Subject: Supplier Expectation Packet and Request for Information

Dear Valued Entegris Supplier,

Entegris is a global leader in advanced quality and manufacturing practices whose mission is to purify, protect and transport critical materials to our customers in the semiconductor industry.

The semiconductor industry continues on an aggressive pace to make integrated circuits smaller, faster and at a lower total cost of ownership. In order to assure high quality and high yields, Entegris has come to the conclusion that simply “meeting specification” is not good enough. Therefore, we have embarked on a mission to ship our products to meet statistically based “control limits”.

We have also concluded that to ensure we maintain our supply chain’s capability to deliver on our objectives, and to facilitate our ability to act as an extension of our customers’ supply chain, we are increasing our emphasis on enhancing our partnerships with key strategic suppliers.

Attached, you will find the Supplier Expectation Packet containing essential information while you engage in doing business with Entegris.

Please take the necessary time to review this document in its entirety. It is important that you fully understand and comply with every expectation, so please do not hesitate to ask any questions.

We look forward to your close partnership in the future.

Best Regards,

John Zimardo
Director, Global Supplier Quality
# SUPPLIER EXPECTATIONS

<table>
<thead>
<tr>
<th>Document/Process</th>
<th>Expectation / Explanation</th>
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<tbody>
<tr>
<td>Entegris Terms and Conditions of Purchase</td>
<td>These terms and conditions apply to all Entegris, Inc. purchase orders. Unless superseded by terms in the Master Contract Please refer to <a href="http://www.entegris.com/Resources/images/13920.pdf">http://www.entegris.com/Resources/images/13920.pdf</a></td>
</tr>
<tr>
<td>Certificate of Analysis (CoA)</td>
<td>Entegris expects the supplier to ship a CoA with each NEW batch of material shipped to Entegris. As requested by Entegris, suppliers are expected to participate in providing eCoA (electronic Certificate of Analysis).</td>
</tr>
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</table>
| Process Control System (PCS) – Statistical Process Control (SPC) | Statistical Process and Statistical Quality Controls – All direct suppliers to Entegris are expected to implement and maintain a robust SPC/SQC program. This program is expected to ensure that all key and control parameters and CoA parameters are within statistically calculated control limits. The following details are expected to be immediately communicated to Entegris:  
  - One (1) data point outside statistically calculated control limits constitutes an OoC (out of control) condition, requiring attention.  
    Note: “Western Electric” rules are recommended.  
  - A waiver to this requirement may be requested, on a batch-by-batch basis. The waiver is required to include at minimum the following information: the cause, effect, and corrective action(s) to prevent reoccurrence.  
As requested by Entegris, suppliers are expected to participate in PCS Reviews. |
| Control of Non-Conforming Product | All Suppliers to Entegris are expected to perform the following:  
  - To implement and maintain a robust process – both electronically and by physical methods - for identifying and containing non-conforming material and for assuring non-conforming material is not shipped to Entegris without documented advanced approval.  
  - To implement and maintain a management system for the performance of robust root cause investigation in the event of a non-conformance and for the performance of appropriate corrective actions to prevent reoccurrence.  
  - To act with speed and diligence to minimize impact to Entegris and to ensure follow-up using the 8D Problem Solving Methodology, in the event of Entegris receiving non-conforming material from that Supplier. |
<p>| Change Management | Management of Change Process – |</p>
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<td>All Suppliers to Entegris are expected to implement and maintain a robust Change Management protocol that aligns with Entegris’ Change Management Expectations. Document change management expectations through the entire supply chain including a 12 month advance notification of any changes that may affect form, fit, function, safety, quality, reliability and performance of the final product to Entegris. The recommended tool for the evaluation of the potential risk(s) of proposed change is FMEA (Failure Mode &amp; Effects Analysis). Other risk assessment tools may also be permissible upon approval by Entegris.</td>
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**Change Notification**

Entegris expects compliance to notification of change in order to allow Entegris to perform the following:

- Participate in the Supplier’s risk assessment (e.g. FMEA), if warranted.
- Document any necessary validation and qualification (V&Q) requirements.
- Notify Entegris’ customers within the customers’ required time horizon.
- Execute product elimination or end-of-life (EOL) forecast.

