

2018 Corporate Social Responsibility Report

JSR Micro 
MATERIALS INNOVATION



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REPORTING PERIOD

This CSR report covers the period FY2016-FY2017, April 1, 2016 - March 31, 2018.

GRI STANDARDS

This report has been prepared in accordance with the GRI Standards: Core option.

EXPLANATORY NOTE

JSR Micro refers to JSR Micro, Inc., the Sunnyvale, California-based operations for JSR Corporation.

JSR used alone may represent a broader selection of JSR Group companies including, but not limited to, JSR Micro, Inc.

**We welcome
your feedback!**

Please contact us at
sustainability@jsrmicro.com

A MESSAGE FROM OUR PRESIDENT

2016 and 2017 have been banner years for the global semiconductor market, which grew by 25 percent. JSR Micro's semiconductor business has outpaced the industry, while we simultaneously expanded into the high-growth area of advanced cleans materials, but not without challenges. In our world of ever-smaller microchip designs, our technical challenges increase in a step function putting extraordinary pressures on quality and performance that may require us to revisit assumptions, both technically and operationally.

As a result, our quality systems must also continuously evolve and improve to meet our customers' ever-changing needs. In doing so, we have started working more closely with our global peer companies and supply-chain partners, investing significantly in technology, equipment, skills and people.

These combined activities have, however, put a good deal of pressure on our employees, who in many cases have delivered heroic efforts. As President, I recognized that that was not a "sustainable" situation, and that there was an underlying risk to our company culture, which is ultimately the source of our business success. That is why, under the guidance of Stanford's Center for Compassion and Altruism Research and Education, we created the Vitality Initiative. Through this initiative we have started various projects to help mitigate the stress that employees may experience, and to remain a learning company where employees feel excited, inspired and energized in the work they do.

While our company has grown, we have successfully kept emissions in check. The systems that we previously put in place allow us to run efficiently, and to grow without an increase in emissions. Our EHS department is always actively looking for ways to minimize or reduce our environmental footprint.

Meanwhile, worldwide chemical legislation is increasing and becoming more stringent, requiring JSR Micro and our customers to be much more conscientious about the materials we select for our products. To understand and anticipate environmental legislation, our EHS department was educated in the EPA's Sustainable Futures program. We also participated in a customer's Green Chemistry pilot program, and joined the EPA's Onium Consortium, which supports further research into photo acid generators, a class of chemicals that is essential to our business.

Corporate Social Responsibility (CSR) is a mindset and informs everything we do. In challenging times, we find strength in our core values. Looking forward, we will continue to grow and adapt with integrity, knowing that true success must be sustainable.

Sincerely,



Eric Johnson



OUR COMPANY

Located in Sunnyvale, California, JSR Micro's core activity is the manufacture of high-quality semiconductor materials for leading-edge customers in the semiconductor sector. Supporting the activities of our corporate parent JSR Corporation, in the last decade we have expanded into the Life Science and Energy and Environment markets. We serve the North American region, however, as a global company, we collaborate closely with our sister company in Belgium and corporate headquarters in Japan.

	2013	2014	2015	2016	2017
PEOPLE					
Total Employees	160	170	168	182	195
% Female	35%	36%	36%	34%	32%
ENERGY & EMISSIONS					
Energy Consumption (million kWh)					
Energy Consumption	7.9	8.1	7.9	8.2	8.2
Natural Gas Consumption	8.3	8.4	8.8	8.5	8.3
Total Energy Use	16.1	16.5	16.6	16.7	16.6
Greenhouse Gas (thousand metric tonnes of CO₂ equivalent)*					
Direct Emissions (Scope 1)	1.5	1.5	1.6	1.5	1.5
Indirect Emissions (Scope 2)	1.5	1.5	1.4	1.5	0.1
Total Emissions	3.0	3.0	3.0	3.0	1.6
Intensity (MtCO ₂ /unit of revenue)	0.023	0.020	0.020	0.017	0.016
WATER					
Water Consumption (millions of gallons)					
Indoor Water Usage	4.0	4.8	4.3	4.3	4.8
Landscape Irrigation	4.6	4.0	2.0	2.1	2.2
Total	8.6	8.8	6.3	6.4	7.0
WASTE					
Non-hazardous waste (metric ton)					
Non-Recycled**	4.3	4.3	3.9	3.1	3.1
Recycled	169.3	160.6	139.7	151.3	147.2
Waste Total	173.6	164.9	143.6	154.4	150.3
% Recycled	97.5%	97.3%	97.2%	98.0%	97.9%
Hazardous Waste (metric ton)					
Incineration	111.0	132.9	107.3	102.3	117.6
Other***	0.2	23.8	6.4	36.2	16.7
Hazardous Waste Total	111.4	156.7	113.7	138.5	134.3
% Incinerated	99.8%	84.8%	94.4%	73.9%	87.6%

* To improve readability, this ratio is shown in metric tons of CO₂ equivalent. The absolute numbers for greenhouse gas emissions are reported in thousand metric tons of CO₂ equivalent.

** All non-recycled non-hazardous waste goes to landfill.

*** Hazardous waste that is not incinerated is either recovered, neutralized or disposed in landfill.

MANAGEMENT APPROACH

Balanced Scorecard

JSR Micro uses a Balanced Scorecard (BSC) to set the strategic direction of the company. The focus is not only on the bottom line, but on multiple aspects of the company, including financial performance, market success, process excellence and learning and growth, allowing us to react to times of growth, as well as times of challenge. The BSC goals are translated into department goals and individual employee goals, so that every employee that works for JSR Micro understands how they individually contribute to the company's success.

Management Systems

JSR Micro's management systems are ISO9001:2015, ISO14001:2015, and OHSAS18001:2007 certified, covering quality, environmental management and compliance, and the health and safety of our employees and customers. Our third-party-verified management systems allow us to bring purpose and clarity to company processes, anchoring accountability and responsibility within our operations. The "Plan-Do-Check-Act" cycle ensures reviews of past performance and allows us to continually improve our business.

In March 2017 we transitioned to ISO's new Quality and Environmental standards. We are proud to share that there were zero observations or non-conformances during the certification audit.

Governance Structure

JSR Micro is a wholly-owned subsidiary of JSR Corporation (based on both direct ownership and indirect ownership through JSR Micro NV). JSR Micro's Executive Committee (EC) is responsible for developing business and operational strategy. Through our board of directors, JSR Micro reports to JSR Corporation. In addition, our operations are audited by our corporate parent's internal auditing system.

