

Solvents are chemicals and vice versa. Water is a solvent. Most chemicals, solvents included, have some solvency, i.e., the ability to cut or dissolve a resin (asphalt cement, as an example). D'limonene (Orange terpene) is the base for most citrus solvents. Pine is an alternative. Citrus-based and pine solvents are usually high solvency products. They were the bases of widely used extraction solvents (asphalt extraction and gradation testing) until the ignition system came along. State DOT's, in their guidance concerning the formulation of asphalt release agents, prohibited products that strip asphalt. Citrus-based products usually strip asphalt. The object of a release agent is to release asphalt from a truck bed without striping or dissolving the asphalt. High solvency chemicals, including diesel fuel and kerosene, should not be used on truck beds or paving equipment and tools, anywhere the integrity of the asphalt mat can be jeopardized. High solvency release agents or cleaners, when dripped on fresh mat, cause voids and seed potholes and rutting. Of course, there are other good reasons not to use diesel fuel or kerosene as a solvent or a release agent.

The National Asphalt Pavement Association, Asphalt Institute, and State Asphalt Pavement Associations utilize their own internal agency, the Asphalt Pavement Environmental Council (APEC) to advise the industry on good practices. In a recent paper from the APEC regarding "Controlling Fumes, Emissions and Odors from HMA Plant and Paving Operations," the guidance given for controls, both at the plant and at the paving site, is "Do not use diesel fuel and kerosene as release agents."

With the introduction of performance grade (PG) binders, SBS, SBA polymers, Novachip (by Koch) and OGFC type mixes, there has been a great effort to find products that will perform well as release agents at the plant, as well as at the paving site. Some independent truck drivers refuse to haul these mix designs, because the mix cools rapidly, cures and sticks to anything it touches. Productivity is lost and truckers revert to diesel fuel again to clean out their truck beds.

**Tec-Team's concept is to prevent asphalt from sticking to tools and equipment in the first place; making the use of strong solvents and diesel fuel unnecessary. Through extensive research & development, we have accomplished this with high purity, high temperature (600 – 800 (F) degrees) synthetic lubricants that bond or plate out on metal and rubber surfaces. These lubricants are used in truck beds, slat conveyors, and lay-down equipment. Asphalt temperatures of over 300 (F) degrees, cannot cook the lubrication off the treated surfaces, but does cook it into the metal or rubber surfaces. Testing of rubber track, rubber belts and hoses with Tec-Team products show that they do no harm and even protect these rubber surfaces from the abrasiveness of asphalt mix. Diesel fuel and all strong solvents are the worst products to use to clean rubber belts, tracks and hoses. We also have exceeded most State DOT requirements by providing biodegradable, non-VOC (Volatile Organic Compound), safe products. To continue development of new products and assure we will keep pace with the industry, we have employed chemists with extensive research experience in lubrication and personal care chemistry.**

**Naturally, contractors are concerned about price per gallon when purchasing a release agent. However, price per gallon does not always reflect cost. Some \$12.00 release agents are less costly to use than a \$3.00 release agents and do a better job. The best way to determine the lowest end cost of a release agent is to calculate how many tons of asphalt a 55-gallon drum or a 275-gallon tote tank will yield. If you have to put a new 55-gallon drum on the spray rack every time you run 7 to 8,000 tons of asphalt, or a new tote tank every 50,000 tons, you are spending too much money.**

Challenges: Formulate and market products and applicators that will allow the Industry to follow the advice of their own Environmental Council. "**Do not use kerosene or diesel fuel at the plant or at the paving site as an asphalt release agent.**"