All Direct Suppliers to Entegris are expected to commit to providing twelve (12) month advanced notification of any change to the process flow, process control plan, raw materials, maintenance, metrology, packaging, etc. that could cause a detectable difference for the Entegris users or a statistically-significant difference in the form, fit, function, safety, or reliability of the material for its use at Entegris.

Samples of materials made with the proposed change(s) are required to be provided to Entegris at a minimum of 12 months prior to anticipated implementation of change(s).

Examples of types of material changes that require notification include but are not limited to the following:

1. A change to the Manufacturing location of the product? (e.g. – product move to another Plant)?
2. A change to the raw materials of the product?
3. Will a change obsolete the product?
4. Will the change to the product result in a different interface with Entegris’ equipment or process?
5. A change to a critical parameter of a component or finished good specification? (tightening or relaxation of specification)
6. A change in the supplier or sub supplier (including location) of a raw material, component, or finished good? This includes in-sourcing or out-sourcing activities.
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<td>7.</td>
<td>A change to the packaging materials (size, design, cleanliness and/or materials of construction)?</td>
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<td>8.</td>
<td>Will the change increase Anions, Cations, Metal Concentrations, or other forms of contaminates?</td>
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<td>9.</td>
<td>A change in the formulation of raw materials? (e.g. - ingredients, amounts, widening or tightening of specifications)</td>
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<td>10.</td>
<td>A change to the product label or markings (e.g. - format, barcode, product code, product name, or lot numbering convention that may affect the customer)?</td>
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<td>11.</td>
<td>A change that will impact Entegris’ acceptance criteria?</td>
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<td>12.</td>
<td>A change to the recommended storage temperature or shelf life of the product?</td>
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<td>13.</td>
<td>Tightening or relaxation of specifications with the measured parameters in the Certificate of Analysis?</td>
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<td>14.</td>
<td>A change in the method of testing or measurement?</td>
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<td>15.</td>
<td>A statistical shift in performance of a parameter defined on a Certificate of Analysis?</td>
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<td>16.</td>
<td>Will a change in the manufacturing process either add, delete or modify a process step which has an effect on form, fit or function of the product?</td>
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<td>17.</td>
<td>Will the change affect the product specifications of the finished good product?</td>
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<td>18.</td>
<td>Will the change involve replacing manufacturing equipment with equipment that is not the same?</td>
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<tr>
<td>19.</td>
<td>Will the change involve modification or revision to product software or firmware?</td>
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<tr>
<td>20.</td>
<td>Change in the start-up protocols for facility or equipment that has been out-of-service.</td>
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**Process Change Forecast** –
All Direct Suppliers to Entegris are expected to notify Entegris of any planned changes (See list of examples in Change Notification). Supplier is expected to provide the following information regarding the forecasted process change:

- Notification of the planned change(s) as far as in advance as possible, preferably at least 12 months in advance.
- A schedule with proposed timing for the planned change(s). Details regarding the planned change(s).