CORPORATE SOCIAL RESPONSIBILITY AND ETHICS

To JSR Micro, CSR means conducting business in an ethical manner. As such, CSR is a mindset that permeates all of JSR Micro's business activities. We strive not just to be in compliance, but also to be a good corporate citizen – creating not only financial value, but also real value for all stakeholders involved. The commitment to quality, safety, vitality and well-being of employees, and more, all contribute to our overall success.

On a practical level, the "JSR Group Principles of Corporate Ethics" detail our company's values, and provide a baseline for ethical behavior. During the reporting period, several trainings were provided to deepen our employees understanding of specific ethics topics. One class that we provide to our employees and managers is an annual, mandatory Anti-Corruption class that includes topics such as: bribery, harassment, the JSR code of conduct, compliance, privacy, Ethics Hotline and non-retaliation.

To engage employees in the CSR program and invite them to take further sustainability actions, we have provided awareness workshops on topics such as the environmental footprint.

CSR PRIORITY TOPICS

During the first three reporting cycles, we have extensively consulted stakeholders to understand their priorities and the impacts of our business to identify key priority topics. We have prioritized the aspects of CSR that have the most significant impact, influence stakeholder decisions and affect JSR Micro's long-term viability. The topics present a complete picture of our relevant impacts. In reviewing these priorities, impacts and upcoming trends, we did not find it necessary to revise our existing list of priority topics:

- Quality
- Innovation
- Health and Safety
- Economic Performance
- Business Continuity Planning and Risk
- Employee Vitality and Engagement
- Environmental Impact
- Compliance
- Supply Chain Management



●●● IMPACT AND PERFORMANCE

QUALITY

As the semiconductor industry has advanced to 10nm nodes and beyond, the quality requirements for materials used in the semiconductor manufacturing process take on new and ever more stringent dimensions.

To meet these requirements, our quality systems need to be continually upgraded. In response, we have doubled our effort in engineering, which has allowed us to react more quickly to customer needs, such as scaling up, troubleshooting and supply chain management. This includes significant investments in technology and skills, for example: advanced metrology, analytics and developing new research capabilities. In addition, JSR Micro is also continuing to work on improving statistical process control for manufacturing processes to complement our already rigorous quality control. Moreover, we continue to work closely with our peers from Japan to make optimal use of our global resources and knowledge available within the company.

Global Quality Working Group

To align JSR's global quality systems, we meet face-to-face with our sister factories and global headquarters on a semi-annual basis in the Global Quality Working Group. Topics that are addressed include factory safety, quality, cost control, change control and sharing of best practices.

Quality and CSR

Quality, in combination with collaborative innovation, is the foundation of our market success. Our focus on quality enables us to provide excellent products that support our customers' leading-edge technologies. Moreover, a focus on quality enables lean and efficient operations. This focus fits with our CSR mindset, and translates into efficient use of environmental resources, minimizing the impact of our operations and maximizing stakeholder value.

The Cost of Quality

The Cost of Quality (CoQ) focuses on three elements: prevention, appraisal and quality failures. By investing in prevention and appraisals, we aim to avoid the cost of failures in quality.

Performance

YEAR	FY13	FY14	FY15	FY16	FY17
% of Total Sales	4.95	3.32	3.49	3.36	3.44



Ultimately, quality is defined by our customers. That is why our customers' feedback is invaluable. During the reporting period, we were the proud recipient of:

- Intel's 2016 Prestigious Supplier Continuous Quality Improvement Award
- Intel's 2017 Preferred Quality Supplier Award
- On Semiconductor's 2017 Perfect Quality Platinum Award



INNOVATION: Semiconductor

The microchip is one of the most innovative and complex technologies ever invented. Billions of transistors fit into a space smaller than the tip of your finger, creating the capability to process and store information on an unprecedented scale. JSR Micro manufactures the materials that enable the process through which a transistor pattern is imprinted on a silicon wafer.

Microchip designs follow the increasing needs for computing power. Memory needs continue to grow at exponential rates to support sufficient storage space on smart devices and cloud-based servers. In addition, processing capability must be sufficient to digest these large amounts of data. Today, leading-edge chip designs work at atomic dimensions, creating a whole new level of quality requirements for the entire manufacturing process.

Full-stack Solutions

Traditionally, JSR Micro has been a market leader in developing advanced photoresists for leading-edge semiconductor architectures. In more recent years, we have diversified our product portfolio of semiconductor materials. To support the quality requirements of increasingly complex chip architectures we have begun providing our customers with “full stack” or “multilayer” solutions by developing many of the materials essential to building a pattern on a silicon substrate: organic underlayers, silicon hardmasks, photoresists and topcoats. In doing so, we are better able to understand the interactions between the materials which allows us to be more accountable for the overall quality of the stack.

Advanced Cleans

After each etch step, a cleaning material is applied to remove the residual residue left behind post-etch. With the overall increased quality requirements of the semiconductor manufacturing process, the requirements for cleaning agents increases as well. Differentiating on our quality expertise, JSR Micro has recently introduced an advanced cleans solution to the market.

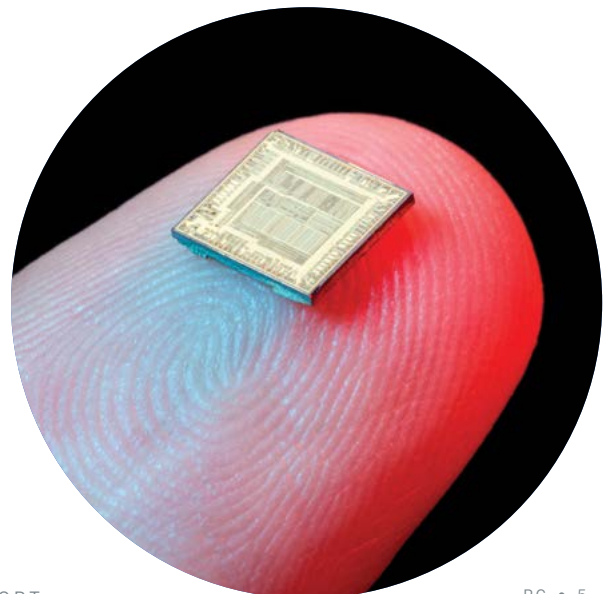
Extreme Ultraviolet (EUV) Photoresist

EUV is the long-awaited technology that will enable even-smaller semiconductor patterning, for the 7nm node and beyond in a single processing step. To develop the manufacturing infrastructure and quality control capability needed for high-volume manufacturing of EUV photoresist, JSR is working with the RMQC (Resist Manufacturing & Quality Center), which is a joint venture between JSR and imec. In the US, our researchers are collaborating closely with customers to help develop their EUV processes which will eventually be used in high-volume manufacturing.

