

**RE**duce.  
use.  
cycle.  
peat.



### As part of the Resource Circulation System,

we provide eco-friendly  
renewable PP solutions to reduce  
carbon emissions and achieve  
sustainable growth.

PolyMirae's circular PP provides  
optimal physical properties made  
by mixing PCR (Post consumer  
Recycled) and PIR (Post Industrial  
Recycled) PP with PolyMirae's  
Advanced virgin PP

# Poly Village

2022 Autumn | Vol.49



# Metocene HM840N for EV car interior trim

PolyMirae's innovative solution for premium electric vehicles with high stiffness and high transparency PP!



## Metocene HM840N

Metocene HM840N has very low oligomer content, volatile organic compounds, and very narrow molecular weight distribution for interior parts of electric vehicles as well as the benefit of high stiffness, high gloss, and good transparency.

## CONTENTS

Poly Village

Vol.49 | 2022 Autumn



### PolyMirae Magazine

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10, Gukjegeumyung-ro, Yeongdeungpo-gu, Seoul, Korea

TEL +82-2-2167-8914

### With Poly PEOPLE & ISSUE

- 04 **Letter from CEO**  
Dear PolyMirae Business Partners, staff, and executives
- 06 **Let us brag a little!**  
Meet the finance team of PolyMirae, who speaks everything with numbers, the management language.  
finance team
- 10 **FOCUS**  
BH Kim, President & CEO, received a commendation from the Prime Minister at the 2022 Industrial Complex Day
- 12 **PolyMirae Briefing**  
Mechanical Recycling, the driving force to PolyMirae's ESG Management!
- 16 **News briefing + PolyMirae**



## Dear PolyMirae Business Partners, staff, and executives



By publishing the Fall 2022 issue of Poly Village, I am expressing my sincere gratitude to all of you for your active support and assistance. Additionally, I would like to share a very challenging situation we are currently facing.

PolyMirae has experienced unprecedented difficulties since 2020 because of COVID-19. We have wisely overcome many of these difficulties and continue to grow. Having achieved this, I extend my deepest gratitude to our shareholders, affiliates, clients, local communities, and employees who have put forth their best efforts in fulfilling their responsibilities.

However, on this road to the long-awaited endemic era, we expect that uncertainty will increase and the business environment will deteriorate as we face a complex global economic crisis. After the COVID crisis, the US aggressively raised interest rates to soothe inflation caused by massive liquidity. Also, the global supply chain disruptions due to the Russian-Ukraine war and China's COVID lockdown further accelerate the possibility of a worldwide economic crisis. Concerns are growing that a perfect storm of high exchange rates, high inflation, and low growth will obscure the Korean economy.

The petrochemical industry is also forecast to experience an unprecedentedly challenging environment for a considerable period due to the highly uncertain economic environment, the decrease in demand from the economic downturn, and the problem of oversupply driven by large-scale global expansion. Even amidst these uncertainties, PolyMirae shall move forward more vigorously by flexibly responding to changes without fear of external environmental difficulties and new challenges by focusing on what we do best with certainty. We will achieve superior performance beyond expectations through more aggressive product differentiation and market diversification in the safety/environment/health segments, which we consider our top priority, and sales/finance aspects.

As a result of all the executive and employee efforts of PolyMirae, we will successfully overcome this problematic situation. Furthermore, I promise to faithfully fulfill my role as a leader in resolving the issues we face. Finally, I wish you and your family continued success and happiness, and I appreciate your continued support for PolyMirae.

Yours sincerely,

November 2022

BH Kim President & CEO

# Leader's Message



## Meet the finance team of PolyMirae, who speaks everything with numbers, the management language.

The traditional roles of the finance team have been financial accounting, taxation, debt management, budget management, and fund management, such as securing liquidity. On the other hand, currently, it plays strategic roles such as management accounting that can provide valuable information to internal and external stakeholders, participation in new business setups, corporate risk management, and system evolution to enhance efficiency. While not to mention, traditional tasks are still important, the team's primary focus is changing thanks to developments in the system. In the past, the finance team was a "bean counter" obsessed with small things. In contrast, the finance team now aims to become a value integrator who supports the company's decision-making through meaningful communication with members backed by financial knowledge and business understanding.



? Please introduce members of the finance team.