**Note:** If Supplier or sub Supplier experiences a plant shutdown, the Supplier is expected to notify Entegris of its plans for start-up, including criteria for RtO – Return to Operations.
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<td>Entegris expects that a Supplier with planned changes regarding elimination or discontinuation of a product to notify Entegris one (1) year in advance, at minimum. In addition to above listed information regarding forecasted change, Supplier is expected to provide the following information: Phase Out Strategy, including Supplier’s plans for providing Entegris with sufficient supplier of material to last up to two (2) years at documented demand levels. <strong>End of Life</strong> – (aka Product Elimination/Discontinuation) If/when eliminating or discontinuing a product, Entegris expects that the supplier will notify Entegris one (1) year in advance. Entegris also requests that the notification includes the supplier’s phase-out strategy, including the supplier’s plans for providing Entegris with sufficient supply of material to last up to two (2) years at documented demand levels.</td>
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| **Material Controls** | 1. **First-In First-Out** Suppliers of Entegris are expected to have a viable system to manage inventory, so that Entegris receives material in the order in which it was manufactured. Entegris reserves the right to refuse older manufactured materials than the most recent receipt of materials. Material received by Entegris is required to have 75% or more of its shelf-life available.  
2. **Storage Conditions** Product with special handling, packaging or storage conditions are required to be managed according to the specific requirements by the Supplier/Distributor.  
(Note: If requested by Entegris, Supplier/Distributor is required to provide supporting data to demonstrate compliance with these conditions.) |
<p>| <strong>Registration to ISO Standard</strong> | All Suppliers to Entegris are expected to implement and maintain a robust Quality Management System (QMS) and to be ISO 9001 (QMS) certified (or equivalent). Provision of a copy of certification(s) to Entegris is required. |
| <strong>BCP and DRP</strong> | All Suppliers to Entegris are expected to implement and maintain a robust Business Continuity Plan and Disaster Recovery Plan that will provide assurance that materials will continue to meet all supply and delivery requirements in the event of a man-made or natural disaster. |
| <strong>Metrology and Test Equipment Control</strong> | All Suppliers to Entegris are expected to confirm the measurements/tests used on CoA parameters or other key and control parameters to be capable, as compared to the specifications. |</p>
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| **Responsiveness** | All Suppliers to Entegris are expected to respond to any quality or delivery issue in the following timeframe:  
  1. Acknowledgement of the issue, with a description of the initial containment plan, is required from the Supplier within two (1) business day of the reported issue.  
  2. Formal root cause analysis and corrective action plan is required from the Supplier within fourteen (14) days of identification of the issue. |
| **EHS & Sustainability** | All Suppliers to Entegris are expected to align with Entegris’ commitment to adopt social, environmental, and health & safety standards/codes that minimize risk, support economic stability, and promote responsible use of natural resources.  
*Note: Entegris seeks to achieve corporate social responsibility and sustainability by creating value responsibly. Entegris balances the demands of doing business with the need to protect the environment and its resources and to ensure the health & safety of its employees, customers, and the communities in which they live and work.*  
Supplier will work to certify their business management system to the requirements of Environment ISO 14001 and Safety ISO 45001. |
| **On-Site Quality Assessments** | Suppliers to Entegris are expected to allow Entegris to perform on-site quality audits of the Supplier’s manufacturing, test and warehouse operations.  
Entegris commits to providing advance notice of an on-site audit, as well as a plan of audit expectations. |
| **Sub-Supplier Management** | Have a defined supplier qualification protocol.  
Supplier qualification protocol includes quality, cost, capacity, environmental-social-governance, and performance criteria.  
Key parameter list supplied to suppliers.  
Basic process control expectations are set with supplier.  
Quality Systems assessments/audits a minimum of every 3 years.  
Key received material audits (incoming inspection).  
Conduct gauge R&R with sub-suppliers. |
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<td>High risk supplier are identified.</td>
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<td>Risk mitigation in place for identified high risk suppliers.</td>
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<tr>
<td></td>
<td>Management of change is agreed to with suppliers.</td>
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<tr>
<td></td>
<td>Suppliers have Control of nonconforming material in place.</td>
</tr>
<tr>
<td></td>
<td>Suppliers have disaster recovery plans in place.</td>
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<tr>
<td><strong>Inbound Shipping Instructions</strong></td>
<td>This information provides the requirements that Entegris expects of suppliers on routing shipments. If the supplier has any questions regarding these requirements, suppliers should contact Mr. Nik Ebert at +1-952-556-1091, or Mr. Chris Doerr at +1-952-556-4010, or the Entegris contact window (Buyer). Alternatively, the supplier may send questions to the email address: <a href="mailto:Global_Transportation_Team@Entegris.com">Global_Transportation_Team@Entegris.com</a>. Please refer to: <a href="https://www.entegris.com/content/en/home/resources/reference-materials.html?q=*%3A*&amp;fq=entegristags_string_mv%3ARouting_Guides">https://www.entegris.com/content/en/home/resources/reference-materials.html?q=*%3A*&amp;fq=entegristags_string_mv%3ARouting_Guides</a> When prompted to enter a password, do use shipping.</td>
</tr>
<tr>
<td><strong>RBA and Regulation Compliance</strong></td>
<td>Entegris supports the Responsible Business Alliance (RBA) Code and is committed to uphold the human rights of workers, protect the environment, preserve worker safety and conduct business ethically and responsibly. Suppliers who work with Entegris are expected to do the same. Suppliers are requested to send the attached letter acknowledging their support of the RBA Code of Conduct to <a href="mailto:product.stewardship@entegris.com">product.stewardship@entegris.com</a>. Please refer to Appendix C: Supplier RBA Commitment Letter for more details.</td>
</tr>
<tr>
<td><strong>Ethics Reporting Policy (Whistle Blowing)</strong></td>
<td>The purpose of this policy is to provide the appropriate channels and processes to the suppliers of Entegris, Inc. to escalate and notify the top management of Entegris, Inc. of any suspected wrong doing (whistle blowing) of an Entegris, Inc. employee. Please refer to Appendix D: Entegris Supplier Ethics Reporting Policy for more details.</td>
</tr>
<tr>
<td><strong>Materials Declaration Policy</strong></td>
<td>Entegris is actively reviewing its products for compliance and conformance with governmental and customer requirements affecting raw materials and substances that may be used in manufacturing processes. All sourced materials have legal requirements for reporting and possible restrictions. Please refer to Appendix E: Entegris Materials Declaration Policy for more information.</td>
</tr>
</tbody>
</table>
ENTEGRIS SUPPLIER ETHICS REPORTING POLICY