Environmental Considerations in the Design Phase

Most of the decisions regarding the environmental impact of a product are made during the initial design review phase. When we design our products, we work to avoid certain materials that have a known broader environmental footprint. In addition, JSR Micro is making efforts to optimize the solvent used in our products so that the shot size can be minimized. This enables better cost of ownership for the customer and less overall waste and usage.

Our customers show increasing concern about the environmental impacts of materials in JSR Micro’s products. In addition, since the update of the Toxic Substances Control Act (TSCA) in 2016, the Environmental Protection Agency (EPA) has increased scrutiny on the materials that are allowed to be used in the US market. To ensure that we select materials for our products that do not provoke significant environmental concerns, now or in the future, JSR Micro’s EHS department works closely with the R&D department.



INNOVATION: Energy and Environment

In JSR's Energy and Environment product segment, JSR offers Lithium Ion Capacitors (LICs) and aqueous binders to various markets in need of energy storage solutions. The LICs can be charged and discharged many times without losing capacity and combine a high energy density with high power density. They are used in medical devices, Voltage Sag Compensators (VSC) / Uninterruptible Power Supplies (UPS), catenary-free tram systems and more.

During the last two years, we have focused on reducing the cost of our LICs and improving performance. We expect to introduce a new version to the market in 2019.

JSR's aqueous binders eliminate the use of the toxic solvent N-Methyl-2-pyrrolidone (NMP) from lithium-ion battery manufacturing. They greatly reduce manufacturing and environmental compliance costs while improving battery performance.

INNOVATION: Life Sciences Activities

As part of our global and long-term strategy, JSR Corporation has invested significantly in our life sciences business through various acquisitions. These acquisitions enable us to develop better treatments for patients quickly, and together support our broader mission to develop materials that benefit people, the environment and society as a whole. In addition, by leveraging our expertise in semiconductor quality standards, we are differentiating ourselves in the life sciences market.

JSR Corporation is taking a global approach to integrate our various life sciences acquisitions into the company and culture. JSR Micro plays an active part in these activities, and they are not restricted to our Sunnyvale operations. In the future, the CSR activities and impacts of our Life Sciences businesses will be covered in this or a separate CSR Report.



HEALTH AND SAFETY

Four years ago, we successfully launched an initiative to increase safety awareness among employees, and make this awareness part of the company culture, shaping the implicit expectations, assumptions and behavior of all involved. To maintain a culture of safety, we organize various ongoing activities and programs, such as the EHS committee, the near-miss program, town-hall meetings and June Safety Month.

EHS Committee

Our cross-functional EHS committee meets once a month to review topical safety issues and conduct joint safety walks and inspections. Members include representatives from every department. The EHS committee helps increase safety awareness and lowers the threshold for employees to request assistance from the EHS team.



JSR Micro EHS committee

June Safety Month

Each June, many activities are organized to increase safety awareness. In 2017, we invited speakers during brown bag lunch sessions, provided extra training and showed a movie on sustainability and food waste. We ended the month with the June Safety Fair, to which 13 vendors were invited including 24 Hour Fitness, an insurance provider and a representative from Santa Clara Vector Control, among others. Employees could even get a spa facial or massage.

Ergonomics

With most JSR employees working in offices, the greatest safety risk is from ergonomic injuries. To avoid these, we have installed ergonomic software that encourages employees to take breaks. All workplaces are ergonomically assessed, and we have installed more than 40 sit-and-stand desks. During June Safety Month, a professional ergonomist provided a workshop showing employees the best postures for desk-work.



Ergo evaluation for injury prevention

Performance

- All of JSR Micro's employees are represented by the EHS committee.
- 100% of chemicals sold by JSR are assessed for health, safety and environmental impacts, and have appropriate Safety Data Sheets (SDS) and labels. These are in compliance with the Globally Harmonized System (GHS) and contain information on safe use and disposal.
- JSR Micro has been OHSAS 18001-certified since 2010.

**“At the end of the year,
everybody understands that safety
is not just my job as an EHS
engineer, but it is also their job.
Safety means looking
out for everybody.”
– Paulina**

BUSINESS CONTINUITY PLANNING AND RISK MANAGEMENT

The current world stage is increasingly more complex, volatile and uncertain. Events such as extreme hurricanes and flooding in the US, droughts, increased forest fires, terrorist attacks in the EU and geopolitical tensions, underline the need for careful consideration in our plans for overall operations as well as our business continuity planning (BCP). In light of these realities, our customers are also putting more scrutiny on our BCP.

JSR Micro annually reviews its existing plans and conducts drills to test the plans in cooperation with our sister companies in Belgium and Japan. During the reporting period, we have expanded those drills with the manufacturing of test batches of product that would normally be produced at another location.

Risk Management

The revisions in the ISO9001 and ISO14001 management standards reflect the increased need for risk awareness and mitigation. To meet the update's requirements, in FY17 we formally implemented a risk management program. First, all departments mapped out their processes and key process performance indicators in "turtle diagrams." This analysis generated a deep understanding of core processes. Using this as a point of departure, departments identified top risks by filling out a 'risk register' and developed mitigations plans.

Crisis Management

We hope that our BCP plans will help us to anticipate and avoid crises. However, not every crisis can be avoided, and when disaster occurs, it is important to be prepared. To this end, we worked with an external consultant to develop a crisis management plan. As part of this project, the consultant presented us with a scenario and held a crisis drill. This enabled us to identify gaps in our current plans and adjust the plans accordingly. JSR is implementing a schedule to periodically revisit the plan to ensure that it is effective and complete.

Responsible Business Alliance Risk Assessment

JSR Micro fills out the Responsible Business Alliance (RBA) risk assessment annually. This is a comprehensive survey that covers a broad range of CSR topics. Since we began responding to the survey, JSR Micro has had a "low risk" score.



Promoting our Risk Management Program to employees

**"The start of a new project was much easier because all the potential risks were mapped out beforehand. The implementation went much quicker than before."
– Robert**

EMPLOYEE VITALITY AND ENGAGEMENT

Over the course of 20 years, JSR Micro has grown from a startup in the semiconductor industry to a market leader. Many of our employees have been with us since the beginning, contributing to the feeling that our colleagues are an extended family. We believe that our company culture is the source of our success, and we will continue to nurture and sustain a positive, healthy and inspiring workplace.