- **MY Jang, Team Leader :**  
Financial operation management and enterprise risk management
- **SH Ku :** Financial statements, auditing, and reporting preparation
- **GY Kim :** Payment and fixed asset management
- **SJ Lim :** Funds and insurance management
- **MJ Lim :** Corporate tax and settlement of accounts
- **HJ Chae :** Receivables management

? Please tell us about what the finance team does.

1. Preparation of financial statements, auditing, and performance reports

Financial statements provide accurate and valuable details to information users (shareholders, employees, and other stakeholders) and assist information users in making rational decisions. Following general corporate accounting standards, the finance department collects and processes all transaction details of the company. Having been through an annual audit, the team checks the adequacy of business processes, control systems, accounting treatment, and financial statements. Moreover, the team reports the expected performance and results of each division per specific period to users quickly and accurately.

2. Payments, expenses, and fixed asset management

On a regular basis, the finance team reviews various purchase slips and field evidence and processes payments. Additionally, this team is responsible for registering, accounting, and disposing of the company's fixed assets acquired after completing the monthly CAPEX projects. Additionally, the team is responsible for establishing and managing the company's annual expense (OPEX) plans. Due to the nature of the job, it is often necessary to communicate closely with the fields to complete on time, which may often annoy other teams. However, I would like to take this opportunity to thank the staff of other groups who always cooperate with us without any complaints.

3. Fund and insurance management

Fund management deals primarily with external financial institutions as small financial institutions within the company. In addition to managing deposits and withdrawals, the team raises funds from the bank as needed to maintain a stable cash flow. The team aims to minimize the risks of exchange rate fluctuation from foreign transactions through forward transactions with banks. In addition, the team manages insurance related to corporate management, such as package insurance, commercial general liability(CGL), cargo insurance, and account receivables credit insurance. When there are problems, such as customer claims, we contact relevant insurance companies to resolve those issues.

4. Tax risk minimization

Throughout our businesses, we review various tax-related issues and file and pay taxes according to applicable laws and regulations. In addition to performing duties such as value-added tax, corporation tax, withholding tax, local tax, and international tax, we occasionally respond to national audits such as tax investigations. The preparation of numerous forms for each tax item is complex and diverse, and penalties may be imposed if a violation of the tax payment due or if an incorrect amount of tax is paid. In addition, it is a task that requires constant attention to revisions of the laws and regulations every year. As a result, the finance team works to minimize the tax burden on the company while ensuring that the company fulfills its obligations as a conscientious taxpayer.

5. Receivables management

We monitor the company's business activities and maintain continuous communication with the sales department to collect receivables within the stipulated time frame. If there is a high possibility of non-performing loans(NPL), we take actions to prevent financial damage through pre- or ex-post-preservative measures. In addition, we grant appropriate credit ratings to our counterparts by evaluating collaterals such as payment guarantees and real estate.

? Please tell us about the significant issues the finance team is interested in these days.

1. Process and system establishment according to business diversification

Recently, PolyMirae's business environment has been rapidly evolving. Starting with the resale business of polypropylene produced by Ulsan PP, PolyMirae does its best to prepare for a growth momentum through the Circular PP business, in line with ESG management, which has become a global issue lately. The finance team reviews every detail, from signing new business-related contracts to raw material procurement, the production process, inventory management, and final sales and collection. In addition, the team reviews appropriate accounting treatments, tax issues, and reporting methods. Finally, it proposes and supports the overall system construction method so the business can proceed smoothly in the field.

2. Establishment of a 'Paperless Office'

Today, many government offices and businesses adopt a paperless work environment. Electronic documents and signatures are replacing direct print-outs of documents for approvals. Since non-face-to-face work has increased in our company since the COVID crisis, paperless technology has become increasingly attractive as it enables efficient business processing and information/ environmental protection. The finance team is also conducting preliminary research to introduce Paperless Office. The team will prepare thoroughly to create an optimized system for various work environments. We anticipate your cooperation.





## 2022 Industrial Complex Day Commemoration Award Prime Minister's Commendation



## BH Kim, President & CEO, received a commendation from the Prime Minister at the 2022 Industrial Complex Day



CEO BH Kim received the Prime Minister's Commendation for his contribution to local industry promotion and balanced regional development through corporate management at the 2022 Industrial Complex Day ceremony held at the G-Tower Convention in Seoul on September 22, 2022.

