

# Environmental and occupational toxicology

[Science](#), [Chemistry](#)



When humans are exposed to chemicals, they are not exposed to just one chemical at a time. A vast number of chemicals penetrate our environment. Exposure, whether simultaneous or sequential, are to chemical mixtures. The standard definition of a chemical mixture is any set of multiple chemicals regardless of source that may or may not be identifiable that may contribute to joint toxicity in a target population.

An assessment of chemical health risks at PI SUPPLY SDN BHD, was carried out on 8th. February 2013. Located at No 3, Jalan TPP 2/11, Taman Perindustrian Puchong, 47100 Puchong, Selangor, as its operation site, while its management office is located at No 5 & 7, Jalan USJ 21/7, 47620 UEP Subang Jaya, Selangor. PI Supply Sdn Bhd (PIS) was incorporated and has obtained a Petronas license since 1985. PIS represents brands with the latest proven track records in technology and in the application of oil and gas industry. PIS offers products for process and instrumentation applications. Their products cover valves, connectors, pressure, flow, level and temperature instruments. They also specialized in skid packages and are involved with fabrications for the last ten years.

In compliance to the OSHA Act 1994, and 'The Use and Standards of Exposure of Chemicals Hazardous to Health' Regulations 2000 (USECCH), PI Supply Sdn Bhd, being a responsible corporate, is carrying out chemical health risk assessments (CHRA) at its facility which consists of personnel including contractors who are exposed to chemicals hazardous to health as defined in the USECCH Regulations. This CHRA conducted is the first attempt for this company.

Generally, all chemical handling activities are at its operation site in Puchong where a double storey factory lot is used mainly on the ground floor for its work. In this building, preparation of its instrumentation is conducted. Their customers will provide the specification, while PIS designers and engineers will develop the work specification. PIS will then, engage their contractors for the respective work according to the stages of the work development. During the development stage, lots of maintenance and testing of equipments take place. The maintenance jobs are conducted by their respective contractors and monitored by PIS workers. All areas are located in opened space area which ensures good air flow and ventilation for the maintenance job. The ground floor building has its shutter door opened widely during work.

Chemicals are stored in cabinet but not securely locked. However, compressed gases are locked at designated place. Many chemicals are volatile type such as paint, thinner and leak detector. Cabinet used provides limited air flow, therefore potential of vapour accumulation when closed. Air flow in the chemical cabinet should be improved to prevent vapour accumulation. The volatile solvents are not to be stored with corrosive chemicals such as acid pickling paste as they are incompatibles to each other.