Employee Development

All of our employees have personal development plans that are reviewed annually, and their career paths highlight individual opportunity. Our HR department extensively researches training needs and, based on this assessment, offers a wide range of classes on an individual or group basis.

NEW EMPLOYEE HIRES			EMPLOYEE TURNOVER	
Year	Number	New Hire Rate	Number	Turnover Rate
FY13	19	13.0%	11	7.9%
FY14	21	12.0%	6	4.0%
FY15	18	11.0%	10	6.0%
FY16	24	13.0%	15	8.0%
FY17	34	17.0%	14	7.0%

PEOPLE	2016	2017
Total Company	182	195
Total Female Employees	62	62

The Vitality Initiative

In the last two years, the company has grown quickly, and this has put a strain on some employees. In order to manage the company's growth successfully, and to support our employees, JSR's executive-level committee has worked with Stanford University's Center for Compassion and Altruism Research and Education (CCARE) to develop a "Vitality Initiative." Vitality combines learning and development, energy management and facilitating a positive and inspiring workplace, for example, by encouraging adequate breaks and building appreciation and positive feedback into meetings. CCARE's research shows that companies that invest in vitality significantly increase employee satisfaction and reduce employee burnout.

FY17 JSR BY THE NUMBERS			
CONTRACT TYPE	MALE	FEMALE	TOTAL
Regular	132	61	193
Temporary	1	1	2
			195
LOCATION			
Sunnyvale HQ	106	57	163
Other CA Office	2	2	4
Outside CA	25	3	28
			195
AGE			
Under 30	17	9	26
Age 30-50	69	31	100
Over 50	47	22	69
			195
RACE			
Asian	64	41	105
Black/African American	7	2	9
Hispanic/Latino	14	3	17
White	44	13	57
Other	4	3	7
			195

In order to gain a baseline assessment, and to identify focus points for the Vitality initiatives, in FY17 we adjusted our employee survey to include three vitality measurements based on Vitality, Energy Management and Learning and Growth. Based on the results, several projects were initiated:

- Increased strategic hiring of new employees
- Lunch and Learn sessions with internal or external speakers on topics such as mindfulness and stress management
- Improved communication on the topic of Vitality including bi-weekly Vitality Minutes, a new Vitality web page on our intranet, Vitality resources, increased awareness of our Employee Assistance Program that offers several services, etc.
- Training for managers on how to give positive feedback
- Exploring various solutions to the challenge of long commutes, such as flexible working hours, telecommuting when possible and other commuting options.
- Vitality Volunteering Month

Volunteering

In addition to our ongoing volunteering efforts, as part of the Vitality Initiative, January 2018 was dedicated as JSR Volunteering Month. During this period, JSR Micro departments selected a charity of their choice and spent time volunteering together. This offered an opportunity to take a break, connect with others in our departments and participate in a meaningful activity.

Throughout the year, we enjoy spending non-work time together while giving back to the community. Here is a sample of our activities:

- Light the Night Walk for the Leukemia & Lymphoma Society
- Toy Drive and Backpack drive for KAFPA (Kinship, Adoptive and Foster Parent Association)
- Donations to the Red Cross for the Hurricane Harvey and Hurricane Irma relieve funds
- JSR employee Mark Davis flew with the Commemorative Air Force (CAF) to deliver supplies such as water, food, cleaning, and even dog food to flooded areas in Texas affected by the hurricanes
- “Run Like a Hero” for Children’s Health at the Santa Clara Valley Medical Center

Wellness Activities

To support our employees’ health, wellbeing and vitality, we offer engaging activities throughout the year, including:

- Fitbit challenge
- Biometric screening
- Zumba classes
- Meditation classes
- Yoga classes
- Pilates classes
- Massages
- Company-sponsored sports teams
- Weekly organic fruit delivery and monthly healthy snacks



“Run Like a Hero” for Children’s Health at the Santa Clara Valley Medical Center



JSR Micro employees at a flower arranging class.

“We seldom get a chance to meet as a group since we all travel a lot. We made stuffed bears for ‘project in a box’ that will be distributed to local hospitals and shelters. It was good to just sit around and enjoying lunch and chatting together. Everyone had fun and we had a lot of good-natured conversations and laughter.”
– Cherry



Mark Davis flew with the Commemorative Air Force (CAF) to deliver supplies such as water, food, cleaning, and even dog food to flooded areas in Texas.

ENVIRONMENTAL FOOTPRINT

As a lean and efficient company, we are very conscientious about our use of resources. Because we have gone through many improvement cycles, it has become more challenging to improve our environmental performance. Moreover, it is nearly impossible to grow as a company without increasing the use of resources. We are nonetheless always looking for ways to minimize our footprint.

Energy and Greenhouse Gas Emissions

In June of 2017 we joined Silicon Valley Clean Energy. Through its GreenStart program, the electricity that we procured came from 50% renewable energy sources and 50% non-polluting hydroelectric sources. Because of this, during the latter half of 2017, JSR Micro's indirect emissions decreased significantly.

Solar Panels

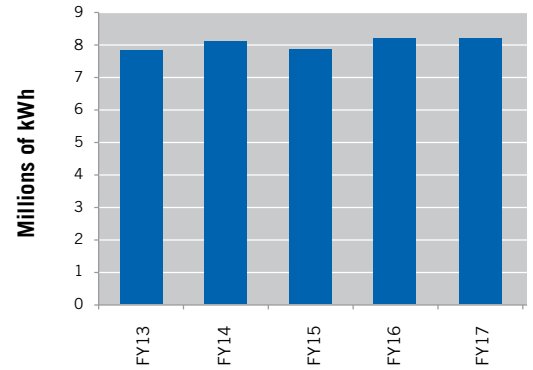
In 2017, we had comprehensive plans in place to install solar panels on our parking lots. Unfortunately, due to City of Sunnyvale regulations, we were unable to obtain a permit for installation in this area. Going forward, we are looking for other opportunities to install solar panels.

Reducing the Impact of Commuting

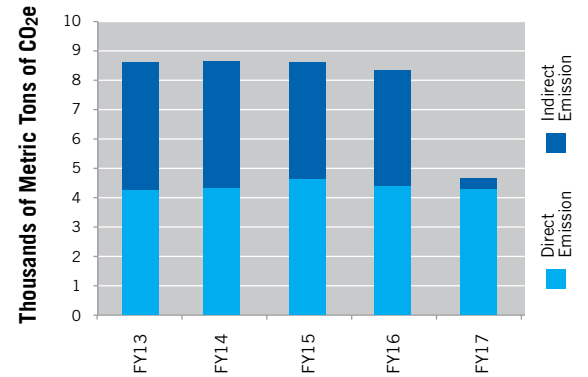
To stimulate employees' interest in driving EV's, JSR Micro installed four Electric Vehicle (EV) chargers in its parking lot in FY17. In addition, we are researching the possibilities for telecommuting and implementation of flexible schedules that allow off-peak commuting.



