

PALM-BASED INDUSTRIAL SOLVENT

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The major applications of a solvent are removal of coating (*e.g.* paints, varnishes), greases, oils and printing inks as well as industrial cleaners. However, most of the conventional cleaning agents are derived from petroleum, which are usually associated with occupational health risks and environment problems. Many conventional chlorinated, fluorocarbon and petroleum industrial solvents have been regulated out of market applications since the enactment of Clean Air Act 1990 (Environmental Protection Agency, USA). Thus, there is a need and demand of an environment-friendly, biodegradable and safe cleaning agent.

The current worldwide solvent market stands at 15 million tonnes per year with domestic applications amounting to five million tonnes. Green or bio-based solvent demand stands at 10% of the domestic market demand, *i.e.* about 0.5 million tonnes. The green solvent market is a niche and strong growing market. The demand for hydrocarbon and chlorinated solvents, on the other hand, will continue its downward trend as a result of environmental regulations, with oxygenated and green solvents replacing them to a large extent. Therefore, there are tremendous business opportunities for the Malaysian palm oil industry to produce green solvents and cleaning agent with better performance from palm oil.

APPLICATIONS

Palm-based industrial solvent (*Figure 1*) is useful for removal of paint, printing ink, grease, oil and



Figure 1.

adhesive. It can also be used as carrier in paint and pesticide formulations. It serves as the platform for the activity of active ingredients.

ADVANTAGES

Palm-based industrial solvent is biodegradable and environment-friendly as it is made from renewable resources. It is a good replacement for the unsafe and toxic conventional solvents [*e.g.* kerosene, acetone, methyl ethyl ketone (MEK), toluene, xylene, methyl isobutyl ketone] by providing similar or better performance. The added advantage is reduced negative impact to environment and health issues. It is also less hazardous to the end-users compared to conventional solvents.

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