

# UBE Industries Ltd., Ube Chemical Plant

**Location :** 10-1978 Oaza-Kogushi, UBE-CITY, YAMAGUCHI-KEN, 755-8633, Japan

**Representative :** Director of the plant Hideyuki SUGISHITA

Business Classification	Capital	No. of Employees	Established
Chemical Industry	¥43,463,000,000	3,706 (Ube Chemical Industry 586)	1897

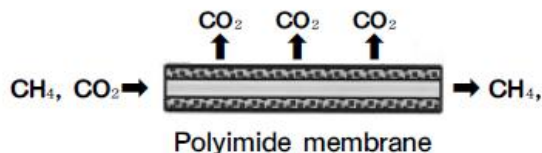
**Description of Business :** We have had the chemical and resin business as the leading plant since our plant was established in 1933. Our products started from the caprolactam, nylon resin and the industrial pharmaceuticals. Today we expand our business to produce functional materials such as the polyimide resin, cell separator and pharmaceuticals as our core project. We received the World Class Award for TPM ( Total Productive Management ) Activities by aiming the leading and advancing special chemical plant in the world.

<b>Main business and products :</b> Caprolactam / nylon resin / functional materials ( polyimide resin, separation membranes, battery separator ) / Industrial chemicals ( sulfuric acid, nitric acid ) / pharmaceuticals	
<b>Main Equipment and Facilities :</b> Caprolactam Plant / Nylon Resin Plant / Polyimide Plant / Gas Separation Membrane Plant / Functional Membrane Plant / Medicine Plant / Sulfuric Acid / Nitric Acid Plant / Catechol and Vanillin Plant / High- Purity Chemicals Plant	
<b>Main Facilities for Preventing Pollution</b> Drainage aerobic treatment facility / Drainage and incineration facility / nitric acid plant and de-nitritization facility / Removal equipment of benzene / Flue gas de-sulfurization and de-nitritization equipment	
<b>Qualified Permits, Registrations and Others :</b> ISO14001 / ISO9002 / TPM World Class Award / Approval for manufacturing the medical materials based on the GMP guideline / Authorized by the JAXA for heat control materials for space /	
<b>Licensed and Qualified Engineers &amp; Specialists</b> Pollution control manager / ISO internal inspector qualification / Energy control engineers / Electrical control engineer / Industrial waste control engineer	
<b>Environmental Preservative Activities</b>	
<b>Environmental Pollution Prevention</b>	Reducing the emission of hazardous substances and polluting water substances
<b>Waste and its Recycling</b>	Promoting the recycle of drainage, water waste and plastic waste while working with the cement section.
<b>Preservation for the Global Environment</b>	Reducing the emission of CO <sub>2</sub> with the 'Stop the Global Warming' policy.
<b>Others</b>	Responsible care is being promoted.
<b>Eco-business and Eco-products</b>	
<b>Equipments for Reducing Environmental Pollutant</b>	Developing the recycling technology using the decompose gas from waste films
<b>Eco-Products</b>	A saving energy Halogen free circuit materials / thin membrane cell separator for the high efficient battery / dimethyl carbonate

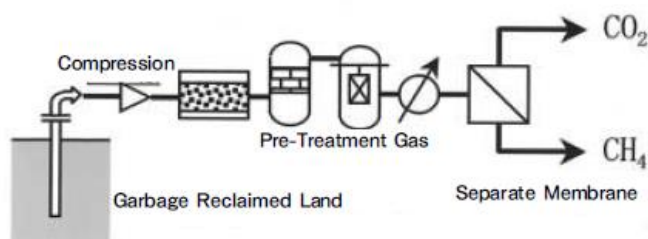
**Outline of Business (Flow System and Photos)**

The UBE separating carbon dioxide system is for producing the methane ( $\text{CH}_4$ ) rich gas efficiently after removing carbon dioxide ( $\text{CO}_2$ ) generated from the mix gases of garbage with the high quality polyimide membrane.

The theory of the separating membrane



**The Example of the Separating Carbon Dioxide System Flow**



**The Applied Fields**

The methane gas ( $\text{CH}_4$ ) is the cause of the global warming after carbon dioxide ( $\text{CO}_2$ ). We recycle this gas for the fuel gas after collecting them out of the bio gas generated from the fermented garbage of homes and gas from the garbage reclaimed land.



The Example of the Separating Carbon Dioxide Membrane System placed in the Garbage Reclaimed Land

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**Further Information on Environmental Technology**

Ube Industries, Ltd., Ube Chemical Plant, Environment Safety Group Environment Team

Contact : Hideo OHOKA

Address : 10-1978 Oaza-Kogushi, UBE-CITY, YAMAGUCHI-KEN, 755-8633, Japan

Phone :0836-31-5042/ Fax :0836-31-2242

The Separating Carbon Dioxide Membrane System

Ube Industries, Ltd. The Functional Materials Business Unit,

Separating Membranes Group

Phone : 03-5419-6185 / Fax : 03-5419-6262

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