

Blackpeak Sector Focus

Chemicals



Value Chain Challenges

Asian chemicals manufacturers are moving from low priced bulk chemicals up the value chain to higher-end specialty chemicals, through increased R&D, acquisition and restructuring. As the industry transforms and competition intensifies, MNCs face myriad risks, including

- IP theft
- Employee and supplier fraud
- Compliance complexity in countries with opaque laws.

Greater China

China is comfortably the world's largest chemicals market.

2013 Study Global Sales

Total Global Sales (USD): \$4.1 trillion

Country	Amount	% of total
China	\$1.2 trillion	30%
United States	\$591 billion	14%
Japan	\$230.8 billion	5%
South Korea	\$163.1 billion	4%
Taiwan	\$84.4 billion	2%
India	\$80.3 billion	2%

Foreign capital has poured into China's chemicals sector in the last five years, while Chinese chemicals companies have expanded overseas through acquisition.

The outlook for investment and M&A activity in China's chemicals market is unclear. While Chinese companies have successfully taken market share at the lower end of the market, they have spent less time developing core competencies that lead to competitive advantages. This rush for market share has also resulted in overcapacity. MNCs may find opportunities to acquire distressed Chinese companies and additional low cost manufacturing capacity.

Several other factors drive the development of China's chemicals sector. These include efforts by the Chinese National Development and Reform Commission (NDRC) Guiding Index of Industrial Restructuring to reorient the industry towards larger, more efficient plants and eradicate unwanted, less efficient capacity. Central government efforts to transform China into a consumer demand based economy bode well for downstream chemicals used in consumer products. Maintaining a supply of low cost feedstock remains a priority. Higher oil prices and national security concerns about reliance on foreign oil have resulted in a push from petro to coal based chemicals, while environmental concerns will foster development of green and bio-based chemicals. China, which has large reserves of natural gas (although difficult to access), may look to acquire US fracking technology to leverage these opportunities.

MNCs should continue to monitor closely the business environment. China has a great deal to gain by evenly enforcing IP, environmental and other regulations for both foreign and domestic companies and both will likely continue investing in R&D if they see improvements in IP protection.

In Taiwan, chemicals producers will continue to supply electronics-grade chemicals and specialty materials to the island's huge electronics manufacturing industry, which accounts for some 30 percent of Taiwan's GDP.



Japan and South Korea

Like China, Japan struggles with overcapacity in its chemicals sector, caused by declining domestic demand and increased overseas competition. Major players have closed or will be closing old factories that produced commodity chemicals. At the same time they have strengthened the competitiveness of higher value-added products through M&A. Future development of the sectors will be driven by Japan's overall economic health, as well as improved bilateral relations with China that will allow Japan access to the world's largest chemicals market. Japan also needs to compete with Korea and increasingly China to develop specialized chemicals.

One particular area of competition may be advanced battery materials for emissions free vehicles. Medium to long-term, intensified competition from US chemical products using shale gas feedstock, and Chinese products based on carbon technology, will likely challenge the traditional ethylene based technology on which many Japanese petrochemical companies still rely.

India

Foreign investment in India's chemicals sector has increased in recent years, but concerns remain over the country's weak infrastructure and onerous regulations. India's chemicals industry contributes just 5% to India's total GDP. India lacks a domestic source of low-cost feedstock, although its proximity to the Middle East is an advantage. India has much to gain from plans to establish port-based chemical parks in Special Economic Zones.

IP Theft: Case Highlight

In 2011 Korea's Woongjin Chemical Co., Ltd, attempted to steal DuPont's trade secrets by recruiting DuPont employees as consultants. During discussions with two DuPont employees in Korea, Woongjin engineers asked them to disclose details about DuPont's Nomex manufacturing process. Woongjin also made other efforts to obtain Nomex short-cut fiber samples.

Woongjin was aiming to develop a product that could compete with DuPont's Nomex. DuPont became aware of the incident and the FBI Richmond Field Office interviewed the employees. Woongjin, now known as Toray Chemical Korea, Inc., took corrective action and agreed to pay a \$2,058,000 criminal penalty as part of a deferred prosecution agreement.

Blackpeak has been engaged in similar cases where technology driven companies, often national champions, use unethical and illegal means to recruit current or former employees specifically to obtain certain technical trade secrets. It is not unusual for senior technicians near retirement to be offered "weekend and holiday work" by these companies. They are flown (in one case by private jet) to the champion's home country to work. In addition to salaries, they may be offered other inducements such as luxury apartments. One scientist was posted to an affiliated research institute and given the title of "professor" to give the impression that he wasn't employed by the company. In another case, an entire team of scientists was recruited, relocated outside their native country to avoid issues relating to their non-compete obligations, and employed to develop products that competed with their former employer.

Blackpeak

Blackpeak is a strategic advisory firm, based in and focused on Asia, led by a highly experienced senior management team.

After many years of experience managing investigative projects in the chemicals sector, our team has developed unique skillsets to execute work tailored to the issues industry players face. Activities for our past clients include:

Desk based research

Public domain research to identify penalties for environmental pollution, litigation history, and work safety issues

Analysis of corporate structure, research on sources of project financing

Commercially-driven due diligence on chemical products and manufacturing plants

Research into undisclosed relationships between manufacturers and distributors, and supply chain issues

Field Investigations

Investigative research into chemical engineering, construction and equipment suppliers

Investigative research using scientific databases focused on tracking former employees' disclosure of trade secrets

Extensive site visits to chemical plants in China, South Korea and the United States

Assistance with photographic evidence and geographic analysis of chemical plants

Purchase of sample chemicals materials, and collection of supporting documentation such as Certificate of Analysis

Discreet research to assess status of planned or under-construction plants

Local interviews to identify undisclosed pollution problems.

