



LABOR MARKET INTELLIGENCE REPORT

**CHEMICAL
(MANUFACTURING)
INDUSTRY**

Technical Education and Skills Development Authority



CHEMICAL (MANUFACTURING) INDUSTRY

I. The Philippine Chemical (Manufacturing) Industry

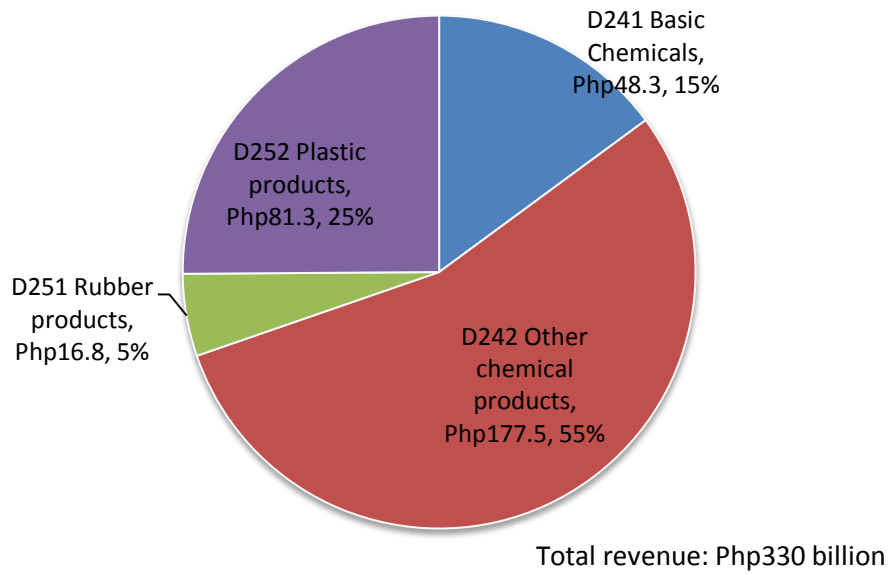
The Philippine Chemical industry is considered as one of the pillars of the economy considering that it supports all sectors of the economy such as agriculture, service and manufacturing. It is the 3rd largest manufacturing sub-sector with 147,000 direct workers and Php336 billion in revenues with a 7% growth rate in the last five years.¹ Its sub-sectors include plastics, basic chemical, rubber and other chemical products, with other chemical products having the biggest share in the industry at Php177.5 billion or 55%. Rubber products showed the smallest value with Php16.8 billion. Please refer to figures 1 and 2.

Figure 1. Chemical Sub-Sectors and Products



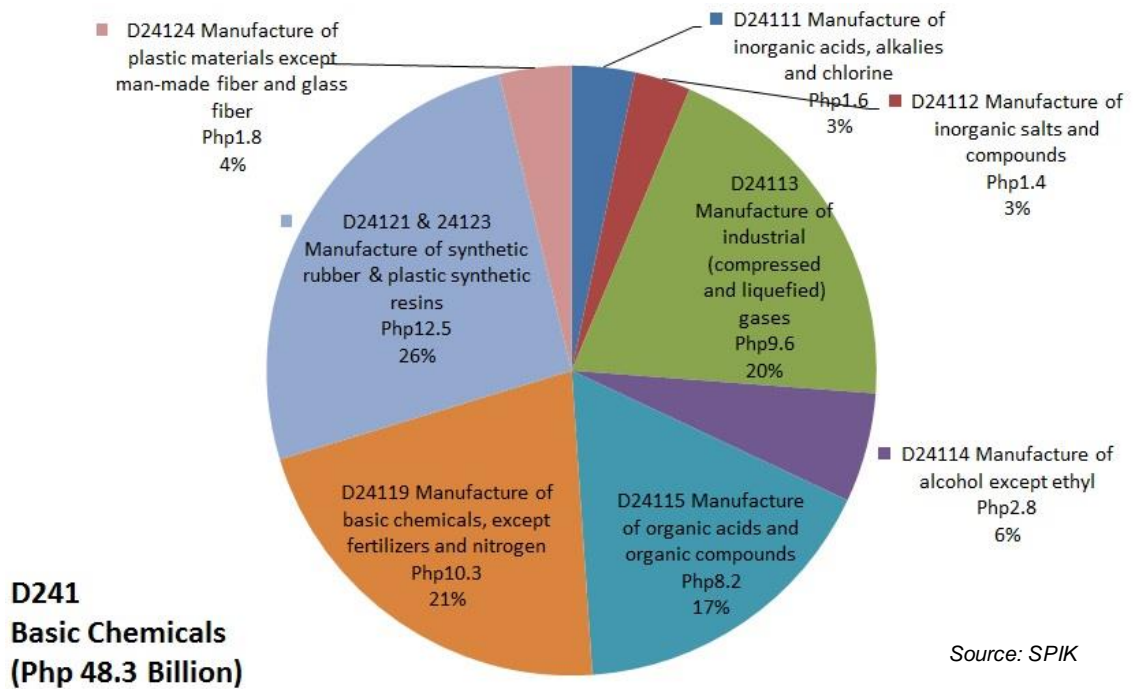
¹ The Philippine Chemical Master Plan 2012-2030

