



**AEROSOLV® 6000**

**AEROSOL CAN RECYCLING**



MODEL 6000

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# **TABLE OF CONTENTS**

## **6000 INSTRUCTION MANUAL**

- 2** Introduction to the Aerosolv® 6000 Recycling System
- 3** Safety Instructions
- 4** Aerosolv 6000 Unit Installation
- 5** Aerosol Can Puncturing Using the Aerosolv 6000 System
- 5** Aerosolv 6000 Filter
- 8** Aerosolv 6000 Maintenance
- 10** Mile Marker Chart & Drum Capacity Determination
- 11** Table 1-1: Sample Aerosol Can Segregation Scheme
- 12** Table 1-2: Recommended Aerosol Product Consolidation Scheme
- 14** Table 1-3: Aerosol Consolidation Classes
- 15** Table 1-4: Aerosol Class Compatibility Chart
- 15** Table 1-5: Aerosol Class Consolidation Chart

## INTRODUCTION TO THE AEROSOLV 6000 AEROSOL CAN RECYCLING SYSTEM

**The Aerosolv 6000 Aerosol Can Recycling System** simplifies aerosol can disposal, safely and efficiently. The puncturing unit threads directly to the 2" bung of any 30-gallon or 55-gallon drum. Simply insert an inverted aerosol can into the Aerosolv® unit and lock the sliding top plate. With a press of the handle, a specially designed puncture pin pierces the dome of the can. The contents are dispersed down and directly into the receiving drum; the particulate laden propellant is coalesced in the first stage of the Aerosolv 3601 high efficiency combination filter providing propellant flow to the carbon cartridge. What's left is an aerosol can that is fully recyclable; eliminating an entire waste stream.

### **The result? Recyclable scrap steel.**

After processing aerosol cans with the Aerosolv system, you've got an empty steel can with a small, smooth-edged hole. No spills. No jagged edges. And, no compressed gas, so it's ready for recycling with other scrap steel.



## SAFETY INSTRUCTIONS

1. Wear safety goggles while operating the Aerosolv® system.
2. **DO NOT** use Aerosolv while smoking or near open flame.
3. Install anti-static wire to properly “ground” drum.
4. **DO NOT** use Aerosolv on a drum with less than 30-gallon capacity.
5. Remove Aerosolv to an empty drum once collection drum is 70% full (when contents reach within 10” of the top).
6. Always engage sliding top plate and sealing knob against can being punctured.
7. Always operate the Aerosolv system outdoors or in a well ventilated area. Propellant is heavier than air and may collect at point of generation.
8. Do not use the Aerosolv unit for pesticides, herbicides, adhesives, or corrosive materials with pHs less than 2.0 or greater than 12.5 (i.e., Easy-Off®, corrosive acidic, and alkaline products). Comingling incompatible can contents can be hazardous. Operator must develop a segregation scheme to ensure safe operation and liquid collection.
9. Process like aerosol cans to the same collection drum for recycling (e.g., paints with paints, cleaners & degreasers with same)
10. **Tip:** Avoid puncturing aerosol cans of cold galvanizing compound or insulation foam, unless can is empty.

## AEROSOLV 6000 UNIT INSTALLATION

**1** Obtain a 30 or 55-gallon liquid collection drum, poly or steel, possessing two standard bungholes: one large 2” bung; and one small 3/4” bung. Select a receptacle that is compatible with the aerosol product to be captured and inspect the receptacle for deterioration or signs of breached integrity. Ensure the bung caps for each hole are in place. Remove the bung caps and store them in a safe place so that they may be used later.

**2** Thread the Aerosolv® unit into the 2” bung. Rotate clockwise until ground support plate firmly engages drum rim.

**3** Attach ring terminal of anti-static wire to the brass screw on Aerosolv ground support plate. See **inset**. Secure alligator clip to any nearby confirmed ground source. Electrical grounding must comply with the applicable state and federal regulations.



**4** Thread the aluminum filter base with the attached activated carbon filter into the 3/4” bung of the liquid collection drum - your system setup is now complete.

