

1. Product Name

M-FLUSH

2. Manufacturer

METZGER/MCGUIRE

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3. Product Description

Composition

M-Flush is a VOC-free, single component liquid polymer specifically designed for maintaining and flushing of dual-component pump dispensing systems. It can also be used to remove cured material buildup on equipment, tools and pump parts.

4. Basic Use

Note: Prior to use, always check with the individual pump manufacturer for their specific maintenance and cleaning recommendations. The following are general guidelines and are not intended to supersede or replace any cleaning recommendations made by a pump manufacturer.

When used as a flush, **M-Flush** should be added to the pumping system after dispensing of existing material/polymers and allowed to dwell within the system for 5-10 minutes. For pumps fitted with grease zerk fittings, lubrication should be performed at this time. After lubrication, **M-Flush** should be completely dispensed from the pumping system and replaced with storage oil or fluid as recommended by the specific pump manufacturer.

When used as a cleaner, **M-Flush** should be allowed to sit within the pump system for several hours or longer (typically 8-24 hours). After dwell time, complete disassembly of the pumping components should be performed to remove all traces of softened material and contamination. Components can then be re-assembled. A repeat flush, as outlined above, should then be performed.

CAUTION: When using to soak individual parts or as a pump system cleaner, **M-Flush** will soften built-up contaminants after long periods of saturation or dwell. It is imperative that complete disassembly and manual cleaning of the system components be performed prior to next pump use. **Warning:** Disregarding this step may lead to an off-ratio pumping condition, as dislodged or partially softened materials may cause pump clogging, hose or line restriction, and/or blockage of the dispensing wand manifold assembly.

5. Limitations

M-Flush should not be used with certain vulcanized rubber gaskets and o-rings, as swelling may occur.

M-Flush is intended for the cleaning and flushing of pumping equipment, and should never be used as a hand cleaner, or as an alternate cleaner for anything other than the intended purpose of the product.

M-Flush is not intended to replace the need for proper pump cleaning and maintenance, nor should it be expected to restore pump metering ratio or operational performance.

6. Advantages

- Contains no VOC's
- Low to no odor
- Can be used to flush polyureas, polyurethanes, and epoxies
- Can be used for both parts and tank cleaning
- Can be re-used when properly strained of contaminants
- Will not damage PTFE or Teflon seals and gaskets
- Non-flammable
- Low evaporation rate

7. Color and Packaging

M-Flush is a thin amber liquid. **M-Flush** is available in 1 US gallon units and 5 US gallon pails.

8. Shelf life and Storage

M-Flush is suitable for use for 1 year in unopened containers. Store in cool, dry area away from excessive heat or freeze/thaw and out of direct sunlight.

9. Safety

M-Flush is for industrial use only. Use only in well ventilated areas. As with all solvents and industrial chemicals, practice all appropriate safety precautions (clear work area, NIOSH-approved hand (butyl or neoprene gloves recommended), eye and face protection, etc.). Thoroughly read and understand SDS and product instructions prior to using material.

10. Warranty

Due to variations in usage, pump dispensing systems, and in filler/sealant materials, Metzger/McGuire cannot warrant this product for individual or specific use. Suitability for use or application must be solely determined by the user.

Recommended Dual Pump Flushing Procedures (Polyurea)

Procedures for flushing out dual-component pumps, used to dispense polyurea fillers, differ from those traditionally used to flush epoxy fillers. The procedures used to flush the polyol and iso tanks also vary. To follow is a general outline of our recommended procedures for flushing polyurea components out of a dual-component pump. This bulletin is not meant to be a comprehensive procedural outline, as flushing components and methods will vary depending upon pump equipment, last polyurea used, maintenance and upkeep of the equipment, etc. Please contact our technical service department at [800-223-6680](tel:800-223-6680) to discuss the most appropriate procedures for your specific situation.

