

# The Grease Gator: A Pollution Prevention Solution for the Parts Washer Industry

By Bruce R. Gotteiner

**Parts washers that use mineral spirits as a solvent — their days are numbered. Pollution and safety concerns are growing and the EPA is acting. Luckily, a solution is no further than the Grease Gator line of Aqueous Parts Washers.**

Parts washers are everywhere. Over one million in the United States at last count. A common type of parts washer looks like a sink mounted on a drum. You may cross paths with one when you take your car in for service. But they are also in industries ranging from Printers to Parts Rebuilders to all type of machine manufacturers. Parts washers are used to remove grease and oil from dirty metal parts. Parts that get dirty in a variety of ways. From daily operation to machining as part of the production process. But the end requirement is the same: a clean part free from oil and grease and rust protected.

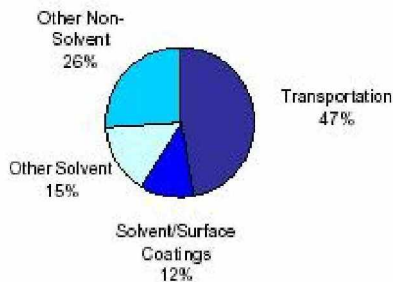


By far the most popular cleaning solution used in parts washers today is mineral spirits solvent. Mineral spirits are good at dissolving oil-based debris from dirty parts with a minimum of effort. However, there are three major problems with mineral spirits solvent use in parts washers.

Problem 1) Mineral spirits are the source of a growing pollution problem because they are classified as VOCs (volatile organic compounds). VOCs are emitted into the air after they perform their function. VOC emissions from solvent use such as mineral spirits are

one of several significant sources of VOC emissions (see chart). VOC emissions are bad because they combine with combustion emissions to form ground level ozone, a major component of "smog". Smog damages our lungs and degrades many materials. Further, smog is a "greenhouse gas"

U.S. Man-Made VOC Emissions  
Source: EPA, National Air Pollutant Emission Trends, 1999.



which contributes to global warming. Already, the major power companies are taking the issue of global warming more seriously and have begun anticipating the time when "greenhouse gas" production will have to be restricted. Dale E. Heydlauff, senior vice president for environmental affairs of the American Electric Power Company, the No. 1 coal-burning utility, recently commented: "we felt it was inevitable [to plan] that we were going to be living in a carbon constrained world" (source: Business Week 8/16/2004). For additional information on VOCs see:

[http://www.americansolventscouncil.org/resources/pdfs/VOC\\_2002.pdf](http://www.americansolventscouncil.org/resources/pdfs/VOC_2002.pdf)

Problem 2) Mineral spirits get dirty with use. Oil and grease are dissolved or emulsified into the mineral spirits reducing its cleaning power. Just like paint thinner gets dirty with paint after clean up and loses its ability to continue to clean, mineral spirits in parts washers suffer the same fate. And when mineral spirits is dirty, not only does it lose cleaning power, but it also re-deposits a thin film of oil and grease back onto the clean part. Replacing the dirty mineral spirits with new is the only way to get the cleaning power back and to be sure that your parts are clean. The used mineral spirits can be recycled and reused, or burned for fuel. But in either case, the solvent must be handled and transported by licensed hazardous waste carriers. This can be a significant cost.

Problem 3) Working with combustible materials requires appropriate

workplace safety procedures. Risk of fire must always stay top of mind and users must be trained to handle fire emergencies.

The first problem may be the most ominous for the future of mineral spirits parts washers. It is only a matter of time before environmental regulations on the use of mineral spirits parts washers are tightened. Already, California is working to limit the amount of VOCs that can be released by parts washers. The EPA wants the parts washer industry to find a better way to clean parts. A method that cleans as good as mineral spirits with less pollution and which makes the workplace safer.

"We felt that it was inevitable that we were going to live in a carbon-constrained world", says Dale E. Huydlauff, senior vice president of environmental affairs of American Electric Power Co.

Aqueous parts washers have been the hoped for solution. Water-based cleaning is much cleaner and safer than mineral spirits. But it is not without problems when used in parts washer applications. Water insoluble oils and greases are purposely hard to remove with water. Systems that achieve good aqueous cleaning require very high temperatures, automated conveyors (because of the hot temperature), and expensive oil-water separators. For the largest segment of the market — low temperature, human operated parts washers — an aqueous solution alternative has been elusive.

## Until the Grease Gator.

Solvent Systems International's Grease Gator line of aqueous parts washers has significantly boosted aqueous cleaning power at low temperature. The Grease Gator has, for the first time, given users a path away from mineral spirits parts washers while allowing them to keep the cleaning power of mineral spirits. Developed in partnership with the Illinois Waste Management Research Center and the University of Illinois, the Grease Gator's technology is a breakthrough in parts washer technology. Combining innovations in aqueous chemistry and oil-water separation technology, the Grease Gator is a total system that cleans better than mineral spirits (57% better in independent tests), virtually eliminates VOCs emissions (99.5% reduction over mineral spirits), and generates very little waste. And being a drum and sink parts washer, it is of the type that dominate the mineral spirits parts washer market.



Purging the used oil from the reservoir.

The Grease Gator's patented oil-separation technology routes the oil to a special collection chamber immediately as it goes down the drain and before it has a chance to mix with the water. The used oil recovery process of the Grease Gator is so good it will pay the user. The oil removed from the oil collection chamber is immediately ready for resale and recycling. Solvent Systems will buy the used oil from Grease Gator users to make it even easier to recycle this valuable

resource. The Grease Gator Aqueous Cleaning Solution special formulation also adds to the machine's power. Not only does it clean better than mineral spirits solvent at relatively low temperatures (only 110 degrees which is the temperature of a

"We are reducing our VOC levels, our employees love it, and we are amazed that the cleaning process is so easy on the hands with a improvement in cleaning power. This is truly impressive technology!" said Mark Glawe of Senior Automotic.

Jacuzzi), it includes a rust inhibitor which eliminates any rust from forming on the part. And because the oil is immediately separated from the water, no oil can be re-deposited on the part like mineral spirits. The Grease Gator has been tested in a wide range of applications including automotive maintenance garages, transmission re-builders, railroad maintenance facilities, and

manufacturers. The overall sentiment of these users can be summed up in this comment by Mark Glawe of Senior Automotive, a new user of the Grease Gator: "We are reducing our VOC levels, our employees love it, and we are amazed that the cleaning process is so easy on the hands with an improvement in cleaning power. This is truly impressive technology!"

Oil and grease are no match for the Grease Gator!

