technology applications of just one critical material – beryllium. Domestic and European manufacturers and users of other critical materials can provide similar litanies of high-technology products dependent upon these materials. US and EU providers of critical materials are in an enviable leading international trading position due to these critical materials, which the TTIP agreement should promote with a critical materials policy.

6. Beryllium faces significant and growing regulatory barriers to trade in the EU.

Notwithstanding an advantageous US-EU technology position today, due in part to critical materials, transatlantic regulatory forces threatens the US-EU leadership position. The emerging regulatory actions in Europe (REACH CoRAP, OEL Germany, OEL Europe, OELs in member states, RoHS, Cancer Directive Revision, Classification & Labeling) illustrates the overwhelming obstacles to near-term and future transatlantic trade for beryllium. Materion wishes to underscore again that these proposed actions to restrict the markets for beryllium reflect the current regulatory environment for just a single critical material. The negative regulatory environment is having a multiplier effect when other critical materials are considered.

USTR should ask not whether a critical materials policy is needed to reduce or eliminate these non-tariff trade barriers, but how soon it should intervene.

Summary Comments

In concluding these comments, Materion urges USTR to place as a high priority the creation of a beneficial policy environment for critical materials in the forthcoming TTIP negotiations. The value to the US will be extremely high and its impact will last for decades, if USTR succeeds.

Regulatory policies and initiatives concerning beryllium that the EU or Member States are currently considering create uncertainty for high-technology customers that Materion supplies. International competitors interpret these transatlantic regulatory differences as an opportunity for gaining a market advantage without being bound by the same policy constraints. A well-constituted TTIP agreement can correct this imbalance.

It is generally accepted that the role of the regulators is to regulate. Trade representatives serve as the counterpoint to balance US interests abroad in ensuring markets remain open and receptive to responsible US exporters. Materion, in conjunction with other metal groups and critical material experts, remain in the conversations regarding new and existing regulatory restrictions, but we need the assistance of USTR in balancing the other national interests of the US and EU.

Preserving beryllium and other critical materials for today's leading and life-saving technologies that distinguish us from international competitors must be elevated as a top priority.

Materion thanks USTR for considering these comments in crafting the framework for the TTIP negotiations. The resources of the beryllium industry stand ready to assist USTR during these negotiations.