In the future, PolyMirae will continue to strive for the development of the local community by fulfilling its social responsibilities along with ceaseless efforts in the safety, environment, and health segments.

# Mechanical Recycling, the driving force to PolyMirae's ESG Management!

To meet the global policy change to reduce plastic use and the social trend of strengthening ESG management, PolyMirae organized a Sustainability Team last year to enter the plastic recycling market. Plastic recycling technology is divided mainly into chemical recycling and mechanical recycling, and the Sustainability Team is currently focusing on Mechanical Recycling, which collects and recycles plastic waste into reusable plastics. In this issue, we will look at the mechanical recycling process and introduce how PolyMirae's eco-friendly PP is made and what the Sustainability Team does for this.

SH Jung, Sustainability Team



## Development of optical separation technology and suppliers of recycled PP from household wastes

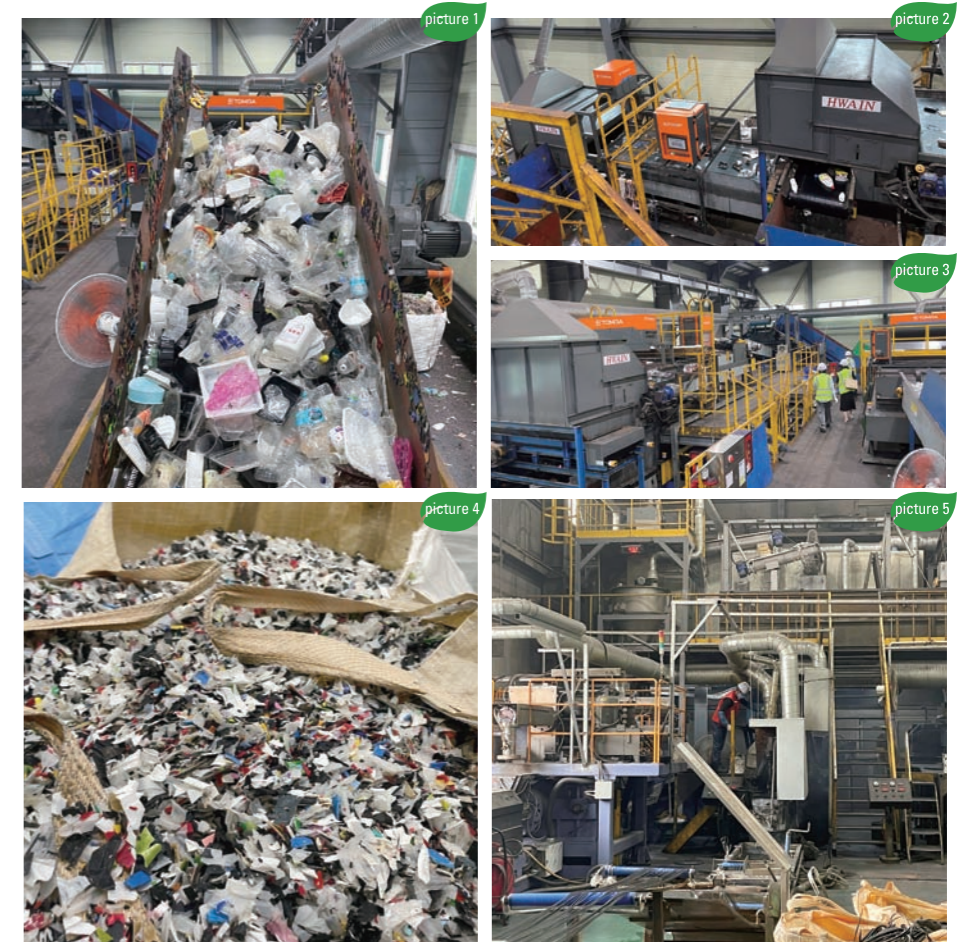
1

Plastic wastes we separate and dispose of are collected at the collection point. However, this waste contains various types of plastics, so it is necessary to sort them out by type of plastic. A few months ago, the Sustainability Team had the opportunity to visit a plastic waste sorting company and see how PP is classified in the waste.

