

SUBJECT: IMPROPER USE OF CAUSTICS, ACIDS (BRIGHTENERS), AND BLEACHES IN CLEANING SOLUTIONS

The improper use of caustics, acids (brighteners), and bleaches in cleaning solutions is increasing at an alarming rate and demands immediate action. Recent studies indicate that the use of these chemicals is detrimental to tractors and trailers alike, irrespective of brand or specifications. As a general policy, UTM does not recommend their use, and extreme care should be taken if they are used.

Reported problems vary but are grouped into the following categories:

1. Removal of paint, primer, grease, oil, etc. from steel parts followed by severe corrosion. This can lead to brake problems, inoperable lock pawls on cinches, reduction of thickness of beams, poor appearance, etc.
2. Deterioration and staining of plastic. Reduction of strength of binder straps can occur. PVC can be removed from the cloth on curtain-sided trailers. Plasticizer, which keeps plastics flexible, can be leached out.
3. Etching of glass. Windshields and other tractor windows can be etched by any solution containing hydrofluoric acid.
4. Attack of aluminum. Damage can occur to any contaminated aluminum, but the most significant area affected is the floor:
 - On the surface of the floor, the cleaning acid causes pits to form that increase the retention of dirt. Caustics, on the other hand, dull and stain aluminum surfaces. This encourages the use of more acid to clean and bring back the bright appearance.
 - The acid even attacks the metallurgical grain boundaries of the aluminum metal itself. This decreases the ductility and makes the aluminum brittle. Subsequent loading flexure leads to opening microscopic cracks at these boundaries, which can cause acid leaks into the floor foam.
 - These cracks and other openings, such as lining joints of door frames, build-ups, or damaged areas, create a path where the acid can get into the foam on the bottom side of the floor.
 - Once there, rinsing with cold water is ineffective at flushing away the acid. As the acid dries, it becomes more concentrated. The foam insulation acts as sponge and holds the acid against the bottom surface of the floor where it can continue to attack the protective aluminum oxide coating on the floor.

UTM recommends the use of mild detergent soap and warm water for cleaning aluminum refrigerated trailer floors.

The use of caustics, acids, and bleaches on any portion of any trailer may cause damage and void the warranty.

EDUCATING OUR INDUSTRY AS WELL AS THE PUBLIC in this matter is important. Not only do they need to know of the harmful effects to the equipment, but should be aware that most of these chemicals are harmful to the environment. When spilled, they contaminate ground water and must be neutralized before entering sewers (if allowed). These chemicals are not allowed to be in contact with food.

Detecting these ingredients is not easy, but knowing the common names to avoid is a start. Here is a partial list of key words to look for

Acid	Caustic	Caustic Soda	Chlorinated
Lye	Chloride	Hydrofluoric	Hydrogen Fluoride
Lime	Brighteners	Strong Alkali	Sodium Hydroxide

The message that needs to be conveyed: Be careful out there – your trailer’s life depends on it!

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