

**GC MARKETING SOLUTIONS COMPANY LIMITED**  
555/1 Energy Complex Building A, 9th Fl, Vibhavadi Rangsit Road,  
Chatuchak, Bangkok 10900 THAILAND

+66 (0) 2-140-4488  
+66 (0) 2-140-4333

**GC MARKETING SOLUTIONS COMPANY LIMITED**  
(SHANGHAI REPRESENTATIVE OFFICE)  
Shanghai, China  
Room no. 13-012, 13th floor, HangSeng Bank Tower 1000  
Lujiazui Ring Road, Pudong New Area, Shanghai 200120 China

+86-21-2025-2811  
+86-21-2025-2808

**GC MARKETING SOLUTIONS MYANMAR**  
**COMPANY LIMITED**  
192 Kaba Aye Pagoda Road  
Unit 05, 14th Floor, Tower 1, Myanmar Centre Tower  
Bahan Township, Yangon, Myanmar

+ 95 19345411-2

**GCM POLYMER TRADING DMCC**  
Dubai, United Arab Emirate  
Unit 406, Indigo Tower, Plot No. JLT-PH1-D1A,  
Jumeirah Lakes Towers, Dubai, U.A.E.

+971-4-423-0774  
+971-4-423-0773

**GC MARKETING SOLUTIONS VIETNAM COMPANY LIMITED**  
Ho Chi Minh City, Vietnam Unit 5.02, 5.03 and 5.04, 5th Floor, Deutsches  
Haus Ho Chi Minh-Stadt, No. 33 Le Duan Street, Ben Nghe Ward, District 1,  
Ho Chi Minh City, Vietnam

+8428 38 233611  
+84-28-3823-3722

**GC MARKETING SOLUTIONS COMPANY LIMITED**  
(GUANGZHOU REPRESENTATIVE OFFICE)  
Guangzhou, China  
China Shine Office Building Unit 3803, Building A, No.9 Linhexi Road,  
Tianhe District, Guangzhou 510620 China

+86-20-8558-9250  
+86-20-8558-9240

**PT GCM MARKETING SOLUTIONS INDONESIA**  
Gold Coast Office, Eiffel Tower Lt. 3 Unit A&T, Jl. Pantai  
Indah Boulevard, Pantai Indah Kapuk, RT 6/RW 2,  
Jakarta Utara 14470 Indonesia



**SOLUTION CREATION COMPANY LIMITED**  
HEAD OFFICE  
555/1 Energy Complex Building A, 15th Floor, Vibhavadi-Rangsit Road,  
Chatuchak, Chatuchak, Bangkok 10900 Thailand  
+66 (0) 2-140-8864



www.gcmgrp-techinfo.com



# Pipe Application Solutions

Updated as of June 2021



# Company Introduction



## PTT Global Chemical Public Company Limited



PTT Global Chemical Public Company Limited, or GC, Thailand's largest integrated petrochemical and refining business and a leading corporation in the Asia-Pacific region, both in size and product variety. GC has a combined olefins and aromatics capacity of 11.28 million tons/year. We committed to creating chemical innovations for a better future. We strongly support technological advances that meet today's lifestyles through products that span several sectors including automobiles, construction, medical products, electric and electronic equipment, agricultural products, environmentally friendly, and safe consumer products that benefit society and improve consumer satisfaction.

[www.pttgcgroup.com](http://www.pttgcgroup.com)

## GC Marketing Solutions Company Limited



GC Marketing Solutions Company Limited, or GCM, a subsidiary of PTT Global Chemical Company Limited (GC). GCM is a major polymer sales and marketing company in Thailand. We offer variety of high-quality polymers such as high density polyethylene (HDPE), low density polyethylene (LDPE), linear low density polyethylene (LLDPE), polypropylene (PP), polystyrene (PS) and polyethylene terephthalate (PET). Our products are distributed throughout Thailand as well as being exported to more than 100 countries around the world with the product and services qualities are well accepted by our customers internationally.

[www.gcmgrp.com](http://www.gcmgrp.com)

## Solution Creation Company Limited



Solution Creation Company Limited, or SUN, a subsidiary of PTT Global Chemical Public Company Limited (GC), is a distributor of polymer compound which are high density polyethylene (HDPE), linear low density polyethylene (LLDPE), polypropylene (PP) and polystyrene (PS) compound including bioplastics and bioplastics compound.

## GC Logistics Solutions Company Limited



GC Logistics Solutions Company Limited, or GCL, a subsidiary of PTT Global Chemical Public Company Limited (GC). GCL is full logistics service for chemical business and other products. The services is including silo, bagging & packing, warehouse management, transportation, freight forwarding, and customs clearance etc. We are committed to strengthen our client's competitive advantage though high quality services, advanced technology and competitive cost.

[www.gc-logistic.com](http://www.gc-logistic.com)



# Product Introduction

## Business Trends

High-density polyethylene pipe (HDPE) is a polyethylene thermoplastic made from petroleum. It is used in the production of corrosion-resistant and durable piping. HDPE pipes are the most appropriate replacement to concrete, cast iron and pipes and are one of the most premier mediums of conveying and transporting potable water, gases, chemicals, industrial fluids, wastewater, etc. HDPE pipes are exceptionally easy to carry which saves transportation costs and helps keep the handling costs at a lower level. In addition, these pipes are available in a wide range of diameters ranging from 16 to 2,000 mm. HDPE pipes are essentially non-corrosive which make them suitable for water and chemical transportation.

