



Recycled solvent, its environmental attributes and carbon footprint reduction potential

We all know that the level of recycling, as an overall concept, is increasing exponentially as the earth's resources are depleting and the quest for both efficiency and economy takes an ever increasing role in impacting upon our lives.



The facts and figures are truly astounding, let's take a moment to examine some examples;

- Recycling metal uses about 74 percent less energy than making "new" metal.
- Recycling one ton of steel conserves 2500 pounds of iron ore, 1400 pounds of coal and 120 pounds of limestone (clearly from an American study).
- Cars are now manufactured to be 95% recyclable.
- 1 recycled tin can would save enough energy to power a television for 3 hours.
- 1 recycled glass bottle would save enough energy to power a computer for 25 minutes.
- 1 recycled plastic bottle would save enough energy to power a 60-watt light bulb for 3 hours.

● 70% less energy is required to recycle paper compared with making it from raw materials.

Clearly recycling is growing in all areas of manufacturing - but how many of us have stopped to consider just how important our personal or corporate attributes can be enhanced by further embracing the recycling approach and

converting theory into practice? In addition, how can expanding our recycling awareness so significantly have a positive influence on our operation's environmental accreditation and carbon footprint?

In one specific area the answer is now official. Consider the use of organic solvents used in

manufacturing. A study entitled "Carbon Footprints Of Recycled Solvents", commissioned by The European Solvent Recycler Group (ESRG) and conducted by the University of Manchester based ETHOS Research (UK) has revealed some very interesting points.

The report confirms that the recycling of organic solvents such as those used in industrial cleaning and degreasing operations leads to significant environmental benefits when compared with using so called "virgin" solvents.

The report considers a wide range of influencing factors

such as incineration costs when compared to recycling processes, packaging and shipment to the processing plant, utilities such as gas and electricity, raw materials and final transport costs to the next user.

Perchloroethylene, as a solvent species in particular, was one of the core models scrutinised in the report which was completed in August 2013 and presented on the Exhibition Floor at the 2014 Chemspec Europe event in Budapest at a two day international RSC Symposium (UK Royal Society of Chemistry) 18/19 June this year. Using life cycles assessment (LCA) as a tool, the report confirms that by using recycled solvent which is then destined for onward recycling an operator can reduce the carbon footprint of a company by as much as 92%. In particular the figures indicate that recycling of perchloroethylene saves 90% of greenhouse gas emissions relative to the average emissions associated with the production of virgin solvent. It should be noted that maximisation of the total environmental benefits comes with using recycled solvent which then itself goes on to be recycled (the circle is complete in an ongoing programme which is truly responsible in a real sense and guaranteed for the long term) rather than the utilisation of virgin products which may subsequently be destined for recycling or disposal as cost or convenience dictates.

(CONTINUED ON PAGE XX)





SURFACE PREPARATION, DEGREASING & CLEANING

It remains a fact that the writer (as a representative of Geiss UK Ltd.) is increasingly being made aware that the whole concept of a fully sustainable solvent programme through recycling is now being seen as a significant step for major companies to show their commitment to the environment.

The report will certainly be of interest to any organisation concerned about their environmental attributes and their particular role in improving the awareness of the operation's key processes. In addition, purely from a commercial perspective, being seen to be striving for a "greener" operation is now known to be one of the key influences in decision making processes where other factors remain equitable.

Geiss UK Ltd. is one of the UK's fastest growing solvent supplier's and represents market leader Richard Geiss GmbH, Europe's leading provider of high purity and highly stabilised aerospace approved recycled solvent including perchloroethylene. A full back up and support structure including laboratory facilities, test kits, stabilisers and TLB Secure-Tainer bundled shipment and storage containers is available with full training in all aspects of solvent management.

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