

August 16, 2018

Eun Yi
Imperial Cleaners Shop
470 NE Birch Street
Camas, WA 98607-2029

Subject: Notification of Petroleum Dry Cleaning Machine Installation (SUN – 175)

Dear Mr. Yi:

The Southwest Clean Air Agency (SWCAA) received your Small Unit Notification (SUN) on May 17, 2018 for installation and operation of a new dry cleaning machine at Imperial Cleaners Shop. For administrative and tracking purposes SWCAA has assigned tracking number SUN-175 to this notification. This notification was filed in accordance with SWCAA 400-072 and applies to the installation of one dry cleaning machine. The new machine was identified as:

- (1) InnoClean model AC-400 with a load capacity of 40 pounds. The unit will utilize DF-2000 as a cleaning fluid.

SWCAA has completed a review of your notification and the associated support information and has determined that the notification meets the requirements of SWCAA 400-072(2). Once installed, affected equipment must maintain compliance with the requirements of SWCAA 400-072(5)(d) "**Petroleum Dry Cleaners**". A copy of the relevant SWCAA 400-072 section is attached for your information.

Be advised that emission units installed pursuant to SWCAA 400-072 are subject to source registration and periodic inspection. Registration fees for this equipment will be invoiced consistent with SWCAA 400-100.

If you need further assistance or have any questions regarding these matters, please contact me at (360) 574-3058 extension 130.

Sincerely,



Paul T. Mairose
Chief Engineer



SWCAA 400-072 Emission Standards for Selected Small Source Categories

[Statutory Authority: Chapter 70.94.141 RCW. Original adoption 09-21-056 filed 10/15/09, effective 11/15/09, 16-19-009 filed 9/8/16, effective 10/9/16; 17-11-078 filed 5/18/17, effective 6/18/17]

(5) Source categories.

(d) Petroleum dry cleaners.

- (i) **Applicability.** The provisions of this section apply to dry cleaning facilities that use petroleum solvent and have a total manufacturer's rated dryer capacity less than 38 kilograms (84 pounds). The total manufacturers' rated dryer capacity is the sum of the manufacturers' rated dryer capacity for each existing and proposed petroleum solvent dryer at the facility.
- (ii) **Emission limits and standards.**
 - (A) VOC emissions from each dry cleaning facility shall not exceed 1.0 ton per year. Emissions shall be calculated using a mass balance approach assuming that all cleaning fluid utilized at the facility is emitted to the ambient air. Documented quantities of cleaning fluid shipped offsite as waste may be deducted from the calculated emissions.
 - (B) Operations which cause or contribute to odors that unreasonably interfere with any other property owner's use and enjoyment of their property shall use recognized good practice and procedures to reduce these odors to a reasonable minimum, consistent with the requirements of SWCAA 400-040(4).
- (iii) **General requirements.**
 - (A) Each dry cleaning facility shall be operated in a business space zoned for commercial activity, located a minimum of 200 feet from the nearest residential structure.
 - (B) Dry cleaning machines shall use DF-2000 cleaning fluid or an equivalent solvent.
 - (C) Solvent or waste containing solvent shall be stored in closed solvent tanks or containers with no perceptible leaks.
 - (D) All cartridge filters shall be drained in their sealed housing or other enclosed container for 24 hours prior to disposal.
 - (E) Perceptible leaks shall be repaired within twenty-four hours unless repair parts must be ordered. If parts must be ordered to repair a leak, the parts shall be ordered within 2 business days of detecting the leak and repair parts shall be installed within 5 business days after receipt.
 - (F) Pollution control devices associated with each piece of dry cleaning equipment shall be operated whenever the equipment served by that control device is in operation. Control devices shall be operated and maintained in accordance with the manufacturer's specifications.
- (iv) **Monitoring and recordkeeping requirements.** The information listed below shall be recorded at the specified intervals, and maintained in a readily accessible form for a minimum of 3 years. Each required record shall include the date and the name of the person making the record entry.
 - (A) Each dry cleaning machine shall be visually inspected at least once per week for perceptible leaks. The results of each inspection shall be recorded in an inspection log and maintained on-site. The inspection shall include, but not be limited to the following:
 - (I) Hose connections, unions, couplings and valves;

- (II) Machine door gaskets and seating;
 - (III) Filter gaskets and seating;
 - (IV) Pumps;
 - (V) Solvent tanks and containers;
 - (VI) Water separators;
 - (VII) Distillation units;
 - (VIII) Diverter valves; and
 - (IX) Filter housings.
- (B) The amount of cleaning fluid (e.g., DF-2000) purchased, used, and disposed of shall be recorded monthly.
 - (C) Upset conditions that cause excess emissions shall be recorded for each occurrence; and
 - (D) All air quality related complaints, including odor complaints, received by the owner or operator and the results of any subsequent investigation or corrective action shall be recorded promptly after each occurrence.
- (v) **Testing requirements.** None.
 - (vi) **Reporting requirements.**
 - (A) The owner or operator of an affected emission unit shall provide written notification of initial operation to SWCAA within 10 days of occurrence.
 - (B) All air quality related complaints, including odor complaints, received by the permittee shall be reported to SWCAA within 3 calendar days of receipt.
 - (C) The owner or operator of an affected petroleum dry cleaner shall report the following information to the Agency no later than March 15th for the preceding calendar year:
 - (I) Quantity of cleaning fluid (e.g., DF-2000) consumed; and
 - (II) Air emissions of criteria air pollutants, VOCs, and toxic air pollutants (TAPs).