## Value Chain



### Converter

#### Benefit to Converter (Production Perspective) :

- Our material is compound grade, quick set-up procedure and less scrap
- Well controlled in quality which provide higher output rate and lower cost
- Improved logistics with lower stock holding (one material for all pipe size)



### Installer

#### Benefit to Installer (Installer Perspective) :

- Less risk of pipe rejection, less risk of project delays
- Higher crack resistance support trenchless technic, less sandbed lead to reduce installation time and impact to environment



### Facility Owner

#### Benefit to Facility Owner (Facility Owner Perspective) :

- Lower risk of failures
- Lower overall cost
- Longer life span > 50 years



### Consumer

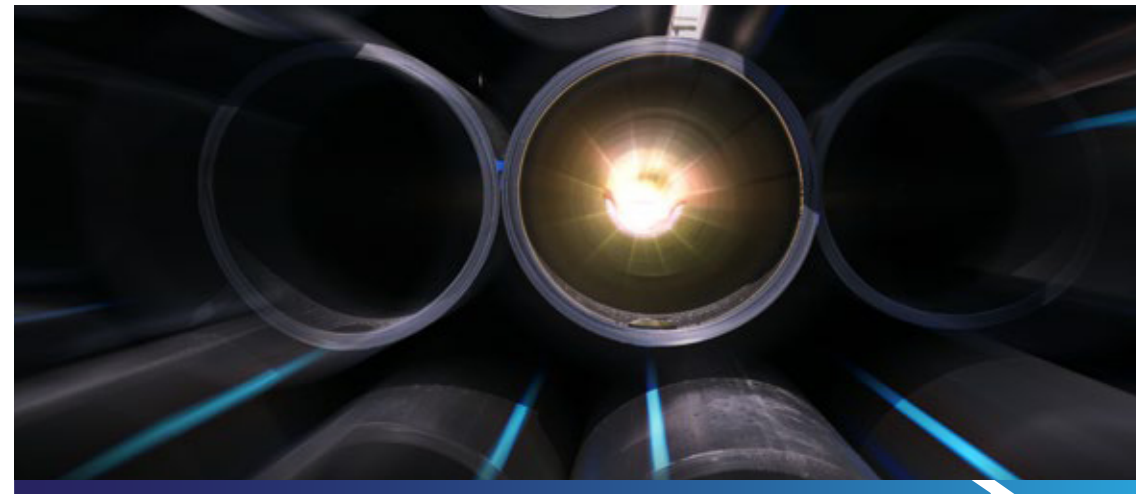
#### Benefit to Consumer (User Experience Perspective) :

- Safety (durable, reliability, leak free)
- Health safety
- Environment friendly

# Solutions

## Product Quality

Because the quality and thermal stability are major required for pipe product, we are strongly committed to producing InnoPlus and Plastmate resin a safe, functional and legal product by obtaining globally recognized certification.



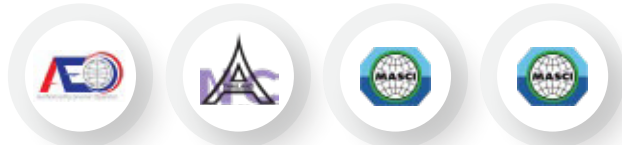
**InnoPlus**  **PlastMate**

InnoPlus natural PE pipe is manufactured under International ISO 9001 / ISO14001 / OHSAS 18001 standard and strictly control for Good Manufacturing Practices (GMP) and Hazard Analysis and Critical Control Point (HACCP) standard. They also meet with international standard regulations in contact with food application such as U.S FDA 21 CFR 177.1520 and EC1935/2004, EU10/2011 and its amendments. Additionally, they comply with HALAL for Muslim country and GB 9685-16 for China, Including with local standard which are TIS816-2538 and TIS2559-2554 respectively.

## Service Quality

We are also strongly committed to handle and deliver pipe resin. We storage the resin in International Distribution Center (IDC) is one of the largest in the Southeast Asian region. It is over 140,000 sq.m. in size and has a capacity to handle the production and delivery of over 1 million tons of polymer per year with most advanced technology under top quality management.

We provide fully logistics with highly effective integrated Transportation Management System (TMS) spanning across transportation network design, routes selection, vehicle scheduling and freight management to ensure the best results.



Aeo Certificate

TIS 17021-1

TIS18001

ISO 14001



ISO 9001

IMS

OHSAS

ISO 22301

ISO 50001

## How to Handling and Storage

### Handling

- Use good housekeeping for safe handling of the product.
- No smoking, open flames or source of ignition drinking or eating in handling and store area.
- Avoid spilling the product, as this might cause falls.
- Potential toxic/irritating fumes may be evolved from heated material. Provide appropriate ventilation for such processing conditions.
- Take precautionary measures against explosion risks, as all types of polymers may develop dust during transporting or grinding of granules.

### Storage

- Store away from heat, ultraviolet and direct sunlight in a dry, cool and well-ventilated area.
- Take precautionary measures to prevent the formation of static electricity.
- Do not store together with oxidizing and self-igniting products.

## InnoPlus PlastMate

### GRADE Selection : HDPE

Properties	InnoPlus HD8100M	PlastMate HD8100MB
MFR at 190 °C, 5 kg (g/10min)	0.25	0.25
Density (g/cm <sup>3</sup> )	0.952	0.960
Carbon black content (% wt)	-	2.25
Flexural modulus (Kg/cm <sup>2</sup> )	11,000	11,500
MRS Classification	PE100	PE100
Business Segment	Water Supply Construction and Infrastructure Industrial and Chemical	

For more information : [www.gcmgrp-techinfo.com](http://www.gcmgrp-techinfo.com)