Plastic waste moves through a conveyor belt, as shown in <Picture 1>. In the past, these wastes were manually sorted by people, and this method required considerable labor costs yet resulted in low productivity, low accuracy, and consequently, poor quality of recycled plastics.

Recently, however, optical technology has been used to classify wastes. As the wastes move along the giant conveyor belt, the optical sorter in <Picture 2> and <Picture 3> analyzes the plastic type of the waste at a very high speed and collects it according to the class. This has dramatically improved productivity and made it possible to manage a uniform type of plastic, substantially improving the product's quality.

Various plastics such as PP, PE, PS, and PET are collected by type through the sorting process. Then, these classified plastics go through a pulverization process and are made into pulverized products, as shown in <Picture 4>. However, for these powdered products to be used as recycled plastic, they must be made into pellets. <Picture 5> shows the process of making pellets by melting the pulverized product and cutting out long strands. Through this process, the quality of the crushed product is made more uniform, and it is made into pellets that can be used for injection and compounding.





### Renewable PP use and product development, outsourced processing production management

3

Using recycled PP products for low-value applications is only feasible due to poor physical properties. In order to compensate for the weaknesses of recycled PP, it is necessary to combine it with virgin PP products that will improve the properties of recycled PP. PolyMirae offers a wide range of high-quality PP products that can significantly improve the properties of recycled PP. Therefore, the Sustainability Team pioneers new uses for eco-friendly PP and develops a combination of recycled PP and virgin PP suitable for such purposes.

<Picture 8> and <Picture 9> indicate a combination developed by the Sustainability Team, showing that recycled PP and virgin PP are mixed to produce renewable PP products. Renewable PP products are not directly manufactured at the Polymirae plant but are outsourced. Since PolyMirae has not previously outsourced the processing, the Sustainability Team is also in charge of outsourcing processing management, such as raw material procurement, production schedule, inventory management, and product delivery. In addition, the company strives to maintain the quality of products and supply them promptly according to customer requests through accurate work. PolyMirae has developed and commercialized renewable PP products for cosmetic containers, household items, and industrial toolboxes through this process. Also, the company is constantly exploring new markets and uses.



PolyMirae has established an investment plan for the recycling business with a mid to long-term goal by 2030. Accordingly, as a PP-specialized company, PolyMirae will maintain sustainable growth and strive to contribute to humanity and society by establishing a circular economy and carbon neutrality. In line with this, the Sustainability Team will do its best to achieve the company's objectives.

### Development of recycled PP suppliers using industrial waste

2

There are industrial plastic wastes, aside from household ones. Simply put, these are like wastes from PolyMirae's customer companies, which have manufactured products using the PP produced by PolyMirae. No separate classification process is required since most industrial wastes are already made using the same type of plastics. Companies with recycled plastics collect these wastes, as shown in <Picture 6>, and make pellets through the same process as <Picture 7>.

While the PP recycled from household wastes is cheap, there is a considerable variation in physical properties with poor physical properties. In addition, several colors are mixed; thus, final products end up with only gray or black colors. Industrial waste recycling PP has a relatively small variation in physical properties with bright colors. However, the physical properties vary depending on the type of waste, and the price is high.

The Sustainability Team uses various recycled PPs to properly understand the characteristics of recycled PP to develop materials suitable for the final eco-friendly PP product. Also, the team is accumulating multiple data in this regard. Furthermore, we establish a robust supply chain to ensure a stable supply of recycled PP and secure economic feasibility at a reasonable price.





# News briefing + PolyMirae

2022 Autumn

## PolyMirae's 22nd Foundation Anniversary

PolyMirae held a ceremony to commemorate its 22nd Anniversary on September 1 at its Seoul headquarter and Yeosu plant. At the commemoration event, CEO BH Kim presented the plaques in gratitude for employees' comprehensive services and passed along a request to all employees to respond to changes as one team and strive to achieve better goals in the rapidly changing business environment. In addition, all executives and staff members celebrated the 22nd Anniversary of the founding together. They expressed their sincere applause and gratitude to the employees who worked at PolyMirae for a long time.