Energy Consumption Per Year



Greenhouse Gas Per Year



We are a California Certified Green Business.



JSR provides free electric vehicle charging stations for our employees



Hazardous Waste

During the reporting period, JSR Micro's EHS department researched better end-of-life solutions, such as reuse, recycling or energy recovery, for each of our hazardous waste streams. We are currently in the process of interviewing vendors to further explore these opportunities.

Non-Hazardous Waste

At JSR Micro, we were already separating and recycling most of our non-hazardous waste. In 2017, we implemented a food scrap recovery program and started diverting food waste as well. The City of Sunnyvale processes this waste stream and turns it into animal feed.

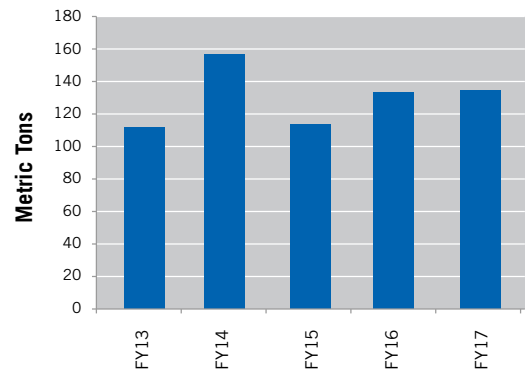
Waste Awareness

To create more awareness about waste, a group of employees visited the Sunnyvale Materials Recovery and Transfer Station (SMaRT). The SMaRT station is located at the site of an old landfill, where employees manually retrieve recyclables from trash on a conveyor belt. We hope that through visits like these, employees feel more compelled to reduce and separate their waste.

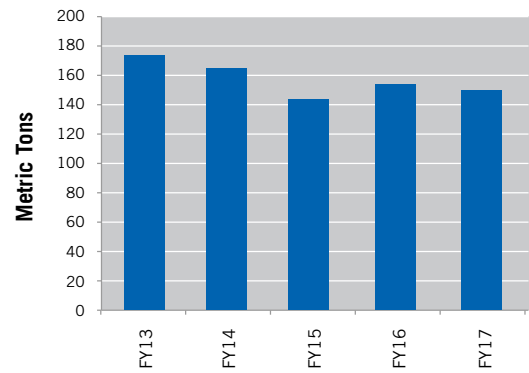
Water

During the reporting period, there were no specific water reduction activities. In response to the long 5-year drought in California, we had replaced much of our landscape with drought-tolerant vegetation and implemented multiple water-saving initiatives. Though California received more rainfall during the reporting period, we realize that it will remain important to be aware of our water usage.

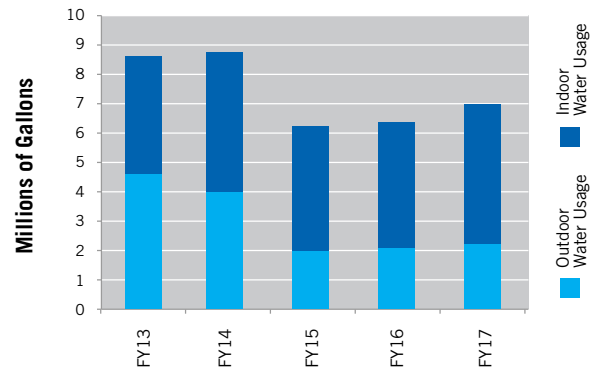
Hazardous Waste Per Year



Non-Hazardous Waste Per Year



Water Consumption Per Year



ANTICIPATING COMPLIANCE

The laws and regulations of a country or community represent, at a basic level, the expectations of society. That is why CSR starts with, but is not restricted to, complying with rules and regulations. Since April 2017, JSR Micro has had an executive-level Compliance Committee that oversees the compliance processes of different departments within the company.

Anticipating Legislation

With the adoption of the 2016 Frank R. Lautenberg Chemical Safety Act, the requirements for importing new chemicals to the US market became more rigorous. Simultaneously, worldwide, environmental and chemical legislation is also increasing. In light of this, our customers show a heightened interest in the materials we select for product development. In response, our EHS department is working more closely with our R&D department to ensure that the materials selected do not trigger any environmental concerns and will be approved for manufacturing in higher quantities.

Green Chemistry Pilot

For one of our customers, we have participated in a “Green Chemistry” pilot program, in which we tested a tool that evaluates the materials in our products and identifies regulatory liabilities for the ingredients. After the conclusion of that tool pilot, we committed to participate in an additional “Green Chemistry” pilot where we will engage some of the learnings from the Sustainable Futures program described below. This additional pilot will conclude at the end of 2018.

Sustainable Futures Program

The Environmental Protection Agency (EPA) has developed various screening tools and computerized models to predict the toxicological properties and environmental effects of materials. Through the Sustainable Futures program, the EPA offers educational workshops that teach these approaches to chemical developers. JSR Micro’s EHS department engaged in this program and has integrated the EPA toxicological assessment approaches into two tools - one for polymers, and one for smaller-molecule substances. Multiple

members of the EHS department are now trained in the use of these tools, and they are now applied to all new chemical applications. Using the EPA’s modelling tools helps us take a precautionary approach in chemical selection.

The Onium Consortium

Onium-containing photoacid generators (PAGs) are vital to the functionality of all photoresist products. In recent years, the EPA raised concerns about this class of chemicals and stopped permitting Low Volume Exemptions (LVEs) for new applications of these materials.

Along with a group of semiconductor chemical suppliers and customers, JSR Micro joined the Onium Consortium to collaborate closely with the EPA in defining a testing strategy for the environmental and health impacts of onium PAGs. We are conducting much more detailed environmental studies on a selection of five representative onium PAGs. Selecting just five representative onium PAGs will allow us to generate enough data to strengthen EPA’s predictive modeling for the entire chemical category while minimizing costs and resource utilization. Following the outcome of these tests, we will have the parameters to ensure that we develop materials that will be environmentally safe.

