

Degreasers: Parts Cleaners (cold)

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ACE Academy

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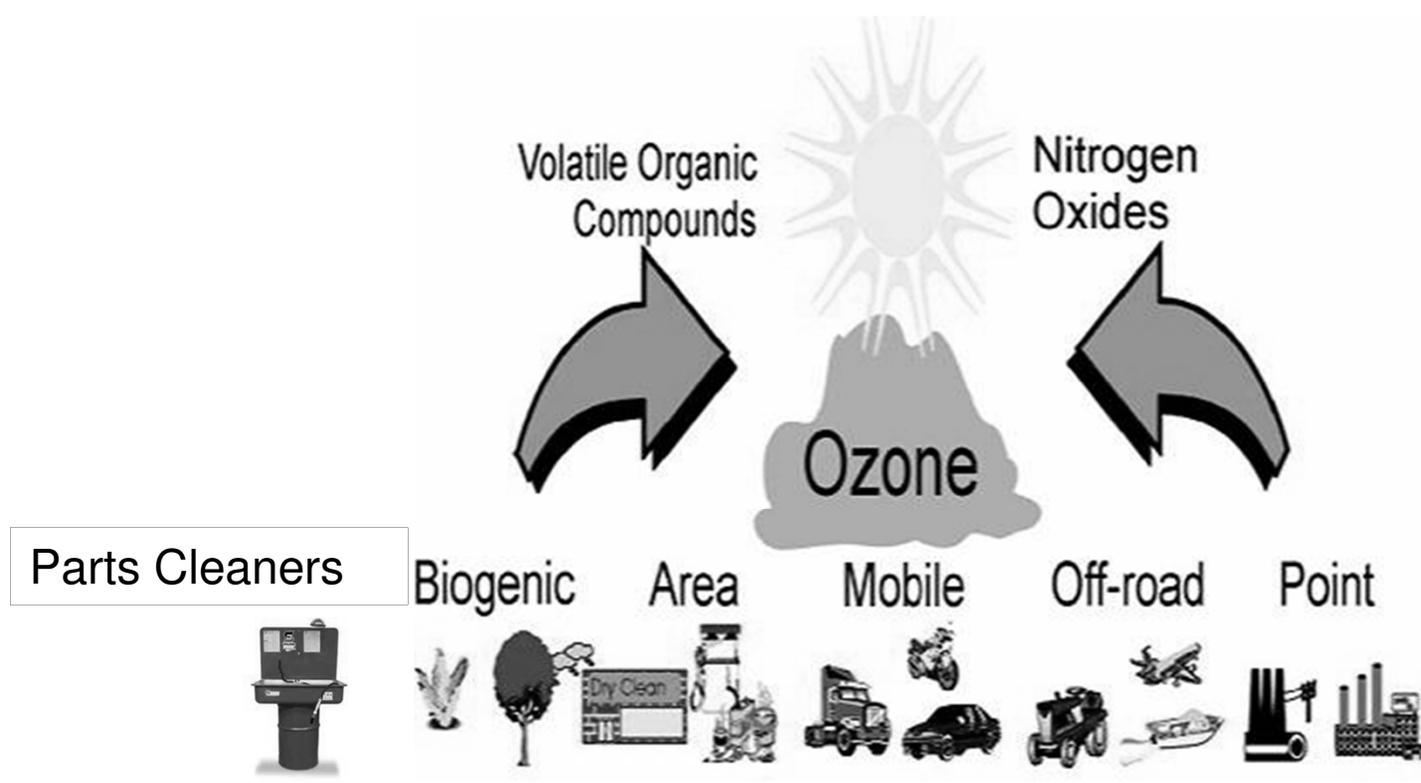
Ground Rules

- Ask Questions Anytime
- VOC = Volatile Organic Compound
- HAP = Hazardous Air Pollutant

Why bother with Parts Cleaners?

Because many parts cleaners use solvent,
and solvent:

- Readily evaporates to cause air pollution
- Is a source of VOC
- Reacts in air to create ozone
- Plus, some solvents can have health hazards



Parts Cleaners are a source of VOC, which reacts in the air to create air pollution/Ozone (smog)



Bad Ozone Day

vs.