John Lee, HR&ER



## Achievement of GOAL ZERO MILESTONE (4,000,000 SAFE WORK HOURS)

It is a significant achievement that takes hard work in the Korean industrial field. PolyMirae achieved a 10-year zero accident record on April 4 and a four million safe work hours record on May 26. Also, it results from our efforts to create a safe working environment under the management philosophy that safety is our top priority. Specifically, since the Serious Accident Punishment Act was passed, the company has taken steps to reduce potential risks in all areas, including safety, the environment, and health. To promote a safety culture, the company conducts monthly unexpected fatal accident prevention activities and CEO safety training for all employees in plants while identifying and improving harmful risk factors in the workplace through weekly safety talks. PolyMirae will continue to put safety as its top priority and do its best to keep up with an accident-free record.

TH Jung, HSE



## 2022 Global Safety Day

PolyMirae held a Global Safety Day on June 4 under the slogan "DRIVE IT HOME." It consisted of company-wide crisis response training, firefighting equipment training and field practice, and gas mask training for evacuation. All PolyMirae employees and affiliated staff participated. In addition, there were excellent employee and business partner rewards through the "Hazard Detection and Improvement Plan" contest for employees and evaluation of outstanding safety management partners. In particular, this year's Global Safety Day consisted of substantial field practice programs and was an opportunity to instill a more efficient and practical safety management culture.

In a crisis, prompt and accurate media response is essential for prevention and rapid business recovery. To secure the expertise of such media response activities, on May 31, we invited media response experts to educate and train key personnel involved in PolyMirae. This education/training was conducted based on recent real cases, which immensely helped improve the ability to respond to the media.

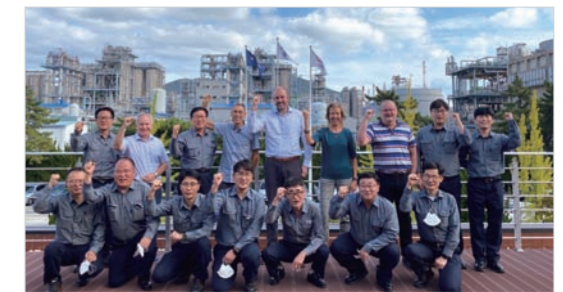
C Park, HSE



## LyondellBasell Operational Excellence (OE) Audit

LyondelBase's regular OE audit was conducted from September 14 to 21 at PolyMirae's Yeosu plant. Involving five experts from each field of LyondellBasell, they were carried out mainly on the Inspection of Management System(MS) and Field Verification(FV). OE Audit is held every four years and has allowed PolyMirae to share superior knowledge and experience from LYB in safety management. PolyMirae will continue to strive to become a leading safety company based on its top priority value, 'Safety First.'

JY Lim, HSE



# News briefing + PolyMirae

2022 Autumn

## CEO's special lecture and recruitment seminar for Hanyeong University students

PolyMirae held the CEO's special lecture and recruitment presentation on April 27 for Hanyeong University students. In this lecture, the CEO introduced the company and gave a speech on the latest trends and prospects of the petrochemical industry for students majoring in the petrochemical process. In addition, at the recruitment seminar session, the company gave detailed presentations related to the recruitment process of PolyMirae for students.



JG Lee, HR&ER

## Yeosu Fire Department Joint Fire Drill

On May 17, the Yeosu Fire Department and the four tenants (HYNCC, DLC, PMC, and HSC) conducted a joint fire drill at the Yecheon Plant. This training was an emergency joint fire drill organized by the Yecheon Plant. It was conducted by checking the support dispatch for each plant, the ability to use firefighting facilities, and fire extinguishing and overall facilities. The training ended safely with a comment from the head of the prevention and safety department of the Yeosu Fire Department that the joint fire drill was completed successfully.



KB Park, HSE

## Awarded as the best safety management company in Yeosu

On March 29, PolyMirae was selected as the best company in the 2021 safety management evaluation hosted by the city of Yeosu and received a commendation from the mayor of Yeosu. In addition, PolyMirae became the first company as the best safety management company for six consecutive years since 2015 in Yeosu. Thanks to all the employees working ceaselessly as one team, PolyMirae achieved a meaningful result to create a safe and clean workplace and community. PolyMirae will continue to strive to create a safer and cleaner workplace towards the 'Goal ZERO.'

