JANUARY 2000

master chemical CLEAN Sheet

CENTER STAGE: SKRAMEX and SKRAMBLER 2

MCC has added to its cleaner line and is offering a wall-mount proportioning mixer to TRIM® CLEAN product customers.

Some of you already may have tested SKRAMEX in its market-test version (SCRAM-X), and many of you are already selling significant quantities. SKRAMEX takes its place alongside CLEAN F2 to fill out the MCC line of shop floor cleaning formulas. While CLEAN F2 is super-concentrated and "coolant-friendly," SKRAMEX is formulated for those situations where "friendly" just doesn't cut it.

Super-concentrated, and therefore economical, non-butyl SKRAMEX is designed specifically for the most difficult floor soils found in machining, drawing, stamping, foundries and mills. It's highly caustic and capable of emulsifying oils, drawing compounds, carbon residue and other heavy soils, while not harming concrete.

When used in a power floor scrubber, SKRAMEX will clean most soils at concentrations of 0.5 percent or less. It's also effective and economical when used as a cold-soak cleaner for ferrous parts. SKRAMEX is available in five-gallon pails, 54-gallon drums, 270-gallon bottle-in-cage bins, 350-gallon returnable bins and tank wagon lots.

Since SKRAMEX is a non-butyl product, there is no butyl-related government reporting requirement associated with its use.

Precise mixing saves cleaner

A dual-ratio, venturi-operated proportioner, built specifically for Master Chemical TRIM® CLEAN products, is named the SKRAMBLER 2. The SKRAMBLER 2 will mix one product at two different ratios, or it can handle two different products at different ratios.

Adjustable from 0.5 percent to 22 percent, the SKRAMBLER 2 is a simple and effective means of controlling cleaner costs by controlling the mix ratio. It requires no electrical connections, only tap water, for operation. Constructed of rugged stainless steel, the SKRAMBLER 2 includes inlet and outlet tubing, check valves and a hose adapter for the water hook-up. Patented air gap eductors meet ANSI A112.1.2 standard for back-flow protection.

Offering simple accessories for dispensing and mixing concentrate is another way to grow business in the maintenance cleaner area – opening up opportunities and keeping business over the long term. Think of SKRAMBLER 2 as a razor, and TRIM® CLEAN product as the blades. SKRAMBLER 2 is now in stock and can be both useful and profitable.

For detailed information on these two new products, contact MCC.

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INSIDE THIS ISSUE:

- Understanding pH
- Resolving a foam problem
- Success stories from around the world
- New products customers can test

You're a winner!

Good news! You've won the newsletter lottery. That means once a quarter you and a few hundred other key individuals will receive this newsy, irreverent missive from the handsome and knowledgeable folks at Master Chemical Corporation – makers of the TRIM® CLEAN product line.

This unique, informative newsletter is devoted entirely to cleaners – and the people who use them. Regular features will include: answers to FAQ; new product previews; richly deserved recognition; little-known facts; and Science 101.

Like everything from Master Chemical Corporation, this newsletter is guaranteed. If you, for any reason, (1) are not completely satisfied, (2) can honestly say you didn't learn a single thing, or (3) didn't find the newsletter even mildly amusing, return it within seven days to Master Chemical Corporation with an explanation of your displeasure, and we will cheerfully remove your name from our mailing list, gift register and free trial offers.

Of course, you can make our day and give us a call if you like it.

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Science 101

Test your pH

SCIENCE CORNER

If you can answer the following questions, reading this column is not required.

1. What does pH indicate?
2. What are three ways of determining a cleaner's pH?
3. What is the range of the pH scale?
4. What happens to yellow metals when proper pH is not maintained?
5. What three approaches to cleaning a teen's room would mom likely not endorse?

Answers below.

In the industrial cleaner world, "cleaning" is defined as "the removal of soil(s) from a given substrate." The key to proper cleaning is to identify the soil(s) and substrate.

To illustrate, consider a teenage boy being told to "clean" his room. The soils and substrates are not identified, so any method of cleaning might be effective – a fire hose, a bulldozer or a torch. But when soils are defined as dirty sheets and clothes, bags of potato chips, sports equipment and magazines, and the substrates are the bed, carpet and desk, the cleaning methods mentioned are clearly inappropriate. They might rid the room of soils, but would also destroy or damage the substrate.

The same is true in industrial cleaning. You have to select the cleaner that is going to remove the soil, whether it's oil, grease, carbon, or cutting fluid residue, without damaging the substrate, which in many cases is metal.

Further, what works well for one metal will sometimes damage another metal. Usually, the determining factor is the pH of the working solution. The pH can be found on the MSDS for the fluid, the data sheets or measured with pH paper. The pH scale runs from 1-14 with 7 being the neutral or middle point. The lower the number, the more acidic. The higher the number, the more basic or alkaline the product.