Performance

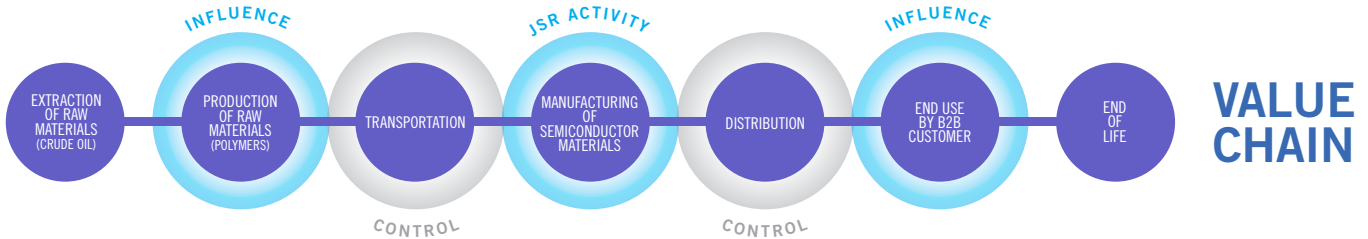
- There were \$0 fines for non-compliance with environmental laws and regulations in FY16 or FY17.
- During the reporting period, JSR Micro has not experienced a regulatory or non-regulatory health and safety compliance issue for any of our products.
- During the reporting period, there have not been any chemical label or SDS noncompliance violations.

“I am very excited about the Sustainable Futures program. This enables us to understand the toxicological properties before we submit an application, providing a lot more insight into the EPA’s considerations for approval or disapproval.
– Virginia



SUPPLY CHAIN MANAGEMENT

The transition of the semiconductor industry to ever-smaller technology nodes has increased the quality requirements of the materials we source. To be able to manufacture products with consistent performance, we are working closely with suppliers to control the quality, scale-up and availability of our products. As the raw materials need to be controlled for contaminations of fewer than one part per billion, the quality systems of our suppliers need to be as high-performing as our own.



VALUE CHAIN

Responsible Business Alliance

To manage the CSR impacts in our supply chain, we joined the Responsible Business Alliance (RBA, formerly Electronic Industry Citizenship Coalition) in 2012. The RBA code of conduct comprises a comprehensive range of CSR impacts, including ethics, labor conditions, human rights, conflict minerals, health and safety and environmental management. We incorporated these requirements in our new supplier evaluation, supplier contracts and audit protocols. All of JSR Micro's key suppliers have endorsed the RBA code of conduct. To assess compliance, in the 4th quarter of FY17 we sent out a CSR survey to key suppliers. The results will be published in the next CSR report.

CSR Audit Training

JSR Micro uses an elaborate audit protocol for its supplier audits. To be better prepared to assess the maturity of suppliers' CSR programs, JSR Micro's auditors participated in a training.

Supplier Diversity

As a Japanese-owned American company located in the heart of Silicon Valley, with sister companies in the EU and Japan, we have a workforce that represents our community. At JSR Micro, we greatly value the benefits of our diverse workforce. Whenever possible, we aim to stimulate the same diversity with our suppliers and vendors. To this end, we developed diversity-minded buying instructions for company purchases, and are looking for opportunities to engage with diverse suppliers.

Performance

- 100% of new suppliers screened on CSR criteria.
- All of JSR Micro's key suppliers have endorsed the RBA code of conduct.

“The training definitely helped me identify things to ask the auditee on environment, social, and governance items that I wasn't familiar with. Things like how sustainable the system is, executive management involvement, whistleblower policy, proactive risk minimization, etc.”
 – Joe

●●● ABOUT THIS REPORT

Report Information

Boundaries

The boundary for all aspects of CSR, except for environmental impact and supply chain management, is JSR Micro's organization. Reporting on environmental impact is confined to the Sunnyvale facilities. The supply chain falls outside of our boundaries, though we do try to influence CSR behavior through our supplier relations.

In 2018, we expanded our external laboratory and it is in full compliance. JSR Micro's EHS department visits the lab monthly for EHS inspections and has applied for all relevant permits. There is not yet any data available on the new lab's performance, hence it is excluded from the scope.

In FY2016, JSR Micro acquired a majority share of MBLI. Because we are still in the process of aligning and integrating this company within the broader JSR Group, the organization is excluded from the scope of this report. In the future, JSR intends to begin reporting on Life Sciences pursuits separately.

Assurance

JSR Micro did not pursue independent assurance for this report. However, all of the data published in this report is derived from our management systems, which are certified by independent third parties. In addition, various independent third parties, such as customers, the California Green Business Program, Bay Area Air Quality Management District and the City of Sunnyvale, routinely audit JSR Micro's site.

Changes in Reporting

During the reported period, 'Vitality' was introduced as an executive-level initiative. Many of our previous development activities now fall under the Vitality initiative, therefore we renamed the CSR priority topic from 'Employee Development and Engagement' to 'Employee Vitality and Engagement'.

GRI CONTENT INDEX

GENERAL DISCLOSURES				
GRI Standard	Disclosure #	Disclosure Description	Page Number and/or URL(S)	Direct Answer / Reason For Omission
GRI 102: General Disclosures 2016	102-1	Name of the Organization		JSR Micro, Inc.
	102-2	Activities, Brands, Products, and Services	Our Company, Page 2 Innovation, Page 5-6	www.jsrmicro.com
	102-3	Location of Headquarters		JSR Micro Inc.'s headquarters is located at: 1280 N. Mathilda Avenue Sunnyvale, California 94089, USA The headquarters of our corporate parent is located in Tokyo, Japan.
	102-4	Location of Operations		Ibid.
	102-5	Nature of Ownership and Legal Form		Privately held corporation
	102-6	Markets Served	Our Company, Page 2	Our activities span the North American region, serving clients in the semiconductor, pharmaceutical, clinical research and various markets in need of clean energy solutions.
	102-7	Scale of the Organization	Our Company, Page 2 Employee Engagement, Page 9	Partial disclosure. Reason for omission: Confidentiality restraints. Financial and production information is omitted because it is confidential. Our parent company JSR Corporation publishes an annual report that includes JSR Micro's performance. Refer to the Fine Chemicals and Other Product Business section of JSR Corporation's 2016 and 2017 Annual Report: http://www.jsr.co.jp/jsr_e/ir/annual_csr_re http://www.jsr.co.jp/jsr_e/ir/annual_csr_report.shtml
	102-8	Information on Employees and Other Workers	Employee Engagement, Page 9	Regular employees work under an indefinite employment status. JSR Micro has one female, part-time employee. A substantial portion of JSR Micro's work is not performed by workers who are legally recognized as self-employed or by individuals other than employees or supervised workers.
	102-9	Supply Chain	Supply Chain Management, Page 14	
	102-10	Significant Changes to the Organization and its Supply Chain		JSR Micro's external laboratory was expanded in 2018. A majority share in MBL International Corporation (MBLI) was acquired in April 2016.
	102-11	Precautionary Principle	Anticipating Compliance, Page 13	
	102-12	External Initiatives		ISO9001:2015 ISO14001:2015 OHSAS18001:2007 Responsible Business Alliance (RBA), formerly known as the Electronic Industry Citizenship Coalition (EICC). Through JSR Corporation, JSR Micro is a member of the UN Global Compact and partakes in the Responsible Care Program.

