



Louisville Metro Air Pollution Control District

Control Device Permit Application Form AP-300F

Chemical Scrubber

Deliver application to:

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Louisville, KY 40203

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FAX: (502) 574-5137
www.louisvilleky.gov/apcd
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Plant Name:	Plant ID:
Date of construction, modification, installation, or operation:	Process equipment associated with this control equipment:

Equipment Description	Control ID #	
Manufacturer:	Model:	
Inlet air flow	Velocity - _____ Volumetric - _____ acfm @ _____ ° Pressure drop - _____	
Draft:	<input type="checkbox"/> Forced <input type="checkbox"/> Induced	
Scrubber Type	<input type="checkbox"/> Spray Tower <input type="checkbox"/> Tray Tower <input type="checkbox"/> Venturi <input type="checkbox"/> Packed Bed <input type="checkbox"/> Fluidized Bed <input type="checkbox"/> Other:	
Scrubber column length:	Cross section:	
Describe packing:	<input type="checkbox"/> None	
Describe trays, plates, or baffles:	<input type="checkbox"/> None	
Describe mist eliminator:	<input type="checkbox"/> None	
Scrubbing liquid flow rate:	pH range -- Is liquid recirculated? <input type="checkbox"/> Yes <input type="checkbox"/> No	
<i>List the components of the scrubbing liquid:</i>		
Component	CAS # (if applicable)	Working solution concentration

Exhaust Stream Components			
<i>List the contaminants in the waste stream that are removed by the reduction system:</i>			
Contaminant	CAS # (if applicable)	Gas stream concentration	Removal Efficiency
Describe how the removal efficiency was determined: <i>(If other than Manufacturer's specification, include documentation supporting the claimed efficiency)</i>			
Describe how the depleted scrubber liquid waste is collected, the state of the pollutant(s) in the liquid, and the ultimate disposition of this material.			

Instructions for Chemical Scrubber

Form AP-300F

A chemical scrubber is a control device where one or more selected gaseous pollutants are removed by treatment with a liquid through thorough contact and, generally, chemical reaction.

General Information

Plant Name Enter the plant name.

Plant ID # This is the identification number assigned to the source by the District. If this application is for a new source for which an ID has not been assigned, leave this blank.

Equipment Description

Manufacturer Enter the name of the company that manufactures the scrubber equipment.

Model Enter the model number of the equipment to be installed.

Inlet velocity Enter the nominal inlet velocity (magnitude and units) at the entrance to the settling chamber.

Volumetric flow Enter the flow rate, in actual cubic feet per minute and the nominal temperature at the entrance, circling F for Fahrenheit or C for Celsius degrees.

Pressure drop Enter the drop in pressure between the entrance and exit of the settling chamber, measured in inches of water column.

Draft Check whether the airflow through the cyclone is by forced or induced draft.

Scrubber type Check the box corresponding to the type of scrubber being installed.

Column dimensions Enter the length and cross section (diameter or length and width) of the active portion of the scrubber column. Include units of measure.

Packing Describe any packing material in the scrubber column (e.g. 1-inch ceramic saddles,) or check **NONE**.

Trays, etc. Describe any trays, baffles, or other such devices in the column to increase scrubber efficiency, or check **NONE**.

Mist eliminator Describe any mist eliminators used in the outlet of the scrubber, or check **NONE**.

Flow rate Enter the rate at which the scrubbing liquid is introduced into the column.

Liquid pH Enter the high and low limits for fresh or replenished scrubbing liquid.

Recirculation Check whether the scrubbing liquid is recirculated through the tower.

Composition List the *active* components in the scrubbing liquid and the concentration of each component in the working strength scrubbing solution.

Efficiency Enter the removal efficiency of the scrubber. If the scrubber removes several pollutants and the efficiency differs significantly for these components, enter **VARIOUS** here, and list the specific efficiencies in the next section (Exhaust Stream Components.)

Efficiency determination Indicate how the destruction efficiency was determined. (e.g. manufacturer's specification, calculation, stack test, *etc*). Include appropriate documentation to support destruction efficiency claims.

Exhaust Stream Components

List the materials that are removed from the airstream by the oxidizer. If a CAS registration number exists for the material, list that as well. Finally, list the typical concentration of the contaminant in the exhaust gas stream.