Most metals rust or corrode in acidic environments. For that reason, most cleaning fluids are alkaline. Aluminum parts generally like a pH of 4-9. When the pH is above or below that range and there are no "inhibitors" to stop corrosion, the shiny aluminum can turn to a white powdery oxide or blackened metal. Carbon steel generally likes a range of 5-12, but will tolerate a pH as high as 14. Use a cleaner with a pH too low for steel, and you will see a red powder or stain on the surface – commonly referred to as rust.

Different metal alloys have different tolerances – for example, stainless steel tends to corrode less easily and has a wider pH tolerance than steel. Magnesium usually is washed with cleaners above pH 12 to minimize oxidation. Titanium has a high tolerance for alkaline pHs. The yellow metals – copper, brasses and bronze – generally are happy with a pH of 8-10. When they corrode, they tend to turn shades of black or green.

If you consider the substrate and use compatible pH cleaning fluids, you will avoid these problems. All MCC cleaning fluids have compatibilities listed on the front of the data sheet, so look before you clean.

Now, try the pH test. If you can't answer all the questions, you may have to repeat this column.

(Answers to pH test: 1) the degree of acidity or alkalinity; 2) a-MSDS, b-data sheets, c-pH paper, d-pH meter, e-send a sample to your distributor's MCC approved lab; 3) the pH scale is from 1 to 14, a reading of 7 is neutral – low numbers indicate acid and high numbers indicate basic or alkaline solutions; 4) yellow metals corrode, turning shades of black or green; 5) we doubt that even the most frustrated mom would approve of cleaning with a fire hose, bulldozer or torch – but you can always ask.)

Show Stoppers

■ MCC sales of maintenance cleaner products (TASK, CLEAN F2, SKRAMEX, Rinse 100 and FMP) have more than doubled since August 1998 – just 14 months – and will double again by the end of Y2K.

■ Richard Catterall captured the TASK "Big Gun" trophy at the recent district managers meeting in Perrysburg. Richard led all MCC district managers in selling TASK during the May through September contest period. "If you just get the customer to try TASK, this stuff practically sells itself," says Richard.

■ A major, international automotive company has approved CLEAN 177 for use in washing parts at its new state-of-the-art facility in Spain. This significant new business is thanks to MCC associates at MCE, who are doing a great job growing the cleaner business throughout the European Community.

■ The California South Coast Air Quality Management District has tested and approved TASK as a *Clean Air Solvent,* which means no record-keeping requirements and emissions fees under AQMD regulations covering solvent cleaning operations and solvent degreasers. In laboratory analysis, AQMD found that TASK has: no toxic constituents; no ingredients that contribute to global warming or deplete earth's protective ozone layer; fewer than 50 grams per liter (5 percent) of volatile organic compounds when used at 1:1 dilution or higher; a low vapor pressure; and a low smog formation rate. How's that for environmentally friendly!

■ MCC wants you to pitch those old TRIM® CLEAN brochures. Check the back page of the brochure. If the date in the lower right-hand corner *isn't* 8/99, it's time to replace old brochures with the newer, updated edition. Order a supply from MCC.

Frankly's Believe It or Not

A regular SCRAMEX customer in Tennessee needed something to help remove heavy baked-on residues from a wastewater evaporator. A quick test with SCRAMEX was successful, and the gummy, crusty coatings which interfere with heat transfer are a thing of the past.

■

An Alabama hydraulic cylinders manufacturer reports that CLEAN F2 not only removes floor soils (including honing oils) better than anything they've ever tried, but it also saves time and money in the cleaning and improved durability of mop heads. Maintenance people love the way mop heads are free of the gummy, oily residues of the past.

■

CLEAN 2029 and CLEAN 2023 were tested at an independent laboratory in accordance with ASHRAE 97-1989 and were found acceptable for use in refrigerant systems. Copies of the test report are available from the MCC. Also passing the tests were C115, Microsol 167 and C270.

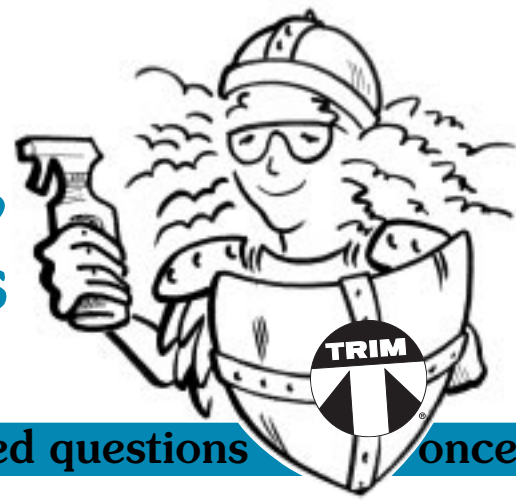
■

TASK accomplished: 1) A large, heavy-truck component plant in North Carolina has just switched from a "GREEN" product to TASK for all its general purpose cleaning needs. 2) A shipyard in New England reports TASK is the most effective product it has ever tried for removing heavy rust protective films from stored parts. 3) A car plant in the United Kingdom says TASK does a great job removing resin materials from floors and is used to clean up the "engine test room" where all kinds of engine lubricants get splashed.