GRI CONTENT INDEX

GENERAL DISCLOSURES				
GRI Standard	Disclosure #	Disclosure Description	Page Number and/or URL(S)	Direct Answer / Reason For Omission
GRI 102: General Disclosures 2016	102-13	Membership of Associations		Semiconductor Equipment and Materials International (SEMI) International Microelectronics Assembly and Packaging (IMAPS) SPIE - the international society for optics and photonics Semiconductor Industry Association (SIA)
	102-14	Statement from Senior Decision-Maker	A Message From Our President, Page 1	
	102-16	Values, Principles, Standards, and Norms of Behavior	Corporate Social Responsibility and Ethics, Page 3	CSR Policy: https://www.jsrmicro.com/about-jsr/corporate-social-responsibility/csr-policy Corporate Code of Conduct: http://www.jsrmicro.com/index.php/About/CSR_Main/CofConduct/ For a detailed explanation, see our 2012 CSR Report page 15 and 2014 CSR Report page 19.
	102-18	Governance Structure	Governance Structure, Page 3 The Vitality Initiative, Page 9 Anticipating Compliance, Page 13	JSR Micro has an executive-level Compliance Committee and an executive-level Vitality Committee.
	102-40	List of Stakeholder Groups		Employees, customers, business partners, industry associations, government and regulatory agencies and the local community.
	102-41	Collective Bargaining Agreements		No portion (0%) of the workforce is covered by collective bargaining agreement.
	102-42	Identifying and Selecting Stakeholders		We engage proactively and continuously with stakeholders that critically influence our success: employees, customers, business partners, industry associations and government regulatory agencies. In addition, we are also responsive to the requests that we receive from stakeholder groups with which we have less frequent contact, such as neighbors, the local community and NGOs.
	102-43	Approach to Stakeholder Engagement	CSR Priority Topics, Page 3	For a detailed overview of approaches to stakeholder engagement, see our 2014 CSR Report, page 65. See link: https://www.jsrmicro.com/sites/default/files/attachments/jsr_micro_inc_2014_csr_report.pdf
	102-44	Key Topics and Concerns Raised		Concerns about the following topics have been raised by various stakeholders: Business continuity planning, supplier diversity, conflict minerals, future legislative requirements, green chemistry practices, alternatives assessments and environmental impacts of Onium-containing photoacid generators (PAGs).
	102-45	Entities Included in the Consolidated Financial Statements		JSR Micro Inc. MBL International Corporation (MBLI). MBLI is not covered by the report.
	102-46	Defining Report Content and Topic Boundaries	CSR Priority Topics, Page 3 Report Information, Page 15	The boundary for all aspects of CSR, except for environmental impact and supply chain management, is JSR Micro's organization. Reporting on environmental impact is confined to the Sunnyvale facilities. The supply chain falls outside of our boundaries though we do try to influence CSR behavior through our supplier relations. JSR's recent acquisition, MBL International Corporation (MBLI), is excluded from the scope of this report.
	102-47	List of Material Topics	CSR Priority Topics, Page 3	

GRI CONTENT INDEX

GENERAL DISCLOSURES				
GRI Standard	Disclosure #	Disclosure Description	Page Number and/or URL(S)	Direct Answer / Reason For Omission
GRI 102: General Disclosures 2016	102-48	Restatements of Information		There were no restatements of information.
	102-49	Changes in Reporting		During the reported period, 'Vitality' was introduced as an executive-level initiative. Many of our previous development activities now fall under the Vitality initiative, therefore we renamed the CSR Priority Topic from 'Employee Development and Engagement' to 'Employee Vitality and Engagement'.
	102-50	Reporting Period		FY2016-FY2017 April 1, 2016 - March 31, 2018
	102-51	Date of Most Recent Report		January 2017
	102-52	Reporting Cycle		Biennial
	102-53	Contact Point for Questions Regarding the Report		Phyllis Moracco Human Resources Director Phone: +1 (408) 543-8800 Fax: +1 (408) 543-8873 Email: sustainability@jsrmicro.com
	102-54	Claims of Reporting on Accordance with the GRI Standards	Table of Contents	
	102-55	GRI Content Index	GRI Content Index, Page 16-21	
	102-56	External Assurance		JSR Micro does not have a policy for external assurance, nor did JSR Micro seek external assurance for this report.
SPECIFIC DISCLOSURES				
Quality				
GRI 103: Management Approach 2016	103-1 103-2 103-3	Management Approach to Material Topic	CSR Priority Topics, Page 3 Management Approach, Page 3 Quality, Page 4	For 103-1 b. see response to disclosure 102-46.
Company-specific Indicator	Cost of Quality		Quality, Page 4	