Figure 2. The Philippine Chemical Industry (amount in billion pesos)



The following charts show the value in billion pesos of each chemical sub-sector. (Figures 3 to 6)²

Figure 3. The Basic Chemical sub-sector



² ibid

Figure 4. Other Chemical Products sub-sector

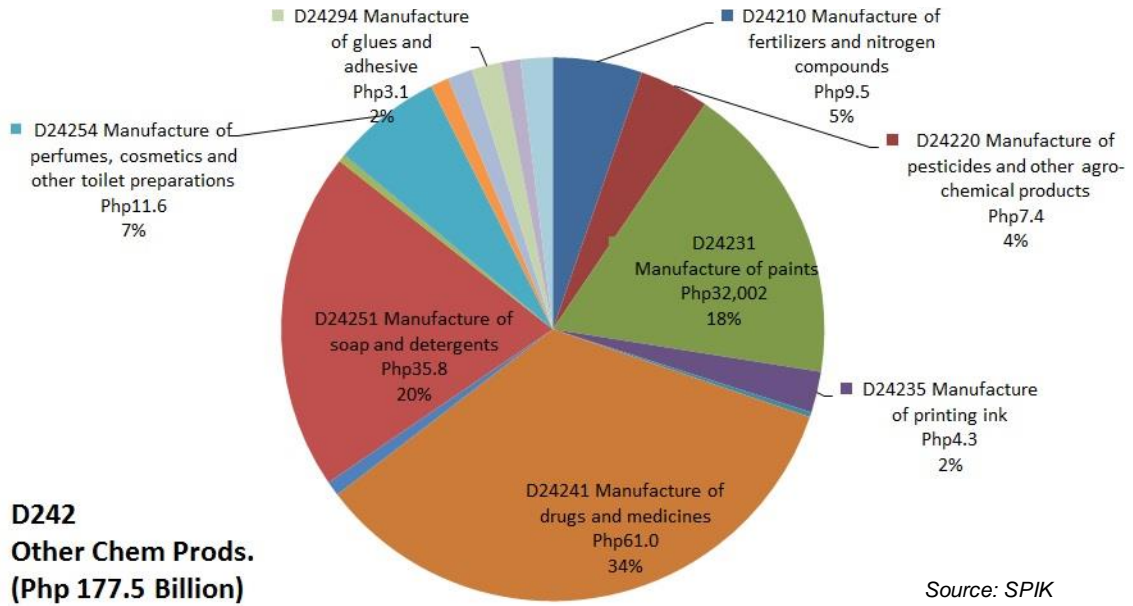


Figure 5. Rubber Products sub-sector

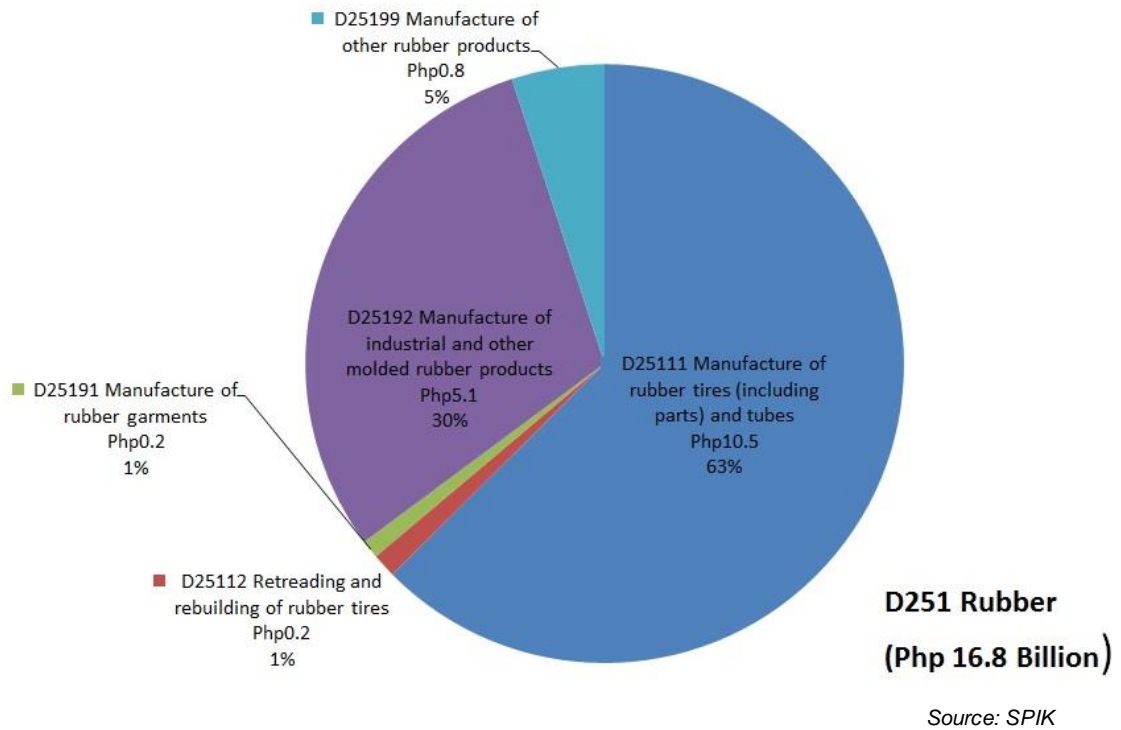
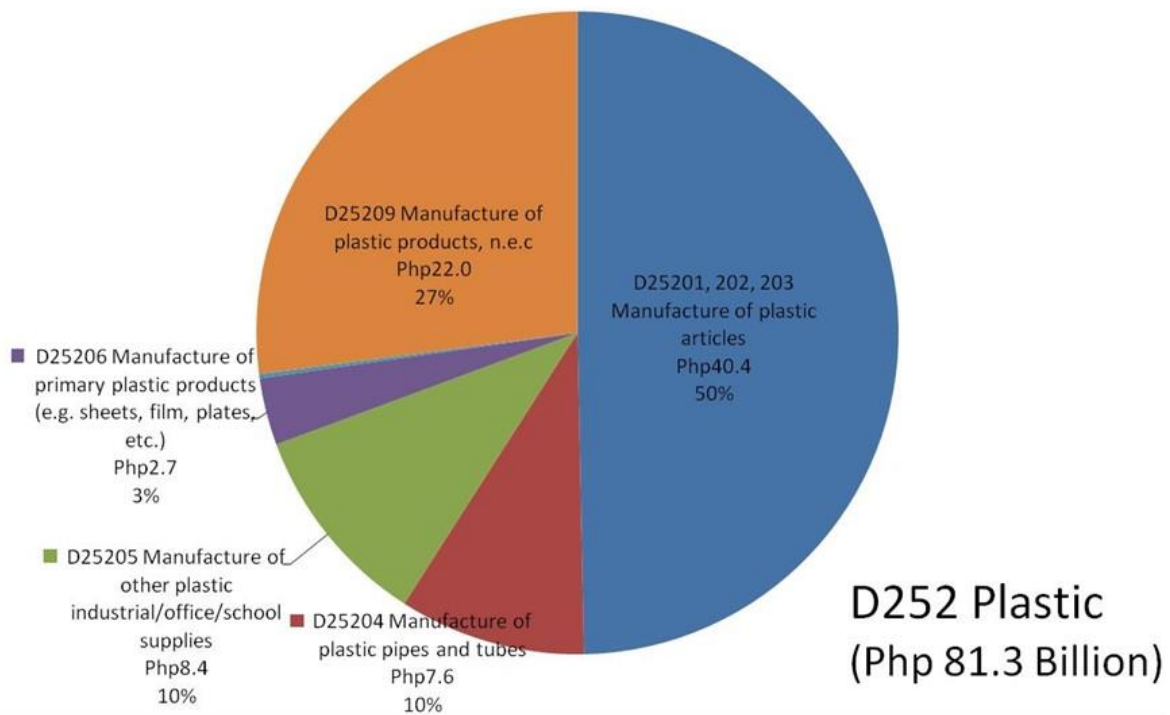