Good Ozone Day

Ask this question first:

Is the parts cleaner using

SOLVENT

OR

NON-SOLVENT

????

non-solvent
=
non-regulated

solvent
=
regulated

How to Identify “Green” Non-solvents:

Based on VOC content

Example: Safety-Kleen's ArmaKleen

Possible key words:

Biodegradable
Surfactant
Nonflammable
Aqueous

Definition of Solvent:

VOC content $>5\%$ by weight.

-So if the VOC content $\leq 5\%w$,
it is considered non-solvent (green)
and is non-regulated

Green Cleaners and Heaters

- Often heated
 - Makes them more effective
- Permit is required for >1MMBTU/hr. heaters
(fuel combustion) 7:27-8.2(c)1

Cold Parts Cleaners

solvent

=

regulated

Parts Cleaners: 2 Regulations Apply

Sub 8 Permits

7:27-8.2(c)4

and

Sub 16 VOC

7:27-16.6(j) Open Top Tanks and Solvent
Cleaning Operations

Sub 8 Permits

Permit Needed If . . .

Top opening >6 sq. ft.

OR

Capacity >100 gals

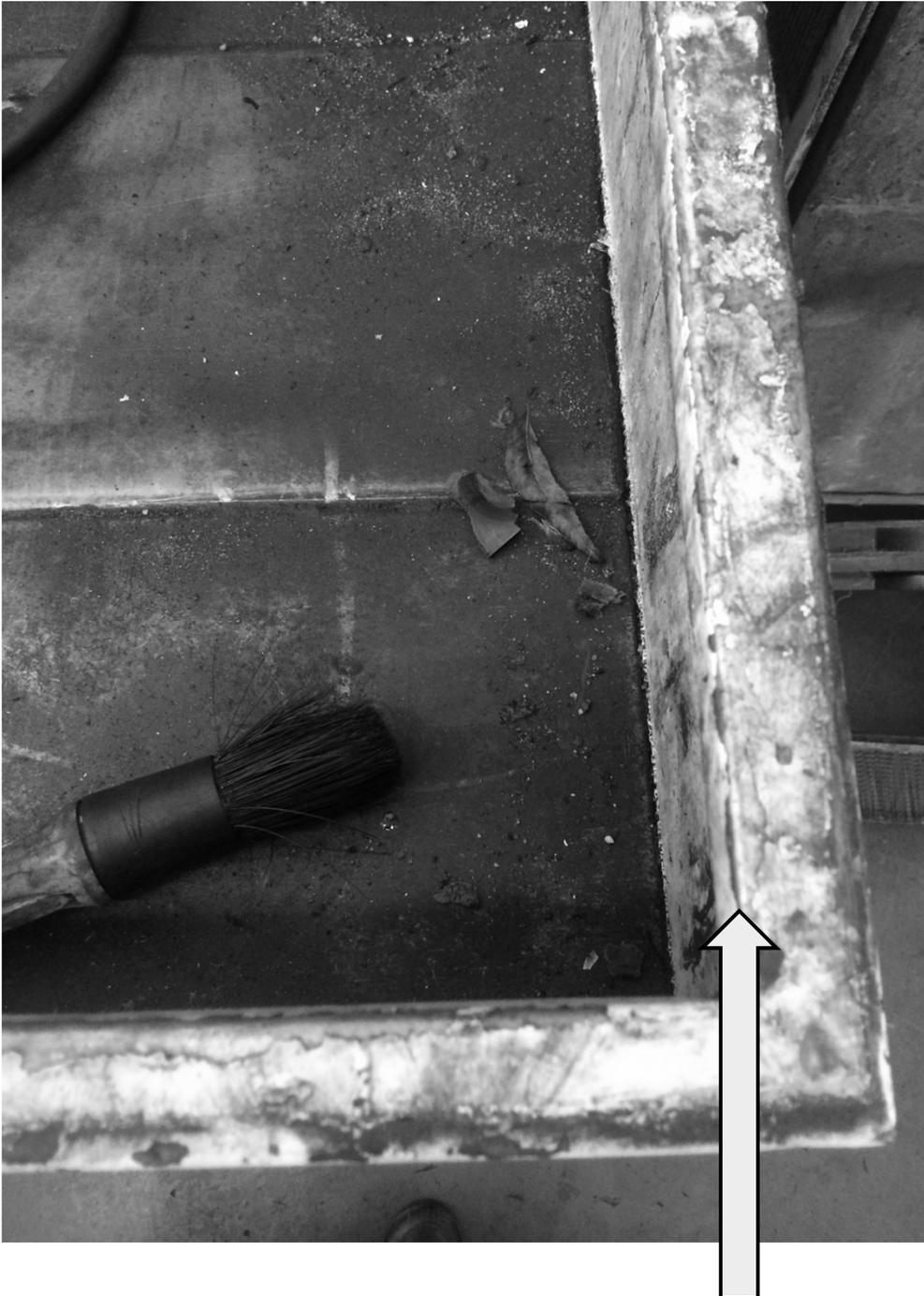
Sub 8 Permits

- **General Permit GP-10 - appropriate in most cases, Non-Solvent Parts Cleaners**
- **General Permit GP-11 - appropriate for HAP-Solvent Parts Cleaners**
- **Preconstruction Permits – reviewed on a case-by-case basis**



Measure top opening
with lid UP





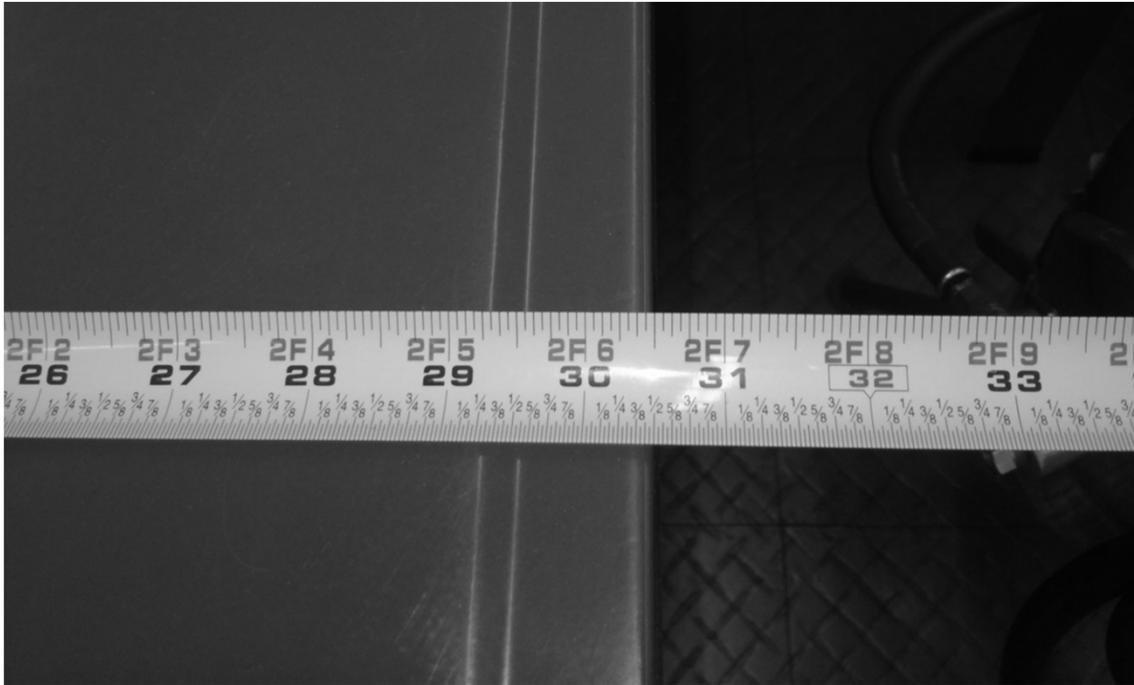
Measure
inner-lip to
inner-lip

(surface area = $L \times W$)



Correct
measurement = 29"
(inner lip)

Wrong
measurement = 30"
(outer lip)



DO NOT
MEASURE
WITH THE
LID DOWN
(30.5" with lid
down =
INCORRECT
measurement)

End of Sub 8 Permits

RECAP:

- **Needs a permit if:**
 - >6 sq. ft. opening**
 - OR**
 - >100 gals capacity**
- **Measure with LID UP, using the inner lip.**

