ECO-FRIENDLY or JUST MARKETING SPIN

Recently I found myself in a discussion with a fellow fluid supplier. As usual, the conversation eventually gravitated to the rising costs of oil and the impact it is having on our business. Although both of us blend and sell synthetic hydraulic lubricants, which at first thought, with the rising cost of oil, should make them more cost competitive with the traditional mineral based oil lubricants; in actuality the cost of the synthetic blends are also dramatically increasing. I know this may sound counterintuitive, but in fact, most synthetic lubricants are petroleum or petroleum byproduct based. Even water based lubricants such as water glycols are only 35% to 60% water, depending on the blend and the manufacturer, while the remainder of the blend is usually petroleum derived. That means that anywhere from 40% to 55% may be directly tied to the nonrenewable resource of petroleum. As our discussion continued, it eventually turned to the changes in market attention that is now focused on "green technology". His position was that as synthetic lubricant suppliers, we are well positioned to take advantage of this growing awareness, which will boost the sale of synthetic lubricants. I asked him to clarify his position. His response was that since synthetic hydraulic lubricants are, for the most part, biodegradable and a good share are "readily biodegradable" that they can be marketed as eco-friendly products. This is the point where my position dramatically differs with his. I maintain that biodegradability does not automatically mean eco-friendliness.

I don't want the reader to get the wrong idea; biodegradability is an important feature. But, biodegradability represents only one element of what constitutes an eco-friendly product. Other elements include whether or not the source compounds are renewable, the energy consumption during manufacture, use and disposal, and what byproducts are generated and whether they can be recycled or if the byproducts must immediately go into the waste stream. Therefore, when thinking about what makes an eco-friendly product all of the primary elements must be considered. For most, who are not directly involved in the "green movement", these considerations represent something new requiring a different perspective.

I have always considered an informed customer as the best defense against misleading claims. Advertising and marketing, by it's vary nature, is designed to "spin" the facts in such a way as to promote the products' strengths and diminish the products' shortcomings. There is nothing inherently wrong with this as long as the consumer is able to differentiate between fact and puffery. This is where the problem rests; too many consumers are not well versed in the products that they use. The marketer is also well aware of this and they are able to manipulate the information the consumer is exposed too. Any successful marketer takes advantage of the current trends in the general public awareness and then integrates their product message into the current "hot issue". The "hot issues" currently of public concern are the high prices of petroleum, high energy costs, renewable resources, recyclability and global warming. Knowing the nature of marketing and because these concerns represent the current state of general public awareness; it is precisely why the consumer must look closely at the claims being made and avoid the marketer's information manipulations. However, in defense of marketing; without it, the ability to obtain product information would be very difficult and would dramatically slow the process of upgrade and positive change. Therefore, when used appropriately, marketing does provide a needed function to further consumer education.

Up until recently, the synthetic lubricant manufacturer and blender was limited in the choices available in base compounds,

especially with regards to the water glycols. All of the base compounds were derived directly or indirectly from petroleum. However, with the emergence of new renewable energy sources a new base compound has become readily available; glycerin. Glycerin is a byproduct of the production of biodiesel. Unlike oil, biodiesel is manufactured from any number of renewable plant sources. As biodiesel production has increased the surplus of glycerin has also increased producing a market glut. Glycerin is used in any number of products but the new surplus has easily out paced any growth in the areas of traditional use. If new applications for glycerin are not found then the entire overproduction must go into the waste stream. The good news is that glycerin is an excellent base product for the production of glycol for use in water glycol lubricants. At least in terms of water glycol, the use of glycerin as a base compound can have the effect of breaking the synthetic hydraulic lubricant manufacturers' and blenders' dependence on petroleum bases. However, I am not writing to promote the use of glycerin as a base component, but how product innovations such as the use of glycerin should be considered in terms of a product's eco-friendliness.