Figure 6. Plastic Products sub-sector



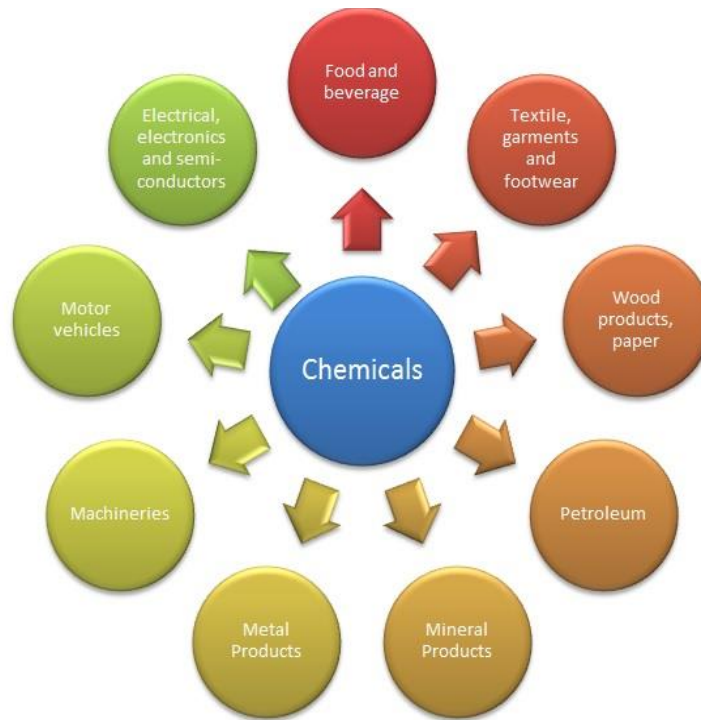
Source: SPIK

The country has a rapidly growing chemical trade which posted a US\$ 9 billion total trade in 2011. The industry has recorded a US\$ 7 billion in imports and US\$2.5 billion in exports, with a 13% and 17% growth rates in the last five years, respectively. Moreover, the industry is exporting to 177 countries.³

Chemicals touch nearly 90% of all manufactured products. As shown in fig. 7, the Philippine Chemical industry provides inputs or used in nine (9) subsectors in the manufacturing industry, namely: 1) Food and Beverage; 2) Textile, garments and footwear; 3) Wood products, paper; 4) Petroleum; 5) Mineral Products; 6) Metal Products; 7) Machineries; 8) Motor vehicles; and 9) Electrical, electronics and semi-conductors