Policy
Entegris conducts business based on the principles of fairness, honesty, openness, decency, integrity, respect and Entegris Code of Business Conduct. It is Entegris’ policy to support and encourage its suppliers to report and disclose improper or illegal activities, and to fully investigate such reports and disclosures. It is also Entegris’ policy to address any complaints that allege acts or attempted acts of interference, reprisal, retaliation, threats, coercion or intimidation against suppliers who report, disclose or investigate improper or illegal activities and to protect those who come forward to report such activities.

Entegris assures that all reports will be treated strictly confidential and will be promptly investigated. Though the reports can be made anonymously, it is not encouraged because they are more difficult to act upon effectively, however, such reports will still be considered. Entegris internal control and operating procedures are defined to detect and to prevent or deter improper activities. This Supplier Ethics Reporting Policy will further enhance and provide safeguards against irregularities.

Entegris has the responsibility to investigate and report to appropriate parties any allegations of suspected improper activities and to take appropriate actions. Reporters are encouraged to use guidance provided by this policy for reporting all allegations of suspected misconduct or improper activities. This policy is also extended to supplier’s employees who can also directly report to Entegris based on the policy. It is the responsibility of the supplier to communicate this policy to their employees. Entegris may modify this Policy to maintain compliance with applicable laws and regulation or accommodate organizational changes within Entegris.

Reporting
Suppliers may report allegations of suspected misconduct or any breach or suspected breach of law or regulation or Entegris Business Code of Conduct that may adversely impact them, Entegris, Entegris’ customers, shareholders, employees, investors or the public at large. All concerns or irregularities raised will be treated with confidence and every effort will be made to ensure that confidentiality and identity of the reporter is protected throughout the investigation process.

Emails should be directed to the highest authority of the Global Supply Management organization, who is the Whistle Blower Committee Team Leader. The latter will form the investigation team with the appropriate team members and ensures that issues raised are properly resolved.

The contact details of the Entegris Whistle Blowing Committee Team Leader are as follows:
Position: Global Supply Management VP
Email: supplier.whistleblowing@entegris.com
Entegris Material Declaration Policy

Entegris, Inc. has a long history of compliance with environmental requirements in the countries where we have operations. Entegris is actively reviewing its products for compliance and conformance with governmental and customer requirements affecting raw materials and substances that may be used in manufacturing processes.

The markets that Entegris serves requires the management of material declaration information for the below minimum initiatives based on regulatory drivers and/or customer requirements:

- European Union Directive 2011/65/EC on the Restriction of certain Hazardous Substances (RoHS)
- European Union Regulation 2006/1907/EC concerning the Registration, Evaluation, Authorization of Chemicals (REACH)
- European Packaging Directive 94/62/EC
- Administration on the Control of Pollution Caused by Electronic Information Products (China RoHS)
- Conflict Minerals per the Dodd-Frank Wall Street Reform and Consumer Protection Act H.R. 4173 – Section 1502 requiring the disclosure of products that contain Tin (Sn), Tungsten (W), Tantalum (Ta) and Gold (Au) extracted from minerals sourced from the Democratic Republic of Congo (DRC) and adjoining countries
- Halogens Chlorine, Bromine and Fluorine restriction below established threshold limits as defined by the IEC 61249-2-21, JPCA-ES-01-2003 and IPC-4101B.

