OCTOBER 2000

master chemical CLEAN Sheet

CENTER STAGE:

A new cleaner product is added to the line-up

Whamex™

The new machine and central system cleaner, Whamex, mixes easily with water, cleans most scums and residues nicely, and contains a fungicide for the tougher jobs. Field tests of Whamex have been a huge success with dozens of customers, where it's reported the machines have never been cleaner. Customers are using it in large and small central systems, flumes, filters and stand alone machines.

While Whamex does an outstanding job in the preferred Master Chemical eight step machine cleaning method, it also has been formulated to work in quick cleaning where it is added to the coolant in the machine prior to DCR (that's dump, clean and recharge for you neophytes). A customer especially pleased with the ease of use, adds Whamex to the coolant a shift prior to scheduled cleanout, thereby reducing required scrubbing to a bare minimum.

Another customer described grungy cutting fluid that looked brand new after adding Whamex at 2 percent. Other anecdotal reports include superb cleaning at just 1 percent. One district manager cleaned a central system with Whamex and reported that the flumes, which used to take a full day to scrape out, were simply hosed off after circulating Whamex for a few hours.

The customers who tested Whamex are now dedicated users. And while you might decline the invitation, one excited user said machines are so clean "you can eat off the sump bottom."

Whamex™

Whamex is one terrific product that you can count on to win customers.

master chemical corporation
501 West Boundary
Perrysburg, OH 43551-1263

IN THIS ISSUE:

Reader feedback:

We love mail – of all kinds. Let us know what you think of the Clean Sheet and how to make it more useful.

A recent e-mail from Mike McCormack made our day.

Mike writes, "I just had to respond to you after reading the April 2000 edition of the Clean Sheet newsletter … I felt really good about myself, having 'aced' the Science 101 quiz … this is good stuff that we can use every day in the field."

The praise continues with, "I like the format and everything about the newsletter … you make it fun and informative at the same time … keep up the great work."

Of course, we have to be wary of taking praise too seriously from someone who says, "When I come back, I want to come back as a lab geek!!"

Keep selling, Mikey!

Here's how to contact us:

David McCall,
Senior R&D Chemist
dmccall@masterchemical.com

Frank Robinson,
Product Manager; Director of Marketing
frobinson@masterchemical.com

Jennifer Rogers,
Applications Specialist
jrogers@masterchemical.com

E. Jon Schnellbacher, R&D
Cleaners Group Leader
jschnellbacher@masterchemical.com

Phone: 419/874-7902
Fax: 419/874-0684

Science 101

SCIENCE CORNER

TRIM

Reducing H_20 tension

Test out of this column by correctly answering the following questions. (Answers appear on the back.)

1. True or False: The capillary action of water results from surface tension.
2. True or False: Surfactants increase the surface tension of water.
3. True or False: It's possible to float an object on water even though it has a higher density than water.
4. True or False: A polar bear sprayed with TASK™ will freeze to death.
5. Which of the following are capable of changing the surface tension of water:

a) hydroponics/hydrofoils

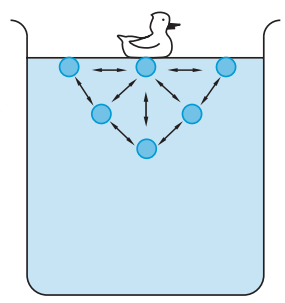
b) hydrophiles/hydrophobes

c) hydroplanes/hypertension

Extra credit: Using only a glass of water, a needle, a toothpick and dishwashing detergent, demonstrate how surfactants affect surface tension.

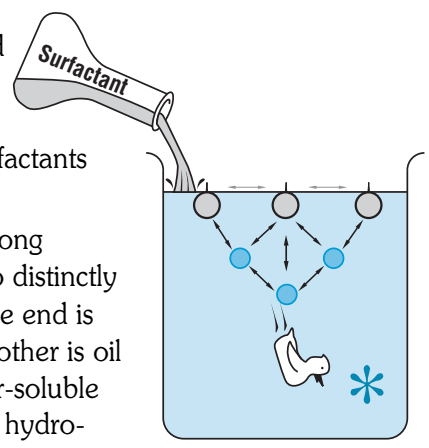
Tension? Who's tense?

At a molecular level, all matter is attracted to other matter, and it has more to do with electrons than hormones. In a water sample, a molecule is attracted to all its near neighbors in three dimensions. The situation at the water's surface, however, is quite different. Where there is no water above, there is no force of attraction. This imbalance of forces pulls all the molecules at the surface closer together. It also produces a very thin, elastic "skin" on the water's surface, called "surface tension."



Without surface tension, water would not flow to the tops of trees by capillary action. Ducks would not float, because their feathers would get wet. Polar bears would lose the insulating power of their heavy coats and freeze to death.

On the other hand, water's high surface tension makes it difficult to clean anything, because effective cleaning requires delivery of the solvent to the dirty substrate, and surface tension inhibits this "wetting" process. Surfactants ease the tension.