SH Jung, HSE

## Process Risk Assessment and Job Risk Assessment of Production Team 1

Workers participated in risk assessment at PolyMirae starting in April. For Production Team 1, PolyMirae developed an internal HAZOP (Hazard and Operation Study) program. Consequently, it reflected not only the existing change management matters but also the accident cases of other companies. In addition to conducting process risk assessments using the HAZOP method every four years, PolyMirae has introduced the K-PSR(KOSHA Process safety review). In addition, the company regularly conducts work risk assessments every year for non-routine risk assessments, emergencies, and potential risk situations, as well as HRA(Health Risk Analysis) with production, logistics management, public affairs, and HR&ER Team.



TS Kim, HSE

## Received a commendation as an excellent donor

PolyMirae received a commendation as an excellent donor for the 2022 Hope Ondol Warm Winter by Community Chest of Korea. PolyMirae, since its establishment, has consistently donated to neighbors in need in the local community every year. PolyMirae will continue performing various social contribution activities to fulfill its social responsibilities.

JG Lee, HR&ER



## Hanyeong University students visit Yeosu Plant

PolyMirae invited 105 students majoring in Petrochemical Engineering at Hanyeong University to the Yeosu Plant to introduce PolyMirae and explain the basics of the PP (Polypropylene) process in May. This Plant tour offered students an opportunity to experience petrochemical production sites. As part of the industry-academic cooperation activities, PolyMirae plans to continue such activities to provide students opportunities to visit the field directly and enhance PolyMirae's company awareness.

SH Hwang, HR&ER

# News briefing + PolyMirae

2022 Autumn

## Meeting for wage negotiation and collective agreement renewal

PolyMirae conducted a meeting to negotiate wages and renew collective agreements for 2022 at its headquarters in Seoul on July 29.

CEO BH Kim, union leader WH Jeong, the labor union executives, and the HR&ER Team participated in this meeting. This meeting was a meaningful time to reaffirm the trust for further wage negotiation and collective agreement renewal between labor and management by consolidating mutual respect.

SH Hwang, HR&amp;ER

## Basell Asia Pacific (BAP) Marketing Conference

PolyMirae held a marketing conference with BAP in Singapore on July 7.

It is a quarterly meeting with Basel Asia Pacific, a purchasing channel responsible for exporting PolyMirae products to China and Southeast Asia. In this meeting, relevant departments such as sales, marketing, and technology gathered to discuss current issues on exports and the market and exchanged information for promoting developed products. Also, participants in the meeting expressed plans to expand the market for high-end products as flagship items and increase exports by country. In addition, they discussed product development and effective product promotion in line with market changes. Unlike the previous online conferences during the Covid-19 lockdown, this conference was conducted face-to-face, allowing the exchange of more in-depth and specific topics. PolyMirae and BAP will continue to hold marketing conferences to respond quickly to the rapidly changing market conditions.



SY Shim, Market Development

## Conducted Process Safety Management (PSM) to cope with the Serious Accident Punishment Act

PolyMirae conducted the safety examination from May 23 to 31 through Korean Risk Management Solutions, a specialized agency certified by the Ministry of Labor. The purpose of it was to cope with the Serious Accident Punishment Act and to replace the inspection of the implementation of the PSM. A total of six special examiners checked PolyMirae's safety facility inspections and system management, including policies and regulations. As a result of the examination, PolyMirae could confirm its excellent safety management status without any non-conformities. It is the fruition of management's efforts to comply with the high safety standards of the Serious Accident Punishment Act and employees' constant efforts to maintain a perfect working environment.

JH Jung, HSE

## Technical training for engineers to improve job competency

PolyMirae has conducted technical training for 14 junior engineers since last April. To improve technical competency and cooperative ability, six engineers from the ADTSI, Market Development, and Domestic Sales teams and eight from the Process and Production teams attended the seminar, received training, and made presentations. This training aims to develop technical expertise in polypropylene, understand the Spheripol process/asset, and provide opportunities for collaboration between the head office and factory engineers. There are seminars on catalyst systems, structure-property relationships, chemical-physical properties, additives, processes, applications, and RAPS (product responsibility management and regulatory affairs) by internal experts; if necessary, external experts will be invited to complete the seminar.

PolyMirae anticipates that engineers with improved competency will significantly contribute to PolyMirae in 2023.

SY Park, ADTSI