## USING THE AEROSOLV® 6000 SYSTEM

- Wear safety goggles while operating Aerosolv
- Insert aerosol can, NOZZLE END DOWN, into Aerosolv housing sleeve, so that shoulder of can rests on gasket. Be sure to remove cap from aerosol can prior to insertion.
- When puncturing oversized “jumbo” cans, remove white poly sleeve from Aerosolv housing, then insert can as above.
- Lower sliding top plate and FIRMLY engage the cap compression knob against bottom of can. Twist cap compression knob to adjust. TIGHTEN lock knob on slide bar.
- Push handle down firmly until completely depressed and hold in place while can releases initial pressure. See **inset**. Slowly raise the handle and immediately depress, this will control the rate of pressure and content evacuation from the aerosol can. In order to prevent back pressure, allow the contents of the can to drain into the collection drum (about 20 seconds).



**Tip:** Prevent vapors from escaping through 2” bung opening by leaving the last can punctured in the puncturing device.

## AEROSOLV 6000 FILTER

### ADSORPTION INDICATOR

When venting an aerosol can the activated carbon will generate heat as the granular carbon adsorbs the hydrocarbons. Typically 20-25 degrees above ambient temperature. This will activate the liquid crystal indicator to signal adsorption of VOC's and will light 'RED' during the adsorption process. Returning to black when the adsorption process is complete.

## FILTER MAINTENANCE

- Replace the activated carbon filter insert (inside upper portion) and the coalescing filter with pull tab (inside lower housing) every 1000 cans or when the adsorption indicator no longer appears 'RED' when venting aerosol cans. More frequent change-outs may be necessary based on use and volume of the cans processed. (Aerosol cans with 25% or less content may not activate indicator.)



- To replace simply order Part #3602 – Filter Replacement Kit, which includes 2 internal coalescers and 2 activated carbon filter inserts. See Mile Marker Chart for maintenance schedule.

## HOW TO CHANGE OUT YOUR FILTER COMPONENTS

1



Remove the weather cap and place on drum. There is no need to remove the upper filter housing from the lower filter housing during this process. See **Figure 1**.

2



Remove the activated carbon filter insert. See **Figure 2**. Set the used filter aside to be disposed of in accordance to local, state, and federal laws. Check with local authorities having jurisdiction.

# 3



Remove the internal coalescer using the pull tab from the aluminum base. See **Figure 3**. Visually inspect the base for any standing liquids. If liquid has collected in the base drain the contents following the instructions provided on the green lower filter housing label.

# 4



Reassemble your filter starting with the internal coalescer making sure you get a snug fit in the aluminum base. See **Figure 4**. Insert a new activated carbon filter, make sure you remove it from the shrink wrap and align the sight window with the adsorption indicator. See **Figure 5**. Finally, twist your weather cap back into place. See **Figure 6**.

# 5



# 6



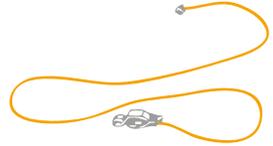
- To restock order Part #3602 – Filter Replacement Kit

- Periodically check and empty the collected liquid content in the filter base if needed. To empty, remove the carbon filter housing from the aluminum filter base.

- Unscrew the filter base from the drum and carefully drain the collected liquids through the AEROSOLV housing directly into the drum.

## AEROSOLV ANTI-STATIC WIRE

OSHA requires that liquid storage vessels be grounded to prevent static electricity build-up. The Aerosolv System includes an anti-static wire for user convenience.



## AEROSOLV MAINTENANCE

Periodic cleaning and greasing of the puncture pin will assure years of use. With constant, heavy usage, the puncture pin should be cleaned and greased once a month.

- To clean or replace puncture pin, remove bridge pin at uppermost point of handle. Entire handle mechanism and puncture pin can be removed.

Gasket deterioration will occur when venting aerosol paints and aggressive solvents, requiring periodic gasket replacement. To assure proper seal during Aerosolv usage, check gaskets frequently and replace as required.

- To replace gasket, remove white plastic sleeve from Aerosolv housing, then simply pull out old gasket and snap in replacement.