GRI CONTENT INDEX

		SPECIFIC DISCLOSURES		
GRI Standard	Disclosure #	Disclosure Description	Page Number and/or URL(S)	Direct Answer / Reason For Omission
Innovation				
GRI 103: Management Approach 2016	103-1	Management Approach to Material Topic	CSR Priority Topics, Page 3 Management Approach, Page 3 Innovation, Page 5-6	For 103-1 b. see response to disclosure 102-46.
Company-specific Indicator	Indicator Omitted			Reason for omission: Confidentiality restraints. Our approach to staying innovative is confidential. Innovations we introduce to the market are indicative of our innovative capabilities.
Health and Safety				
GRI 103: Management Approach 2016	103-1 103-2 103-3	Management Approach to Material Topic	CSR Priority Topics, Page 3 Management Approach, Page 3 Health and Safety, Page 7	For 103-1 b. see response to disclosure 102-46.
GRI 403: Occupational Health and Safety 2016	403-1	Workers Representation in Formal Joint Management-Worker Health and Safety Committees	Health and Safety, Page 7	100% of the workforce is represented by our EHS committee. Minutes and presentations from the EHS committee meetings are shared on the intranet and are sent by email to all managers.
GRI 416: Customer Health and Safety 2016	416-1	Assessment of the Health and Safety Impacts of Product and Service Categories	Health and Safety, Page 7	100% of chemicals sold by JSR are assessed for health, safety and environmental impacts.
GRI 417: Marketing and Labeling 2016	417-1	Requirements for Product and Service Information and Labeling	Health and Safety, Page 7	Safety data sheets (SDS) and labels are developed for all R&D samples and commercial products shipped to customers, including information for safe use and disposal. Safety data sheets and labels are in compliance with the Globally Harmonized System (GHS) and contain information on safe use and disposal.
Economic Performance				
GRI 103: Management Approach 2016	103-1 103-2 103-3	Management Approach to Material Topic	CSR Priority Topics, Page 3 Management Approach, Page 3 A Message From Our President, Page 1	For 103-1 b. see response to disclosure 102-46.
Company-specific Indicator	Indicator Omitted			Reason for omission: Confidentiality restraints. Financial information is omitted because it is confidential; it is reported to internal stakeholders. As a private company and a wholly owned subsidiary of JSR Corporation, JSR Micro does not publish financial data or financial statements. However, our parent company's annual reports include JSR Micro's performance. Refer to the Fine Chemicals and Other Product Business section of JSR Corporation's 2016 and 2017 Annual Report: http://www.jsr.co.jp/jsr_e/ir/annual_csr_report_2016.shtml http://www.jsr.co.jp/jsr_e/ir/annual_csr_report.shtml

GRI CONTENT INDEX

SPECIFIC DISCLOSURES				
GRI Standard	Disclosure #	Disclosure Description	Page Number and/or URL(S)	Direct Answer / Reason For Omission
BCP and Risk				
GRI 103: Management Approach 2016	103-1 103-2 103-3	Management Approach to Material Topic	CSR Priority Topics, Page 3 Business Continuity Planning and Risk Management, Page 8	For 103-1 b. see response to disclosure 102-46.
Company-specific Indicator	Annual Risk Review		Business Continuity Planning and Risk Management, Page 8	
Employee Vitality and Engagement				
GRI 103: Management Approach 2016	103-1 103-2 103-3	Management Approach to Material Topic	CSR Priority Topics, Page 3 Management Approach, Page 3 Employee Vitality and Engagement, Page 9-10	For 103-1 b. see response to disclosure 102-46.
GRI 401: Employment 2016	401-1	New Hires and Turnover	Employee Vitality and Engagement, Page 9-10	Due to the small size of JSR Micro's workforce, segmentation of employee turnover data by age, gender and region is not calculated.
GRI 404: Training and Education 2016	404-3	Performance and Career Development Reviews	Employee Development, Page 9	100% of our employees have personal development plans that are reviewed annually.
Environment				
GRI 103: Management Approach 2016	103-1 103-2 103-3	Management Approach to Material Topic	CSR Priority Topics, Page 3 Management Approach, Page 3	For 103-1 b. see response to disclosure 102-46.
Waste				
GRI 306: Effluents and Waste	306-2	Waste by Type and Disposal Method	Waste Awareness, Page 12	Waste disposal methods provided by waste contractors FRG Waste Resources and Clean Harbors.
	306-3	Significant Spills		JSR Micro has never had a hazardous substance spill that was significant enough to threaten human health, land or water bodies.
Energy				
GRI 302: Energy	302-1	Energy Consumption Within the Organization	Environmental Footprint, Page 11	Data Source: PG&E energy bills. 33% and 33% of PG&E's energy mix in 2016 and 2017 respectively consisted of renewable energy sources. In June of 2017, JSR Micro joined Silicon Valley Clean Energy, buying electricity that is 50% renewable and 50% from hydroelectric sources.



GRI CONTENT INDEX

SPECIFIC DISCLOSURES				
GRI Standard	Disclosure #	Disclosure Description	Page Number and/or URL(S)	Direct Answer / Reason For Omission
Emissions				
GRI 305: Emissions	305-1	Direct (Scope 1) GHG Emissions	Energy and Greenhouse Gas Emissions, Page 11	Data Source: Conversion factors provided by PG&E. Only CO ₂ gases were included in the calculation and no offsets were used to meet targets. Emissions from company vehicles are excluded from this calculation.
	305-2	Energy Indirect (Scope 2) GHG Emissions	Energy and Greenhouse Gas Emissions, Page 11	Ibid.
	305-4	GHG Emissions Intensity	Energy and Greenhouse Gas Emissions, Page 11	The GHG emissions intensity includes Scope 1 and Scope 2 emissions. Only CO ₂ gases were included in the calculation.
Water				
GRI 303: Water	303-1	Water Withdrawal by Source	Water, Page 12	Data Source: Municipal water bills.
Compliance				
GRI 103: Management Approach 2016	103-1 103-2 103-3	Management Approach to Material Topic	CSR Priority Topics, Page 3 Management Approach, Page 3 Anticipating Compliance, Page 13	For 103-1 b. see response to disclosure 102-46.
GRI 307: Environmental Compliance	307-1	Non-Compliance With Environmental Laws and Regulations	Anticipating Compliance, Page 13	There were \$0 fines in FY16 or FY17.
GRI 416: Customer Health and Safety	416-2	Incidents of Non-Compliance Concerning the Health and Safety Impacts of Products and Services	Anticipating Compliance, Page 13	During the reporting period, JSR Micro has not experienced a regulatory or non-regulatory health and safety compliance issue for any of our products.
GRI 417: Marketing and Labeling	417-2	Requirements for Product and Service Information and Labeling	Anticipating Compliance, Page 13	During the reporting period, there have not been any chemical label or SDS noncompliance violations.
Supply Chain Management				
GRI 103: Management Approach 2016	103-1 103-2 103-3	Management Approach to Material Topic	CSR Priority Topics, Page 3 Management Approach, Page 3 Supply Chain Management, Page 14	For 103-1 b. see response to disclosure 102-46.
GRI 414: Supplier Social Assessment	414-1	New Suppliers That Were Screened Using Social Criteria	Supply Chain Management, Page 14	100% of new suppliers were screened on CSR criteria, including Human Rights. 0% of supplier audits during the reporting period included CSR aspects. 103-1 c: The Supply Chain falls outside of our company boundaries though we do try to influence CSR behavior through our supplier relations.



NORTH AMERICA

JSR Micro, Inc.
1280 North Mathilda Avenue
Sunnyvale, CA 94089, USA
PHONE 1-408-543-8800
sustainability@jsrmicro.com

jsrmicro.com

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