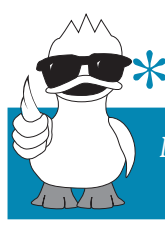


Surfactants are long molecules with two distinctly different ends. One end is water-soluble; the other is oil soluble. The water-soluble end, known as the hydrophile, is strongly attracted to water molecules.

The oil soluble end of the surfactant, known as the hydrophobe, cannot and does not dissolve in the water. Since the hydrophile is dissolved in water and the hydrophobe is not, and the two are attached to each other, the surfactant more or less immediately collects at the surface. While the hydrophiles are below the surface, the hydrophobes are left dangling in the air. Since these hydrophobe groups have little affinity for each other, or anything else, surface tension is reduced greatly.

You can see this for yourself by conducting a simple experiment at home. (Parental supervision recommended, due to sharp implements.) With

(continued on back)

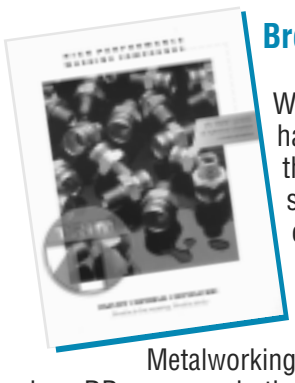


No ducks were harmed in the creation of this illustration.

Show Stoppers

Stop the press!

Distributors are reporting that TASK™ and CLEAN F2 are mopping up the ink in printing operations. Newspapers and process printers are discovering that both are excellent for cleaning up ink residue on press frames, rollers and floors. Expect to see headlines on this soon.



Brochure updated

The "High Performance Washing Compounds" brochure has been updated. And even though the front looks the same, there were a few changes to the product chart: SKRAMEX™ was added; the "TRIM® Combination Cleaners, Corrosion Inhibitors and Metalworking Fluids" category was dropped, since RPs are now in the "High Performance Corrosion Inhibitor" brochure; and CLEAN 177 and CLEAN 180 were moved to "TRIM CLEAN Products for Parts Washing." The back page has been updated to include several great, new accessories for use with TRIM CLEAN products. SKRAMBLER 2™, Unimix EMC and the Sump Side Coalescer were added.

E-TRIM 4.0 CD-ROM

All 148 fluid products are now on the E-TRIM 4.0 CD-ROM. That includes all eight corrosion inhibitors and all 20 cleaners and washing compounds on the Standard Product List. E-TRIM version 4.0 includes all the Data & Information sheets and MSDS for products on the Standard Product Price Sheet, effective March 13, 2000. There are also eight frequently requested technical articles for viewing and printing.

In addition, a new category appears on the E-TRIM home page. It's called "TOOLBOX." Inside, you will find request forms for MOTWOF, SPENCER'S WATCH, case studies, literature, customer and distributor videos, and trade show support. The forms can be completed and sent electronically.

The Fluid Selector has all-new product matrix selection guides, featuring three different selectors. There is an updated Machining Selector where the type of metal and metalworking operation can be entered and the selector will bring up a list of TRIM products that could be used in those situations. A new Grinding Selector is set up in the same manner. Plus, there's now a Cleaner Selector. Just select the type of metal to be cleaned and the type of cleaning system used to produce a list of potential TRIM products.

New Tramp Oil Terminator™ rejuvenates cleaners

The Systems Equipment Division is rolling out a new, powerful and portable centrifuge for extracting tramp oil from sumps and washers. It's called the Tramp Oil Terminator and generates 6,500 Gs, capable of processing two and one-half gallons a minute, while a washer is running. Stainless steel construction handles temperatures of 200 F and a pH of 14. The standard TOT operates on three-phase 220 or 440. Single-phase 120 is an option. Available now, TOT will begin appearing in ads this fall. Testing by a big TRIM Clean user was unbelievably good – before centrifugation, the washer tank had 16.3 percent tramp oil; after centrifugation, it was 0.13 percent tramp oil.

Dear Xena, Warrior Princess of Cleaners

Answering frequently asked questions once and for all

Dear Xena,

As a veteran Master Chemical distributor, I've had great success selling CLEAN F2 – most of the time. Occasionally, however, I'm up against one of those low-priced, local brews. I need some ammunition. How do I sell against a product that's being offered at a price significantly below F2?

A faithful old dog.

Down, boy! There's an old saying that's true about most things in life: "You get what you pay for." I've looked at scores of floor cleaners from all over the world, and there's one thing I can say about exceptionally low-priced cleaners: in a word, they're cheap. Now, don't confuse "cheap" with "low-priced." A floor cleaner can be one or the other, and possibly both.

It's a pretty safe bet, however, that a floor cleaner selling at $3/gallon is not going to perform well. As an example, Mike Driesberg, our district manager in the Great White North, sent in a sample that was selling for $2.50/gallon.

Back in the "cleaner cave," from which research brilliance and all quality cleaners emanate, we perform dozens of tests to check out competitive products – so we know what we're up against in the market. Putting the sample through our standard evaluation, we found it to be your basic blue-tinted water.