## COMPLIANCE

By bringing the propellant to atmospheric pressure, Aerosolv achieves compliance with:

- > 40 CFR 261.7(b)(1)
- > 40 CFR 261.7(b)(1)(B)(2)
- > 40 CFR 261.23(a)(6)

Once relieved of pressure, aerosol cans are not regulated waste (OSWER Directive 9432.01 (80)). In addition, puncturing aerosol cans to achieve atmospheric pressure is not considered “treatment”; therefore, permitting is not required.

## RECYCLING

- Recycling 8,000 aerosol cans reduces solid waste and increases recycling by one ton.
- By installing Aerosolv® systems on two drums, non-chlorinated aerosols can be collected separately, then reclaimed as solvents, resulting in waste minimization credits.
- Cans punctured using Aerosolv may be recycled with other scrap steel.

*Aerosolv leaves only a smooth edged hole.*

## #6000 AEROSOLV CAN RECYCLING SYSTEM

- Puncturing unit with built in safety shield slide bar
- Anti-static wire
- Safety goggles
- #3601 High efficiency combination carbon filter with extreme duty aluminum filter base

### REPLACEMENT ACCESORIES FOR #6000



#### Model #3602

Replacement carbon cartridge for combination filter with flashback inhibitor (pkg of 2), high efficiency proprietary polymer coalescer (pkg of 2)

#### Model #5165EX

Maintenance repair kit: includes puncture pin with o-rings, aeroprene gasket, bridge pins, spring and tube of grease



#### Model #5129

Aeroprene gasket

# MILE MARKER CHART

CAN COUNT	ROUTINE MAINTENANCE & FILTER CHANGES
1000	Replace Activated Carbon Cartridge and internal coalescer
2000	Replace Activated Carbon Cartridge and internal coalescer – check aluminum filter base for collected liquids
3000	Replace Activated Carbon Cartridge and internal coalescer
4000	Replace Activated Carbon Cartridge and internal coalescer – check aluminum filter base for collected liquids
4500	At this point a 55 gallon drum should be 75–80% full and ready for handling. Reset the counter. Mount the Aerosolv 6000 system and new combination filter onto an empty drum. Depending on wear, replace housing o-ring, clean out the system including the filter base, reapply PTFE tape to the threads, and lubricate the rack gear.

# DRUM CAPACITY DETERMINATION

The volume of liquid accumulating in the liquid collection drum should be noted prior to commencing operations. Procedures for determining when the collection receptacle is full are as follows:

1. Using the drum level indicator provided with your system follow steps 2 through 6.
2. Remove the weather cap and place on drum. There is no need to remove the upper filter housing from the lower filter housing during this process.
3. Remove the activated carbon filter insert as well as the internal coalescer using the pull tab from the aluminum base.
4. Carefully drop the drum level indicator into the filter housing through the hole that is now visible allowing disc to rest on the filter housing.
5. Slowly raise the tool and inspect it to determine whether liquid has reach the end of the rod.
6. If the liquid level in the collection container actually reached the end of the rod when submerged, secure the container, wipe off the tool using the rag, and call for pick up. If the liquid level has not yet reached the ruler, continue to puncture aerosol cans in accordance with the Aerosolv 6000 manufacturer’s operation and maintenance instructions. Repeat steps 2 through 6 to check the liquid level every 500 cans.