Glycerin, as an organic compound, is "readily biodegradable". This is the first hurdle that must be overcome to be considered eco-friendly. The second hurdle is the manufacture from a renewable and sustainable resource. Since glycerin is a byproduct of biodiesel production, and biodiesel is made from renewable resources, it only follows that glycerin based compounds meet the second requirement for eco-friendliness. However, as of this writing there isn't any clear indication that there is significant energy savings in the production of biodiesel. Therefore, claims of glycerin production from biodiesel results in a reduced "carbon footprint" should be viewed with skepticism. Also, glycerin based products must be disposed of in the same manner as the older petroleum based products. Thus, there is no positive ecological impact from the means of disposal. Clearly the glycerin based compounds are more eco-friendly than the petroleum based compounds; but, is the positive benefit gained sufficient to justify the label of an eco-friendly product? This is where the debate really begins. Since there is no established standard for what constitutes an eco-friendly product, then it has been left up to each manufacturer to define. This self-definition is precisely what marketers hope for, since claims do not have to meet any specific independent standard; thus, leaving it open to marketing spin. To establish meaningful standards; many things must be considered, which include huge investments in capital and time. The initial investment may be too large for any one company or industry to attempt. Therefore, this may be a job for federal legislation and government agencies to take on. I am not a big proponent of additional government bureaucracies, but allowing the government to establish standards may be the only way that anything meaningful can be done.

What I propose is the establishment of a set of environmental standards that can be translated into a meaningful identification system for both the manufacturer and consumer. There is a long well established precedence for the government and a vast number of industries and organizations which have gone through the process of establishing safety and performance standards for the protection of the public. Some of the government agencies include the FDA, USDA, MSHA, EPA and OSHA just to name a few. Private and quasi-governmental organizations include NFPA (National Fire Protection Association), NSF (National Sanitation Foundation), FM (Factory Mutual), NEC (National Electrical Code), UL (Underwriters Laboratory) and IEC (International Electrical Code) listing some of the better known. All of these organizations, whether governmental, private or quasi, have grown out of well established public needs that were unmet. When the various standards are properly

followed and enforced, it contributes to the overall public benefit and safety. The establishment and enforcement of a set of Eco-Friendly Standards would also provide the same type of benefits to the consumer.

The established standards should evaluate products and components on the following:

- toxicity
- biodegradability
- whether derived from renewable or nonrenewable sources
- total energy consumption in the production, use, and disposal processes
- overall carbon footprint
- recyclability and disposal

A product, component or compound would be submitted by the manufacturer for evaluation. Products would be evaluated on standards set for each of the six above listed areas. Each area would be scaled from 0 to 5. The higher the evaluation number; is an indication of the product's compliance to the independent eco-friendly standard for that evaluation area. For example, highly toxic products would receive a "0" for toxicity. Whereas products safe for consumption or nontoxic, if released into the environment, would receive evaluation numbers "4" or higher. After each of the six areas are evaluated the assigned numbers would be added and divided to get a mean. The mean number would then constitute an identification number called the EFS (Eco-Friendly Standard). The EFS could be attached to the product label giving the user an immediate indication of the product's eco-friendliness.

For illustration purposes let's compare mineral oil based lubricant, conventional diethylene based water glycol, and glycerin based water glycol.

Evaluation Area	Mineral Oil	Diethylene Glycol	Glycerin Glycol
Toxicity	**0**	**3**	**3**
Biodegradability	**0**	**5**	**5**
Renewable or Nonrenewable	**0**	**0**	**4**
Energy Consumption	**0**	**0**	**0**
Carbon Footprint	**0**	**0**	**0**
Recyclability & Disposal	**0**	**0**	**0**
EFS	**0**	**1.33**	**2.0**

As the illustration points out mineral oil based lubricants are not eco-friendly at all, Diethylene Glycol is more eco-friendly, and the Glycerin Glycol the most eco-friendly of the three compared. Now is that enough to call Glycerin Based Glycols as eco-friendly; that is not for me to say. All that I can say is that it is more eco-friendly. It also appears that Glycerin Based Glycols may have a price advantage over the Diethylene Glycols. Given that the Glycerin is more eco-friendly than Diethylene and it is more cost competitive, then it only follows that Glycerin is a better value.

As a greater emphasis is made on products environmental friendliness the more important it will be to have independent standards from which products can be evaluated.

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