Litigation Support

Experience testifying at the U.S. International Trade Commission (ITC)



What we do not do

- Technical analysis of products and facilities
- Technical environmental due diligence
- Patent portfolio reviews

Ethics and Compliance

We understand the legal, regulatory and compliance challenges facing investors in Asia markets. We operate under a comprehensive, written, Ethics and Compliance Policy and our staff is fully trained in its requirements. We understand the requirements of the Foreign Corrupt Practices Act, the Bribery Act and equivalent legislation in Asia, including data protection requirements in local and international markets.

Practice Head

Alex Nasr: A Director at Blackpeak's Hong Kong office, Alex has over nine years of Asia-Pacific research, analysis and project management experience. Alex's work in recent years has focused on complex corporate fraud, corruption and litigation support investigations. Alex is fluent in Mandarin and English. He holds an LLM degree from Tsinghua University and a bachelor's degree from the University of Waterloo.

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Corporate Counsel Corner

1. How current and comprehensive is your due diligence program?
2. Have you evaluated your suppliers' risk levels so they are up to date with current trends?
3. Have you cross referenced shareholders and directors named in due diligence reports against current company (or former) employees to identify potential conflicts of interest?
4. Do you have a formal method to track key technicians and scientists who resign and work for competitors? Do you have records of trade secrets they had knowledge of?

Industry Specific Investigative Experience Across Asia



Blackpeak's team has undertaken successful investigations and research projects in the following chemical segments, in both the public and private sectors:

- Commodity Petrochemicals
- Diagnostic and Pharma Related Chemicals
- Food Additives
- Personal Care Chemicals
- Specialty Chemicals

Our clients include:

- Multi-national chemical companies
- Law Firms
- Private Equity
- Hedge Funds
- Investment Banks
- Institutional Investors

Our practice experience includes:

Pre-Transactional Investigations

- Pre-IPO Due Diligence
- Investigative Market Research
- Research for hedge and PE investors
- Commercially Driven Due Diligence
- Pre-employment Screening of Executives

Post-Transactional Investigations

- Process Patent Infringement Investigations
- Fraud & Compliance Investigations
- Trade Secret Theft Investigations

Chemical Facility Anti-Terrorism Standards (CFATS): Impact on Asian Business?

CFATS regulations have been evolving since the US Congress first implemented this new regulatory regime in 2006. While CFATS are focused on enhancing domestic security in the United States, there are some issues for consideration when doing business in Asia. The Risk-Based Performance Standards Guidance document issued in 2009 identifies the theft and/or diversion of chemicals as a viable threat scenario and provides guidance on possible metrics to reduce threat of theft/diversion. One metric is for chemical companies to have documented "know your customer" programs that include refusing to do business with certain customers who do not meet qualification criteria, such as confirmation of identity, evaluation of on-site security, and verification that shipping addresses are valid business locations. With US chemical exports expected to increase significantly to US\$30 billion by 2018, it is likely that US companies will be selling to an increasing number of Asian-based buyers. In many cases it is possible through corporate record checks and site visits to find companies in Hong Kong, Macau, and other jurisdictions that are shell companies operating from virtual office centers. In order to comply with CFATS, US companies should consider regular 3rd party background checks on new customers.

Blackpeak Chemicals Risk Matrix



	Corporate Governance	Environmental	Intellectual Property	Market Risk
China	<p>Uncertainty how anti-corruption drive will impact underlying causes of commercial fraud.</p> <p>Decreases in SOEs salaries may result in increased commission seeking.</p> <p>Weaknesses in MNC compliance may result in hefty FCPA/Bribery Act fines, as well as scrutiny from PRC regulators.</p>	<p>Local resistance to new chemical projects viewed as contributing to pollution.</p> <p>MNCs perception of regulatory double-standards in pollution and other regulation enforcement.</p>	<p>Historic challenges enforcing IP.</p> <p>Too early to judge whether new IP Courts will impact cases involving patents and complicated technologies.</p> <p>IP theft and investigation issues may become politicized by West and/or China.</p>	<p>Risk that 3rd party distributors and suppliers are nominally independent, and not accurately reporting sales figures.</p> <p>Increasingly difficult to obtain reliable financial information on companies and sales. Research becoming driven by primary source enquiries and labor-intensive field research.</p> <p>Related party transaction risks.</p>
Japan	<p>Japanese keiretsu structure limits industry's ability to reform.</p>	<p>Negative public opinion about government handling of disaster response.</p>	<p>Japanese companies facing overseas competition focusing on developing new IP.</p>	<p>Related party transaction risks.</p>
S. Korea	<p>Chaebol susceptible to high-level corporate scandals.</p>	<p>Active civil society organizations vocal about environmental issues.</p>	<p>National champions aggressively recruit from competitors and pursue IP.</p> <p>Previous incidents of fraudulent scientific research work.</p>	<p>Related party transaction risks.</p>
Taiwan	<p>Family run business issues: related party transactions and unclear succession planning.</p>	<p>Chemical companies blamed for deadly gas explosions. Ongoing emissions and environmental violations.</p>	<p>Taiwan's IP court has lower-than-average numbers of infringement case rulings in favor of patent owner.</p>	<p>Related party transaction risks.</p>
India	<p>Indian bureaucracy and red tape already a deterrent. Uncertainty whether new government will enact deep reform.</p>	<p>Past chemical accidents and current regulatory scrutiny of the industry by the Pollution Control Board.</p>	<p>India maintains an ambiguous attitude toward enforcements of patents for the pharmaceutical and chemical industries.</p>	<p>Weaknesses in logistics leave manufacturers exposed to fraud, manipulation and corruption.</p> <p>Related party transaction risks.</p>