Flushing Polyurea Polyol (A Side)

The gray or colored polyol (Part A) can be easily cleaned up and flushed away with any solvent such as MEK, Xylene, Toluene, Acetone, or Metzger/McGuire's **M-Flush**. Simply pour it in the tank and wash the walls with a lint-free cloth rag **ONLY** (no paper towels or other wipes that could potentially leave lint or fabric strands behind, as even the smallest paper strand or chunk can clog a pump).

Pump the solvent through until the tank is empty. Bear in mind that even though the tank is empty and the pump is not dispensing, there is still solvent in the pump slaves and the hoses. Solvents should not be left in pumps for extended amounts of time due to the potential to swell or degrade seals, o-rings, etc. The solvent is used merely to flush the material out of the pump.

After you have pumped as much solvent out of the pump as possible, pour in 1 gallon of *Mobile 1 Synthetic Oil* or a similar high grade hydraulic oil. Pump the oil through the system until it purges all the solvent left in the lines and you get steady streams (no spitting, sputtering, or bubbles) of pure oil exiting the manifold. The A side is now ready for storage or for the next material to be dispensed.

Flushing Polyurea Isocyanate (B Side)

In our experience, the amber colored iso (Part B) is the cause of 80% of all the pump problems. All of these problems are avoidable if you take the time to flush, maintain, and protect your pump properly. Like the polyol, the proper flush requires two components; an iso-eating solvent such as Metzger/McGuire's **M-Flush** and a low moisture oil.

Iso's have natural enemies that cause them to crust, cure and harden along tank walls (generally within the same day of use). Iso's can also weld moving pump parts together, or choke parts until the pumps slowly go off ratio.

The main enemies of the iso component are moisture (air), petroleum based products (grease, oils) and virtually all solvents (MEK, toluene, xylene, acetone, etc). These enemies all have the potential to throw off the pump ratio in many

Flushing Polyurea Isocyanate (B Side) Continued

ways, primarily through the introduction of hardened iso shards being drawn into your pump and pump lines. But unlike the polyol side, crusted or hardened iso can result from many different reactions, all resulting in small crusted pieces. This is why cleaning, flushing, and maintaining your iso side is critical and why it deserves your time and careful attention to detail.

If your pump is new or very well maintained (broken down and cleaned properly after every job), the flushing process is similar to that of the polyol side. *If your pump is not well maintained (iso crusted along walls, etc.) do not follow this procedure, contact us to discuss alternate procedure.*

To begin, pump any remaining iso material out of the tank. Pour in iso-eating solvent. Wipe tank with clean, lint free cloth, then allow to sit for 10-15 minutes. Pump the tank empty of solvent. Never leave solvent in pumps for extended time as it can swell and destroy o-rings, seals, etc.

In either scenario, after pumping all solvents out, add 1 gallon of low moisture oil (good hydraulic or synthetic oil), wipe the tank again, and purge the solvent out until clear streams of oil can be seen. Stop and leave oil in pump and tank. You are now ready for storage or dispensing.

Additional Notes:

We recommend having one or more screens (preferably with a tight sieve size) in the base of the tanks at all times. Debris can come from many sources: open buckets, sand from windy sites, lids, etc. Screens help prevent debris from entering the pump and pump manifold.

In addition to using screens at the tank base, we recommend filtering filler materials through a nylon paint sock. This paint sock can be secured directly in the tank or used to pour through when filling the tank. Paint socks should be thrown away and replaced each day of the project.

Always leave tank lids on unless actively filling the tanks. Do not open both lids at the same time while filling, open them only one at a time to avoid the chance of cross-contamination from splashing, etc.

Because solvents, iso's, and flush/storage oil are all amber in color, you may want to dye the oil with black or green food coloring to assist in determining when it is thoroughly purged. This dye also helps when adding the new material to the tank, as it will be easier to see when the oil has been completely pumped out of the system.

Please contact our technical service department at [800-223-6680](tel:800-223-6680) to discuss your concerns or with any questions on pump maintenance.