

# SUMP SYSTEM SHUTDOWN

## **IN BRIEF**

While mandated or voluntary long term shutdown of facilities are rare, it is not unusual for your machines to require maintenance, undergo service or go through preventive cleaning. During these down times, your Flood Coolant mixture is likely sitting stagnant. Without recirculating movement, bacterial and fungal growth can be accelerated. We all know that rancid smell associated with Monday morning startup... Now magnify that.

#### **Related Products:**

**Grotan®** 

Triadine™ 20

Rustlick™ Start-Up Kit

Rustlick™ 606

**Kleenzol DY** 

Refractometer

**Sump-Side Defoamer** 

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## **OVERVIEW**

# A guide to prolonged shutdown of machine shops – what to do with your flood coolant sumps

#### **PREVENTION**

Here are some good practice guidelines to prevent your flood coolant from fouling your machinery and circulation systems.

#### SHUTDOWN <7 DAYS

**GOOD PRACTICE: Reactive Dosing** is commonly used for periods of shut down less than 7 days, mostly because these are unanticipated/unscheduled. Think about repairs to your machines. The incident causing the downtime is unscheduled, and repair times can be unknown. Once the machine is up and running again – Take a reading of your Coolant's health and then dose the sump with a biocide targeting bacteria – adding fresh coolant to rebalance.

**BETTER PRACTICE: Preventative Shock** using biocide targeting bacteria (& fungi as an aggressive precaution) is the primary recommendation if you KNOW you will be down for 3 to 7 days. The idea here is to over charge the sump with a high load of biocide that will neutralize growth of microbes that will cause alterations to the sump make up and risk ruining product, equipment and materials.

#### **SHUTDOWN 7-14 DAYS**

**BEST PRACTICE: Preventative Shock** is used for shut downs of 1-2 weeks. If you find yourself in a position where the sump wasn't charged prior to work stoppage, using a Shock Dosage will be retroactive for the down time that has elapsed as well as prevent further growth.

#### **SHUTDOWN > 14 DAYS**

**GOOD PRACTICE:** Again, **Preventative Shock** can and should be used if it is planned to be down for more than 2 weeks and if Sump Shutdown isn't an option. However, if you can't add a second shock dose within that 14 days, you may not keep growth from forming.

**BEST PRACTICE:** Performing a **Sump Shutdown/Restart** is your best and safest option when you anticipate and can plan long term work stoppages. This not only mitigates risk of sump fluid fouling, it protects the associated machinery and systems from exposure to pH changes, flash corrosion/rush, and a potential health and safety hazard from high levels of microbial growth.

#### **Definition**

#### **REACTIVE DOSING**

#### <7 DAYS

Used to stabilize or recover sump mixture that has already fouled. (good for sumps that have sat inactive for <7 days)

#### PREVENTATIVE SHOCK

#### **3-14 DAYS**

Used to mitigate microbial growth in your sump if you anticipate prolonged downtime (best for known work stoppages of 3-14 days)

#### SHUTDOWN >14 DAYS TO 2+ MOS

Used for full work stoppage and protection of sump, circulation equipment and machinery (best for known work stoppages of >14 days to 2+ months)



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#### **PROCEDURES**

How to perform Sump Maintenance Steps

#### **REACTIVE DOSING**

- Add metalworking concentrate, make-up water additions, and other additives (such as defoamers) first.
- 2. Add biocide as indicated by use. Grotan® should be used to maintain a concentration of 0.15% (1500 ppm) in the fluid. Triadine™ 20 should be added at the sump in areas of good mixing at 1 ounce per 5 gallons of sump capacity.
- **3.** Perform microbiological testing after 24 hours to measure response before repeating.

#### **PREVENTATIVE SHOCK**

- Add metalworking concentrate, make-up water additions, and other additives (such as defoamers) first.
- Add biocide as indicated by use at maximum allowable concentration (per EPA). Triadine™ 20 should never exceed the maximum EPA approved dose of 2000 ppm.

### SHUTDOWN/RESTART OF SUMP SYSTEMS

- Add biocide to existing rancid coolant (-1 ounce per 5 gallons of sump coolant) and recirculate for 4 hours. This will neutralize microbiological growth. Adding fresh coolant with out this step will result in bacteria feeding off the new coolant.
- 2. Dispose/Drain the old coolant.
- Refill with a fresh water and sump cleanser (such as Kleenzol DY) mixture – mixed 30:1 and recirculate for 1 hour. This step will remove build-up residue and way-lube oils in the machine.
- Remove metal chips and debris from sump. Coat metallic parts and areas prone to rush with a moisture absorbing rust preventative. Rustlick™ 606 is a protective measure against flash rust if you are not immediately charging the machine, it will protect surfaces for at least 2 months.

# RECHARGING MACHINE/SYSTEM

- Charge machine with fresh coolant mixture using approximately water to 1 part flood coolant. Mix ratios vary depending on the type of coolant. Rustlick™ coolant is recommended at a 5% concentration for the initial charge and a 30:1 ratio when adding Rustlick™ coolant to an existing coolant.
- After seven days, add biocide 1 ounce to every 5-10 gallons of sump capacity. This is an important step to knock out any bacteria that grows after the restart process.