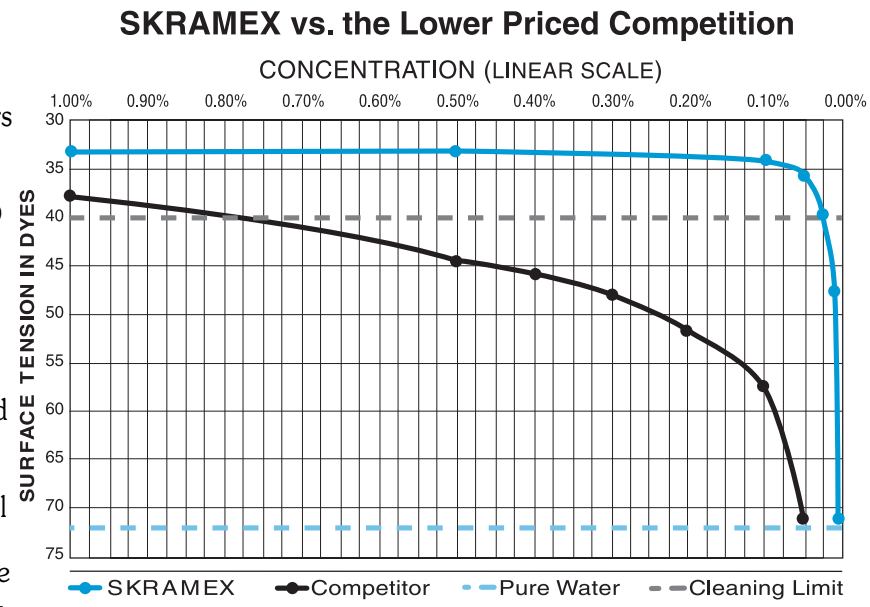
The sample Mike sent in was so woefully deficient in several aspects, I called him to make sure he hadn't sent the sample at use-dilution. The active alkalinity was 0.0 mg/g KOH. Active alkalinity is a measure of how much cleaner is available for cleaning. So, read that measure again, 0.0 mg/g KOH. The percent solids was 0.3 percent, which means the balance was – drum roll, please – water.

If these two test results weren't enough, the fact that the specific gravity of this caustic cleaner was 1.001 (water is 1.000) should have had the customer chasing the "blue water" sales guy off with a broom and ready to order a quality floor cleaner, such as CLEAN F2 or TRIM® SKRAMEX™.

In another instance, a large auto parts plant in Oklahoma, which was using 11 drums per month of a major competitive-brand floor cleaner, decided to give SKRAMEX a try, based on a price/value comparison. The plant systematically reduced the concentration of SKRAMEX, and now does the same jobs with fewer than four drums of SKRAMEX per month.

The next time a competitor comes sniffing around with a floor cleaner priced substantially lower than common sense tells you it should be, show your teeth and let Xena do a little research. Your competitor will be forced to slink off with his tail between his legs.

Sic-em.



One of the unfortunate realities of the highly competitive industrial cleaner business is that many producers use as little surfactant as possible in their formulas in an effort to keep the selling price down and profits up. R&D Technician Jeff Claugus recently conducted a series of tests on leading competitive floor cleaners to see just how far each could go before "hitting the wall" in terms of surface tension. In all cases, the TRIM® product showed superior performance. The chart compares SKRAMEX™ against an actual "typical" competitor. SKRAMEX at full strength has lower surface tension, measured in dynes. As the products are diluted, the surface tension of the competitive product rises dramatically. At just under 1 percent dilution, the competitive product runs out of gas. The surface tension rises rapidly, and cleaning action just peters out. SKRAMEX, on the other hand, keeps right on cleaning down to a dilution of 0.025 percent! That means SKRAMEX can be diluted 16 times more than the competition and still maintain its cleaning capability.

So, you can get "okay" cleaning from "brand X," if you keep the concentration high enough. However, surfactants get used up as you clean oily soils, which is why CLEAN F2 and SKRAMEX not only work at lower concentrations, but also last longer in use. Cleaners that last longer save time and labor, because they eliminate frequent dumping and refilling, which in turn, reduces waste water volume. ■

■ ■ ■

(continued from front)

moderate care, a needle can be easily floated on the surface of a glass of water. The surface will bend under the weight of the needle, but the strong surface tension of the water will not break. The needle floats, even though its density is much higher than the density of the water. The surface tension of the water also prevents the water from wetting the needle.

Now, dip the tip of a toothpick into some liquid dishwashing detergent and touch the surface of the water in the glass. The needle will sink immediately, because the surfactants in the detergent reduce the surface tension until it can no longer support the weight of the needle.

So, the objective of adding surfactants is to lower surface tension, allowing a detergent solution to wet a soiled surface and effective detergency to take place.

Test answers: 1) true; 2) false; 3) true; 4) true in theory, but unproven; 5) b. If you had trouble with this quiz, contact R&D Cleaners Group Leader E. Jon Schnellbacher for some tutoring.

TASK™ Mug Shot

At a distributor sales meeting on San Andres Island in February, along with lots of good product information, everyone received a TASK mug. These mugs belong to Shannon Mullins and Steve McGaughey of Meyer-Mercer, Inc.