³ ibid

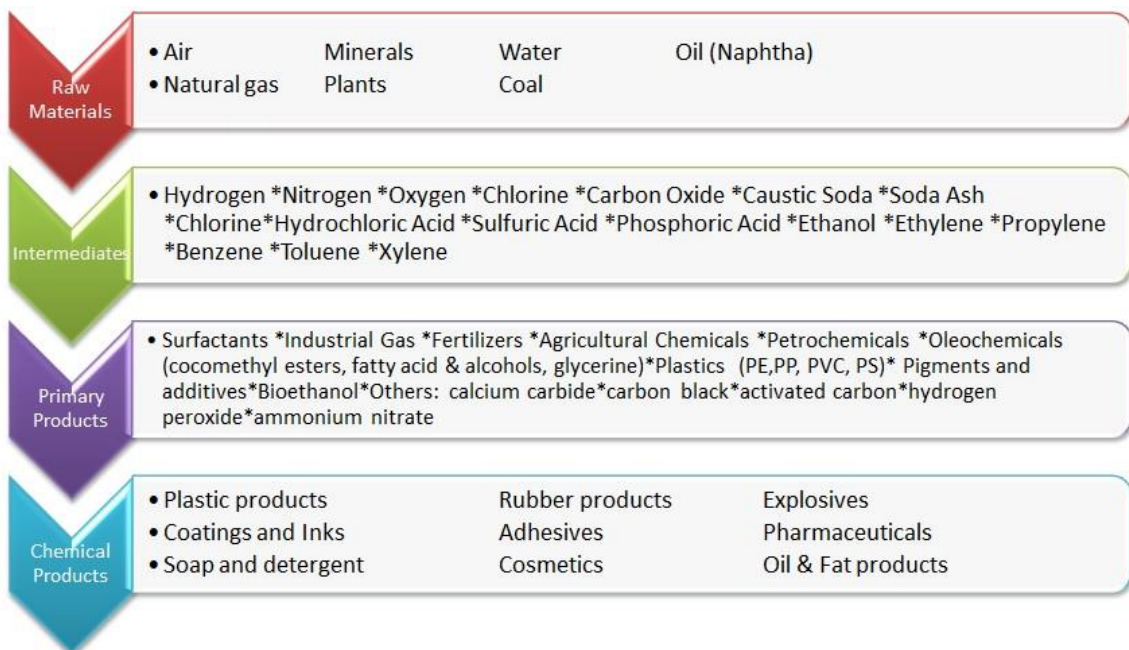
Figure 7: Linkages to Manufacturing Sub-Sectors



Source: SPIK

The chemical industry value chain shows (Figure 8) the forward and backward integration of the chemical industry from raw materials to substance and product conversions to final product for use of end consumers. The industry is practically part of all products that people use from food to toxic materials which are needed for health and sanitation.

Figure 8. Chemical Industry Value Chain



II. The Philippine Chemical Masterplan

The Philippine Chemical Masterplan 2012-2030 was spearheaded by the Samahan sa Pilipinas ng mga Industriyang Kimika (SPIK) or the Chemical Industry Association of the Philippines with the support from the Board of Investments-Department of Trade and Industry. SPIK is an association of chemical industries with a total membership of 67 firms.

The masterplan envisions for the industry to become a major chemical industry player in the ASEAN region by 2016. By 2022, it aims to be a leading exporter of chemical products in the region and by 2030 for the industry to have the necessary legs to gain a foothold in the global market.

The masterplan has as its goal, *“to provide a wide range of higher value products that serves domestic as well as global market needs with the best customer value.”* It has identified the following priority strategies:

- A Chemical Industry that adds value to the nation’s basic resources and creates a wide range of products with the best consumer value.
- A self-sufficient industry that satisfies the domestic demand as well as a leading contributor to the Philippine export basket
- A Chemical Industry that promotes a high level of workforce productivity
- A highly innovative industry, both in products and processes
- A Chemical Industry that is sustainably developed and managed to protect the natural assets on which the industry depends
- A Chemical Industry that is competitive and provides benefits to the Philippine economy and to the Filipino people