Summary Information (by SWCAA) for SUN-175

Imperial Cleaners Shop

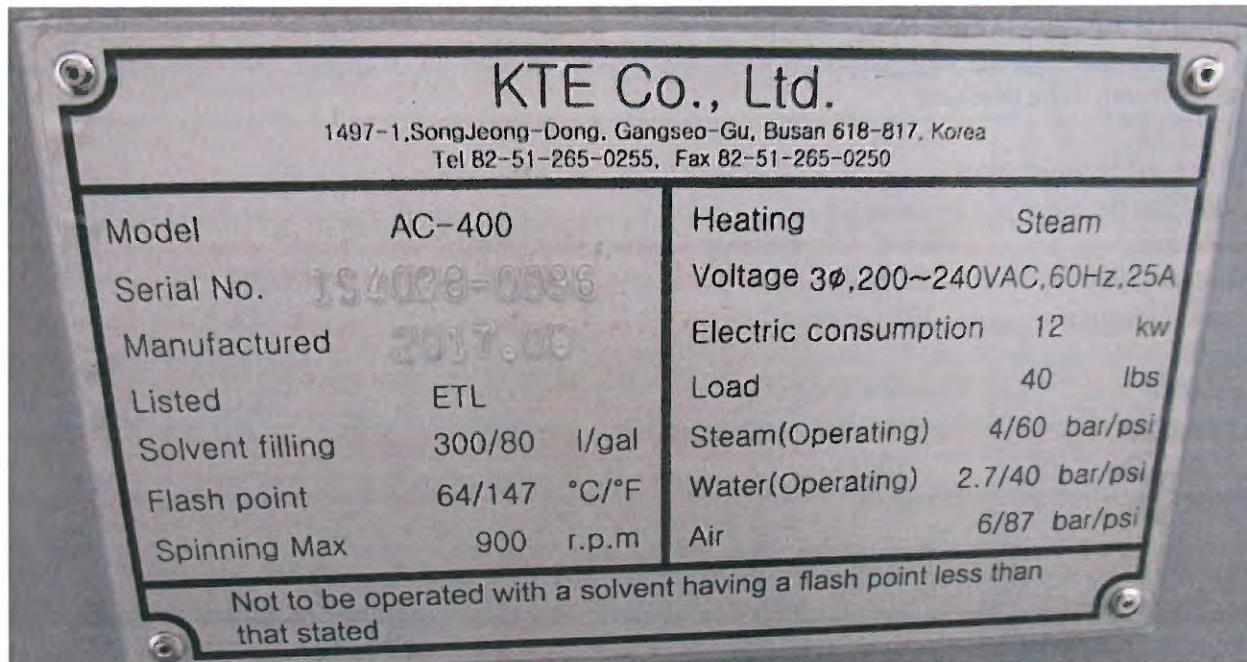
A petroleum solvent dry cleaning machine was installed in October 2017 to replace the perchloroethylene machine.

New Unit Information

Unit Identification: InnoClean
Location: 470 NE Birch Street, Camas, WA 98607
Make/Model: InnoClean / AC-400
Serial Number: IS4038-0096
Built: 2017
Installed: October 2017
Load Capacity: 40 pounds
Solvent Capacity: 80 gallons
Stack Description: No stack

The dry cleaning machine utilizes DF-2000 or a similar fluid as a cleaning solvent. DF-2000 fluid is a hydrotreated aliphatic hydrocarbon manufactured by ExxonMobile Chemical Company. DF-2000 fluid consists primarily of hydrocarbons in the range of C6 – C13. Several toxic air pollutants are within this hydrocarbon range including hexane, heptane, octane, and nonane, however their concentrations in DF-2000 are expected to be negligible. DF-2000 fluid has a vapor pressure of 0.49 mmHg at 68°F (compared to perchloroethylene with a vapor pressure of 18.5 mmHg at 77°F)





Dry Cleaning Machine Emissions. Emissions of VOCs from the dry cleaning machine and process occur from evaporation of residual liquid from garments, leaks, and volatilization during maintenance activities. The amount of VOCs released must be calculated using a material balance methodology assuming that the quantity of VOCs released to the air is the difference between the amount of cleaning fluid purchased, and the amount of cleaning fluid disposed offsite as waste.

DF-2000 fluid has a specific gravity of 0.77 at 60°F, therefore it takes approximately 311 gallons of DF-2000 fluid evaporation to equate to 1 ton of VOC emissions. It is estimated that annual emissions will be much less than 1 ton. To account for an up-turn in business and/or a lower solvent mileage in actual practice, SWCAA estimated that potential VOC emissions could be approximately 0.5 tons per year. An emission rate of 0.5 tons of VOC emission per year is equivalent to 125,000 pounds of clothing cleaned with a solvent mileage of 800 pounds of clothing per gallon of DF-2000 fluid.