To facilitate the declaration process, Entegris has partnered with Assent Compliance who is authorized to gather compliance data on our behalf. Assent Compliance will be send requests to use their Supplier Portal to submit your declaration data. This is a secure, password free, and payment free tool that allows manufacturers or distributors to view parts that are supplied to Entegris and apply materials declaration(s) to any or all parts. Please note that your current list of parts are securely held and contained within the system and will only be visible to Entegris and you the Supplier within the Portal.

In the coming days/weeks, a link will be provided to you via email. We ask that you watch for this contact and act on it when received to provide the required data as applicable to your supplied materials.

Should you have any questions related to this process, please contact our EHS team at product.stewardship@Entegris.com for further assistance. We will do all that we can to assure successful and accurate reporting to support and maintain our current supply relationship with your company.

Sincerely,

Eric K. Moschet Director EHS&S
September 17, 2018

Dear Suppliers / Subcontractors of Entegris,

Entegris, Inc. has a long history of compliance with environmental requirements in the countries where we have operations. Entegris actively reviews its products for conformance and conformance with governmental and customer requirements affecting raw materials and substances that may be used in manufacturing processes. The markets that Entegris serves requires the management of material declaration information for the below minimum initiatives based on regulatory drivers and/or customer requirements (which can be updated at any time):

- European Directive 2011/65/EU (RoHS2)
- European Directive 2002/95/EC (RoHS)
- European Directive 1907/2006/EC (REACH) and Annex XVII of REACH and of substances identified as SVHC (Substances of Very High Concern) in the Candidate list for Annex XIV of REACH
- European Directive 2006/122/EC (Perthomoluminescent, PPGs)
- European Directive 2009/25/EC (Dimethyl Rumarate, DMF)
- European Directive 94/62/EC (Packaging and packaging waste)
- Conflict Minerals per the Dodd-Frank Wall Street Reform and Consumer Protection Act H.R. 4173 – Section 1502 requiring the disclosure of products that contain designated minerals sourced from the Democratic Republic of Congo (DRC) and adjoining countries
- Administration on the Control of Pollution Caused by Electronic Information Products (China RoHS)
- Halogen Chlorine, Bromine and Fluorine restriction below established limits as defined by the IEC 61249-2-21, JPCA-ES-00-2003 & IPC-4101B
- Sony Technical Standards SS-00259 "Management Regulations for the Environment-related Substances to be controlled."

To facilitate the qualification of your material as compliant to industry regulations and requirements please forward your material conformance statements to Product.Stewardship@Entegris.com.

To maintain your compliance over time (as regulations continue to adopt additional restricted and reportable materials) Entegris has partnered with Assent Compliance who is authorized to gather compliance data on our behalf. Assent Compliance will email your designated contact a link to use their Supplier Portal and update your declaration data. This is a secure, password free, and payment free tool that allows manufacturers or distributors to view parts that are supplied to Entegris and provide materials declaration(s). Please note that your current list of parts is securely held and contained within the system and will only be visible to Entegris and you the Supplier within the Portal.

Should you have any questions related to this process, please contact our EHS team at product.stewardship@Entegris.com for further assistance. We will do all that we can to assure successful and accurate reporting to support and maintain our current supply relationship with your company.

Tracey Christiansen
Entegris Product Stewardship
Supplier / Subcontractor’s Responsible Business Alliance (RBA) Statement

Dear Entegris,

This letter will confirm that ___________________ agrees to support the most recent version of the Responsible Business Alliance Code of Conduct (RBA), covering all sections Labor, Health and Safety, Environment, Management Systems and Business Ethics. See this link for the most recent copy of the code http://www.responsiblebusiness.org/standards/code-of-conduct/.

Please indicate your agreement to support the RBA Code of Conduct and the terms of this letter by signing it and returning it to mailto:product.stewardship@entegris.com.

ACCEPTED AND AGREED TO:

________________________________________
Supplier / Subcontractor Signature

________________________________________
Date

________________________________________
Printed Name

________________________________________
Title & Organization

________________________________________
Address