**TABLE 1-1**  
**SAMPLE AEROSOL CAN SEGRAGATION SCHEME**

AEROSOL TYPES	COMMON EXAMPLES
1- Ignitable solvent product w/flammmable propellant	Prestone® Starting Fluid, Keen Limited® Zeus® Butane, Malter® Dimethylsilicone Lubricant Compound, Liquid Wrench®, WD-407
2- Hydrocarbon product w/flammmable propellant	OMC® Anticorrosion Spray, Sprayon® Gear Lube, Panef® Lubricant with Teflon®, Zep® Cutting Oil, Solid Film Lubricant, Penetrating Fluid
3- Halocarbon product w/flammmable propellant	Freon 114, Degreaser
4- Halocarbon product w/nonflammmable propellanti	Dichlorotetrafluoroethane, Freon 113, Berryman® Brake Cleaner
5- Hydrocarbon product w/ nonflammmable propellant	Nut Buster® Penetrating Oil, Corrosion Preventative Compound, General Purpose Lubricating Oil
6- Toxic constituent containing product w/ flammable propellant	Enforcer® Wasp and Hornet Killer, D-trans Allethrin
7- Toxic constituent containing product w/ nonflammmable propellant	PT 270 Dursban®, PT 515 Wasp Freeze®, PT-240 Perma Dust®, PT-279 Engage7
8- Corrosive product with flammable propellant: 8A: Acidic Product 8B: Alkaline Producti	Easy Off® Oven Cleaner, Degreaser
9- Corrosive product with nonflammmable propellant: 9A: Acidic Product 9B: Alkaline Product	Oven Cleaner, Degreaser
10- Non-toxic product with flammable propellant	Lemon Pledge®, Glade® Air Freshener, Pam® Coating
11- Listed product with flammable propellant	Block Cleaner, Hi-Tech Safety Solvent® 1,1,1-trichloroethane, Sprayon® 1,1,1- trichloroethane
12- Listed product with nonflammmable propellant	Bulk Chemical® 1,1,1-trichloroethane technical, Plaze Inc.® 1,1,1-trichloroethane technical
13- Paints with flammable propellants	Krylon®, Pittsburgh®
14- Adhesives with flammable propellants	Super 7® Adhesive Spray®, 99MA High Tack Spray-AGasket 800657

**TABLE 1-2**  
**RECOMMENDED AEROSOL PRODUCT**  
**CONSOLIDATION SCHEME**

<b>CONSOLIDATION FAMILY</b>	<b>AEROSOL TYPES INCLUDED IN FAMILY</b>	<b>RATIONALE FOR CONSOLIDATING TYPES</b>
1- POL: Petroleum, Oil, and Lubricants	(2) Hydrocarbon product/ flammable propellant  (15) Hydrocarbon product/ nonflammable propellant	Recovered POL can be recycled and used for fuel blending. Propellants captured from POL aerosol cans are adsorbed on the activated carbon filter. Saturated activated carbon cartridges are properly disposed of as nonregulated refuse.
2- Paints	(13) Compatible paints	Paints are recovered and stored in appropriate containers. Recovered paints are managed as hazardous wastes and either recycled or transferred to an appropriate treatment facility. Propellants captured from paint aerosol cans are adsorbed on the activated carbon filter. Saturated activated carbon cartridges are properly disposed of as non-regulated refuse.
3- Adhesives	(14) Compatible adhesives	Adhesives are recovered and stored in compliant containers. Recovered adhesives are managed as hazardous waste and either recycled or transferred to an appropriate treatment facility. Propellants captured from adhesive aerosol cans are adsorbed on the activated carbon filter. Saturated activated carbon cartridges are properly disposed of as non-regulated refuse.
4- Compatible Alkaline Cleaners	(8B) Corrosive product/ flammable propellant  (9B) Corrosive product/ nonflammable propellant	If compatible, aqueous alkaline products from aerosol cans are recovered and consolidated with similar products. These materials can be transferred to an appropriate treatment facility. Propellants captured from these aerosol cans are adsorbed on the activated carbon filter. Saturated activated carbon cartridges are properly disposed of as nonregulated refuse.
5- Compatible Acidic Cleaners	(8A) Corrosive product/ flammable propellant  (9A) Corrosive product/ nonflammable propellant	If compatible, aqueous acidic products from aerosol cans are recovered and consolidated with similar products. These materials can be transferred to an appropriate treatment facility. Propellants captured from these aerosol cans are adsorbed on the activated carbon filter. Saturated activated carbon cartridges are properly disposed of as nonregulated refuse.