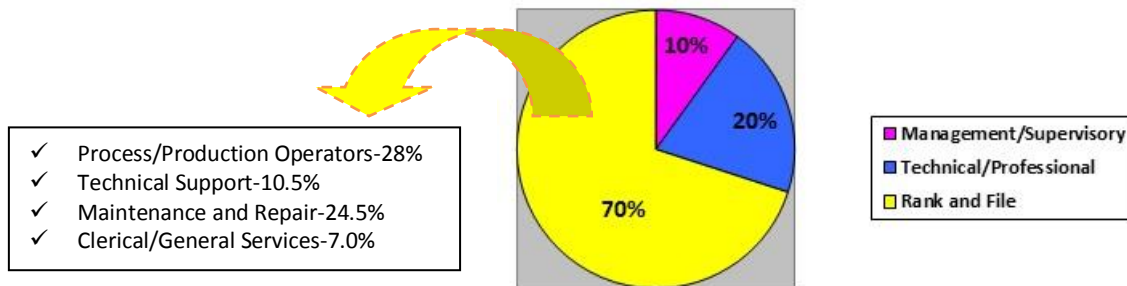
The roadmap identified the areas where government can support the industry. TESDA was identified in two areas, namely: 1) develop technology and skills preparedness program for high school graduates, and 2) develop training programs for skills needed in the downstream industry using chemicals like plastics, paints, adhesives, oleochemicals, etc.

III. Skills Demand

The number of direct employees in the industry is at 147,000 with 15% of its workers in non-manufacturing field such as trading and logistics, while 85% are in the manufacturing.

Figure 9 provides a typical labor composition of a chemical manufacturing plant in the country with the operators, technical support, maintenance and repair and clerical/general services comprising the bulk of workers at 70%, followed by Technical/Professional (Engineers, Chemist, etc) at 20% and Management/Supervisory at 10%.

Figure 9. Typical Labor Composition in a Chemical Manufacturing Plant



In various consultations with SPIK, the in-demand skills needed by the industry were identified which are mostly found in the Rank and File category such as Process/Production Operators, Technical Support (Lab Tech/Samplers), Maintenance & Repair and Clerical/General Services.

IV. Priority TechVoc Qualifications in the Chemical (Manufacturing) Industry

Pursuant to TESDA's mandate of **encouraging active participation** of various concerned sectors, particularly **private enterprises, being the direct participants in and immediate beneficiaries of a trained and skilled workforce, in providing technical education and skills development opportunities** (Section 2, R.A. 7796), industry consultations are conducted with industry association and other concerned stakeholders in identifying the skills demand for a particular industry. In 2013, TESDA has done consultations with SPIK to identify the most critical and in-demand qualifications / skills for the chemical industry that needs the development of training regulations (TRs). And this includes:

1. Process/Production Operator; and
2. Quality Assurance and Control Technician

The prioritization of the two (2) qualifications was approved during the 86th TESDA Board Meeting held on 18 September 2013. This was approved based on the critical need for the said qualifications and the employment and investment that it will generate. The chemical manufacturing industry is one of the industries that is set to be competitive in the ASEAN Economic Community come 2015.

V. Implications to Technical Education and Skills Development

Some specific strategic actions that should be undertaken by TESDA include the following:

- Expedite the development of the training regulations for the two prioritized qualifications (process/production operators and the quality assurance and control technicians) in the industry.
- Strengthen TESDA-Industry Partnership especially with the SPIK for the development of TRs for the prioritized qualifications and in the implementation of strategic actions to meet the changing demands in the industry. The partnership will also be in terms of policy and planning, labor market intelligence, training delivery, assessment and certification and financing.
- Once the TRs/standards have been promulgated, TESDA should look into and pursue enterprise-based trainings like dual training system (DTS) and apprenticeship with the member companies of the industry association.
- Purposively direct scholarships and other training assistance to these critical and hard-to-fill skills requirements/qualifications.
- Consistently improve the quality of information and career guidance to students on their career choices and employment opportunities in the industry.

Reference:

Melencio, Oscar. *The Philippine Chemical Master Plan*. Presentation during the 15th TESDA Board Direction Setting Committee Meeting. 16 September 2013.

<http://www.spik-ph.org/>. Samahan sa Pilipinas ng mga Industriyang Kimika (SPIK) website. Accessed on 23 December 2013.



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