■

Cold washers need higher make-up rates. Recent experience has shown that unheated spray washers require make-up at about the same concentration being targeted for the working solution. In most heated washers, evaporation carries away water, but not the cleaning compound. While in a cold washer, most of the losses are due to "carry off," which takes the cleaning compound along with the water. Both systems use about the same amount of cleaning compound for make-up, but the cold system needs less water, thus the higher concentration.

Dear Xena, Warrior Princess of Cleaners



Answering frequently asked questions once and for all

Xena pops bubble mystery

Dear Xena,

We've just installed a new washing system in our manufacturing cell, and every morning when I come in and start the washer up, I'm hip-deep in foam. This happens every so often throughout the day, too. Can you help?

P.S. I also have a problem with my dog foaming at the mouth.

My dear, you can put those hip waders away. Foam – those tiny bubbles that don't make you feel happy – is the most frequent field problem related to cleaners. The culprit can be: temperature; a concentration that's too high or too low; soils that make soaps; and, occasionally, the wrong product.

Odds are, it's temperature. Most of our cleaners have been formulated to make use of "cloud point" – the temperature at which one or more of the surfactants in the cleaner will act as a defoamer for the system. Nearly all TRIM® cleaners will be low foam at 120F or above (with the exception of Rinse 100, CLEAN F2 and TASK).

And surprise, the temperature may not always be where you think it is. Graham Hall, our man in the English Midlands, received several reports of a bubble bath on the plant floor. By the time he would arrive, it was always cleaned up and the system was running fine, making the source of the intermittent problem difficult to track down.

Finally, one day while Graham was standing next to the machine, he heard a large "whoosh" of ice-cold tap water being dumped into the sump. The make-up water was being added in a large, single dose, taking the sump temperature below 122F (50C), and producing the intermittent foam. Once the heaters caught up to the additional volume of water, the problem was gone.

Concentration comes in as a distant, second-place cause of foam. Cleaners are usually formulated to work in the 1 percent to 5 percent range. So, a 0.6 percent solution does not contain enough of the low cloud-point surfactant to be effective, and 32 percent is obviously overkill – more is not necessarily better.

Holding down third place as a cause of foaming is simply the wrong product in the wrong application. DO NOT PUT RINSE 100 IN A SPRAY WASH APPLICATION! That same admonition applies to CLEAN F2 and TASK, as well.

Finally, the soil that is being washed off sometimes can cause problems. I recently visited a site to figure out why a spray washer was foaming out of the sump on a daily basis. The plant was a metal forming facility, and one of the drawing lubricants was a saponified lanolin. Let's look that up:

SAPONIFY: vb –fied;-fying [Latin-sapo] to convert (a fat) into soap; to hydrolyze a fat with alkali to form a soap.

All you need is heat, a "fatty" soil and a high pH cleaner. As you can well imagine, even straight water foamed out of the sump. The solution was to use CLEAN 2029 "One Step" with DF1. The result: parts have never been cleaner, and the sump clean-out has become far less involved than with the previous powdered cleaner.

Now you know nearly all there is to know about foam. That means I shouldn't have any more questions on the subject of foaming.

P.S. Shoot the dog.

Not-yet-ready-for-prime-time: New products looking for a test site

WB9805-75 Neutral pH Brass Cleaner & Corrosion Inhibitor

- a concentrated, neutral pH cleaner designed for washing brass, copper, bronze and mixed-metal parts
- compatible with most waste treatment; incidental contact will not degrade metalworking fluids
- low foaming at room temperature and non-foaming at 100F
- provides extended in-process tarnish resistance on copper and copper alloy parts and inhibits corrosion of ferrous metals.

WB9700-29G Synthetic Water-Soluble Corrosion Inhibitor

- a highly concentrated "synthetic" corrosion inhibitor designed for spray or dip application to steel or cast-iron parts
- a mild pH makes this product safe to work with and compatible with most waste treatment; incidental contact will not degrade metalworking fluids
- produces minimal foam when sprayed, even at room temperature
- other features include: hard water-tolerant; a mild, pleasant scent; no boron; no nitrites; no SARA 313 or EPA 33/50-listed ingredients; and no barium compounds
- will not cause staining on copper or aluminum alloys

WB 9700-27E

- a low-foaming, non-silicated cleaner for spray washing aluminum and multi-metals at ambient to slightly elevated temperatures
- a mild pH makes it compatible with most waste treatment
- will not cause staining on aluminum or yellow metals
- ideal where one product is used for multiple metals – compatible with both ferrous and non-ferrous materials (except magnesium)
- hard water-tolerant, with only moderate foam at room temperature

WB1402-80B

- a high-pH, low-foaming spray cleaner designed for cleaning steel, steel alloy, cast iron and magnesium parts
- because it is low-foaming at room temperature, it can be used in unheated washers
- contains no boron, phenols, phosphates or silicates for good recyclability
- compatible with MCC ultra-filtration systems and splits out oils for easy skimming and long bath life
- also an effective vibratory finishing compound for use on steel