

## **Petrochemicals: An In-Depth Introduction**

12 – 15 October 2020 // 8.00AM EST // 1.00PM BST

### **MODULE 1 (3 hours)**

*Understanding petrochemicals: Feedstock dynamics and industry fundamentals*

**8.00 – 9.00**

#### **Understanding petrochemicals: Industry development, basic production processes and building blocks**

- How the industry has developed over the years
- Overview of the petrochemicals value chain: terminology explained
- Paraffins (alkanes), olefins (alkenes) and aromatics introduced
- Steam cracking to make the building blocks
- The impact of coronavirus: How it could reshape the industry
- Recycling: Introducing basic concepts and terminology

**9.00 – 9.45**

#### **Examining oil and its relationship with petrochemicals**

- Overview of the oil refining industry
- Crude oil quality measurements
- Crude distillation, FCC and catalytic reforming processes
- Where petrochemicals are produced in refineries
- Crude oil pricing, and its influence on petrochemicals
- Coronavirus: Short -and long-term scenarios for oil markets

**9.45 – 10.00**

#### **Break**

**10.00 – 10.50**

#### **An introduction to natural gas, methanol and ammonia**

- Types of natural gas: NGLs, LPGs and condensates
- Natural gas distribution and LNG
- Growth of shale gas and the fracking process
- Ethane cost advantage
- The impact of shale gas on US competitiveness
- Emerging trade in ethane
- Production, consumption and reserves
- Methanol and ammonia from natural gas
- Olefins and growing fuel uses from methanol

**10.50 – 11.00**

#### **Summary and conclusion**

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### **MODULE 2 (3 hours)**

*Petrochemical building blocks and their major applications*

**8.00 – 9.00**

#### **Olefins: Ethylene, propylene and butadiene**

- Ethylene and derivatives: major sources, value chains and end-uses
- The three polyethylenes, ethylene oxide/glycol and the vinyls chain
- Propylene – the versatile polypropylene and other derivatives
- Sources of propylene and on-purpose processes
- Butadiene: Synthetic rubbers and other C4 derivatives
- Market dynamics: Demand and supply in the Coronavirus New Normal

**9.00 – 9.20**

#### **Value chain exercise: Olefins**

**9.20 – 9.30**

#### **Break**

**9.30 – 10.30**

#### **Aromatics: Benzene, toluene and xylenes**

- Primary and secondary sources of aromatics
- Benzene and derivatives: Value chains and end-uses
- Polymers made from styrene
- Tensions in the phenol-acetone chains
- Paraxylene to polyester
- Phthalates from orthoxylene
- Market dynamics: Demand and supply in the Coronavirus New Normal

**10.30 – 10.50**

#### **Value chain exercise: Aromatics**

**10:50 – 11.00**

#### **Summary and conclusion**

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### **MODULE 3 (2 hours and 45 minutes)**

*Petrochemical market trends and understanding cost drivers*

**8.00 – 9.20**

#### **Petrochemicals – a changed world**

- Petrochemicals are a global business: Who are the leaders; what are their roles?
- Key business drivers: Coronavirus, feedstock, markets, logistics and more
- Global and regional chemicals output; domination of China
- The key industries for petrochemicals
- Strategic moves and creating winning partnerships
- Trade flows and shifting regional influences
- Industry challenges and opportunities: social pressure and tightening controls, key trends, and growth prospects

**9.20 – 9.30**

#### **Break**

**9.30 – 10.00**

#### **Understanding petrochemicals pricing and cost drivers**

- How markets function and prices are set
- Types of prices: Spot and contract pricing
- Pricing jargon clarified
- Main price drivers – cost, supply, demand, and sentiment
- ICIS price assessment explained
- Price reporting challenges; manipulation and illiquid markets

**10.00 – 10.30**

#### **Application: Knowledge survey & interactive discussion**

**10.30 – 10.45**

#### **Summary and conclusion**



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### **MODULE 4 (2 hours and 30 minutes)**

*Future trends: Looking into factors that are shaping the future of the petrochemicals industry*

<b>8.00 – 9.15</b>	<b>COVID-19 in focus: Implications on petrochemical markets</b> <ul style="list-style-type: none"><li>• The global market condition: Where it stands today</li><li>• A bipolar world: How the US and China split could be accelerated post-virus, leading to two economic and geopolitical trading zones and it would mean for petrochemicals trade flows and investments</li></ul>
<b>9.15 – 9.30</b>	<b>Break</b>
<b>9.30 – 10.15</b>	<b>The rise of sustainability commitments and how it could change the future direction of petrochemicals</b>
<b>10.15 – 10.30</b>	<b>Summary and conclusion</b>