Sub 16 VOC

- Applies if >2 gallons solvent
- Permit may not be needed under Subchapter 8, but the equipment is still subject to requirements of Subchapter 16

7:27-16.6 (j)

Sub 16 VOC

Four main rules :

- 1. Solvent Vapor Pressure**
2. Lid
3. Keep records
4. Hang rules on display (and follow them)

Sub 16 VOC - Rule #1

- Use appropriate solvent

Compliant

VP <1mm Hg @
20°C (68°F)

- *mineral spirits*
- *(light/medium) aliphatic hydrocarbons*
- *petroleum distillates*
- *naphtha*
- 7:27-16.6 (j) 3

Non-Compliant

- Xylene
- Toluene
- Chloroform
- Ethyl Benzene
- Tetra chloro ethylene
- 1, 1, 1 Tri chloro ethane
- * ane
- * ene
- These HAPs need different controls, possibly GP-11

Sub 16 VOC

Four main rules:

1. Solvent Vapor Pressure
- 2. Lid**
3. Keep records
4. Hang rules on display (and follow them)

Sub 16 VOC - Rule #2

- Use a tightly fitting lid
- Keep lid down (or drain clear of solvent) when not in use

7:27-16.6 (j) 1 iii

Lid Down

- Remote reservoir units: drain = “lid”
- Drain <6 inches diameter
- Keep drain clear – no standing solvent
- If soaking part, then keep lid down

Sub 16 VOC

Four main rules:

1. Solvent Vapor Pressure
2. Lid
- 3. Keep records**
4. Hang rules on display (and follow them)

Sub 16 VOC – Rule #3

- Keep records
- 2 yrs worth
- Readily available

MSDS

&

solvent purchases

7:27-16.6 (j) 4

Sub 16 VOC

Four main rules:

1. Solvent Vapor Pressure
2. Lid
3. Keep records
4. **Hang rules on display** (and follow them)

Sub 16 VOC – Rule #4

- Hang DEP instructions at machine
(7:27-16.6 (j) 1 ii)
- Follow those instructions at all times
(7:27-16.6 (j) 2)

Sub 16 VOC – Rule #4

FOR DISPLAY AT COLD PARTS CLEANER SIZED 2 GALS +

N.J.A.C. 7:27-16.6(j)2. Open Top Tanks and solvent cleaning operations

A person shall operate a cold cleaning machine or a heated cleaning machine in accordance with the following procedures:

- i. If the machine is an immersion machine: The solvent level in the machine shall not exceed the fill line when there are no parts in the machine for cleaning and shall not exceed the high level liquid mark during cleaning operations;
- ii. Flushing of parts with a solvent spray, using a spray head attached to a flexible hose or other flushing device, shall be performed only within the freeboard area of the machine. The solvent spray shall be a continuous fluid stream, not an atomized or shower spray, and shall be under a pressure that does not exceed ten pounds per square inch gauge;
- iii. Parts being cleaned shall be drained for at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while the part is draining. During the draining, tipping or rotating, the parts shall be positioned so that solvent drains directly back into the machine;
- iv. When the machine's cover is open, the machine shall not be exposed to drafts greater than 40 meters per minute (132 feet per minute), as measured between one and two meters (between 3.3 and 6.6 feet) upwind and at the same elevation as the tank lip;
- v. Sponges, fabric, leather, paper products and other absorbent materials shall not be cleaned in the machine;
- vi. When a pump-agitated solvent bath is used, the agitator shall be operated to produce a rolling motion of the solvent with no observable splashing of solvent against the tank walls or the parts being cleaned. Air agitated solvent baths may not be used;
- vii. Spills during solvent transfer and use of the machine shall be cleaned up immediately, and the wipe rags or other sorbent material used shall be immediately stored in covered containers for disposal or recycling;
- viii. Waste solvent shall be collected and stored in a closed container. The closed container may contain a device that allows pressure relief, provided that it does not allow liquid solvent to drain from the container;
- ix. Work area fans shall be located and positioned so that they do not blow across the opening of the degreaser unit; and
- x. ~~If the machine is a heated cleaning machine, the solvent shall be maintained at a temperature that is below its boiling point;~~

Sub 16 VOC – Rule #4

Display Rules and Follow Them

- i. Solvent – Do not exceed fill line when there are no parts in the machine, Do not exceed high level mark during cleaning.
- ii. Flushing parts – only within opening of the machine, use continuous fluid stream that does not exceed 10 lbs./sq. inch.
- iii. Drain parts being cleaned for 15 seconds or until dripping ceases, whichever is longer. Rotate parts with holes. Make sure solvent drains back into machine.
- iv. When cover is open, no drafts greater than 40 meters per minute (132 feet per minute), as measured one and two meters (3.3 to 6.6 feet) upwind at same elevation as tank lip.
- v. Do not clean sponges, fabric, leather, paper products and other absorbent materials.

Sub 16 VOC – Rule #4

Display Rules and Follow Them (Cont.)

- vi. Pump agitator solvent baths shall not produce observable splashing – Do not use air agitated solvent baths.
- vii. Spills shall be cleaned immediately – all sorbent materials stored in covered containers for proper disposal.
- viii. Waste solvent collected and stored in closed container.
- ix. Work area fans shall be positioned so they do not blow across the opening of the degreaser.
- ~~x. If the machine is a heated machine, the solvent shall be maintained at a temperature below its boiling point.~~

CONCLUSION

Compliance Alert

<http://www.nj.gov/dep/enforcement/advisories/2009-15.pdf>



New
Jersey
Department of
Environmental
Protection

COMPLIANCE ADVISORY WARNING

Making You Aware of Emerging Patterns of Non-Compliance

Compliance & Enforcement

Issued: December 2009

#2009-15

Cold Solvent Parts Cleaners

The use of cold solvents (such as Mineral Spirits, Petroleum Distillates, Stoddard Solvent, etc), in Parts Cleaners is common practice for the washing, degreasing, surface cleaning of metal parts.

Proper operation of these Cold-Solvent Parts Cleaners is important to protect New Jersey's air quality, and to reduce public and worker exposure to potentially harmful solvent emissions.

Your Cold-Solvent Parts Cleaner may require an Air Permit, may be subject to Operating Rules, or both.

AIR PERMITS

Some open-top Cold-Solvent Parts Cleaners require a permit. Parts Cleaners are open-top even if they have a tightly-fitting cover. If you put parts in (or take parts out of) a top opening, then you have an open-top Parts Cleaner. This can include both sink-on-a-drum styles, or immersion-styles (see below pictures of examples of Cold-Solvent Parts Cleaners).

If your Open-Top Parts Cleaner uses a cold solvent* (such as mineral spirits, etc) you must get an air permit if either of the following applies:

A) The open-top measures more than 6 square feet

-OR-

B) The solvent capacity is more than 100 gallons



(NJAC 7:27-8.2(c)(4))

* A solvent containing more than 5% Volatile Organic Compounds

If you require a permit, General Permit Requirements for Non-HAP VOC Solvent Degreasing Operations (GP-010) is available, costs \$350 online, and will list the rules you must follow.

OPERATING RULES

Only if your Cold-Solvent Parts Cleaner stores 2 gallons or more of solvent, then you must follow the operating rules listed below:

- Solvent used must have a vapor pressure **less than** 1 mm Hg at 20 C/68 F (check your solvent manufacturer's MSDS sheet).
- Parts cleaner must be equipped with a tightly-fitting cover:
 - Immersion parts cleaner: the cover must always be closed, except when adding (or removing) parts or solvent.
 - Sink-on-a-drum parts cleaner: Cover must always be closed when not in use, except if equipped with a drain that allows solvent to go directly to sealed storage, and that drain is kept clear with no liquid solvent present in the sink.
- Attach NJDEP operating rules near the parts cleaner, and follow these rules at all times.
- Keep records of your solvent purchases (invoices) and solvent MSDS on-site for 2 years.

Sub 16 VOC

- Violations under Subchapter 16 are Non-Minor
- Not Eligible for a Grace Period

(7:27A-3.10)

Sub 8 Permit vs. Sub 16 VOC

- **Applies >6 sq. ft. OR
>100 gallons**

- **Requires a permit**

- **7:27-8**

- **Applies >2 gallons**

- **Follow requirements
even if no permit is
required**

- **7:27-16**

Contact Info

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Questions?