## TABLE 1-2 (CONT'D)

### RECOMMENDED AEROSOL PRODUCT CONSOLIDATION SCHEME

CONSOLIDATION FAMILY	AEROSOL TYPES INCLUDED IN FAMILY	RATIONALE FOR CONSOLIDATING TYPES
6- Halocarbon Solvent	(3) Halocarbon product/ flammable propellant  (4) Halocarbon product/ nonflammable propellant	Recovered halocarbon solvents may be distilled and reutilized or transferred to an appropriate treatment facility. Propellants captured from halocarbon aerosol cans are adsorbed on the activated carbon filter. Saturated activated carbon cartridges are properly disposed of as non-regulated refuse.
7- Ignitable Solvents	(1) Ignitable solvent product/ flammable propellant	Recovered ignitable solvents may be distilled and reutilized, recycled as fuel, or transferred to an appropriate treatment facility. Propellants captured from these aerosol cans are adsorbed on the activated carbon filter. Saturated activated carbon cartridges are properly disposed of as non-regulated refuse.
8- Listed Products	(11) Listed product/ flammable propellant  (12) Listed product/ nonflammable propellant	Listed products may be distilled and reutilized, recycled, or collected in isolated vessels and managed as listed hazardous wastes. Propellants captured from these aerosol cans are adsorbed on the activated carbon filter. Saturated activated carbon cartridges are properly disposed of as non-regulated refuse.
9- Toxic Products	(6) Toxic product/ flammable propellant  (7) Toxic product/ nonflammable propellant	Toxic products are either recycled or managed as hazardous waste and transferred to an appropriate treatment facility. Propellants captured from these aerosol cans are adsorbed on the activated carbon filter. Saturated activated carbon cartridges are properly disposed of as non-regulated refuse.
10- Non-Toxic Products	(10) Non-toxic product/ flammable propellant	Non-toxic products are managed appropriately. Propellants captured from these aerosol cans are adsorbed on the activated carbon filter. Saturated activated carbon cartridges are properly disposed of as non-regulated refuse.

**TABLE 1-3**  
**AEROSOL CONSOLIDATION CLASSES**

CONSOLIDATION FAMILY	AEROSOL TYPES INCLUDED IN FAMILY	RATIONALE FOR CONSOLIDATING TYPES
1- Petroleum Hydrocarbons (non-halogenated)	(1) POL (2) Paints <sup>1</sup> (7) Ignitable Solvents (8) Listed Products <sup>2</sup> (9) Toxic Products <sup>3</sup> (10) Non-Toxic Products <sup>3</sup>	See Footnotes 1, 2, and 3
2- Resinous Materials	(3) Adhesives	Adhesives and other resinous coagulating materials tend to diminish the quality of otherwise recyclable solvent products. Further, these products accelerate the deterioration of process equipment.
3- Aqueous Liquids	(4) Alkaline Cleaners <sup>4</sup> (5) Acidic Products <sup>4</sup> (9) Toxic Products <sup>5</sup> (10) Non-Toxic Products <sup>5</sup>	See Footnotes 4 and 5
4- Halocarbon Solvents	(6) Halocarbon Solvents	Many petroleum products cannot be recycled when contaminated with halocarbons. Though, halocarbon solvents are compatible with and can typically be commingled with other petroleum products and solvents.
5- Alkaline Products	(4) Corrosive	Alkaline Products Alkaline products potentially present a threat of heat generation through acid-base or oxidation-reduction reactions.

- 1 Paints may either be consolidated separately or consolidated with other petroleum and petroleum-based products. If the resulting waste is going to be incinerated or fuel blended (provided the paint solids do not compromise the quality of the mixture), the paints may be consolidated with other products. If the resulting waste is to be recycled or otherwise utilized, the paint should be managed independently.
- 2 Listed petroleum and petroleum-based wastes may be commingled with other petroleum products if the resulting mixture is characterized in accordance with the Mixture and Derived from Rules (40 CFR, '261.3), and if the mixture will be either incinerated or fuel blended. Listed wastes may not be commingled with other wastes if the resulting mixture is not characterized and managed as a listed hazardous waste.
- 3 Toxic and non-toxic petroleum products may be commingled with other petroleum products unless the resulting mixture is intended for specific recycling or reuse efforts and the addition of these products significantly diminishes the quality of the final product. Non-petroleum products may not be commingled with petroleum products.
- 4 Aqueous acidic and alkaline products whose pH remains between 4.0 and 10.0 may be commingled as long as the constituents that comprise the solutions are compatible. Products exhibiting pHs significantly greater than 10.0 or less than 4.0 should not be commingled. Additionally, non-aqueous solutions should not be commingled with aqueous solutions.
- 5 Aqueous toxic and non-toxic products may be commingled with other aqueous wastes provided the constituents that comprise the products are compatible with each other. The characterization of the resulting mixture must be similar to that of the products prior to introduction.

**TABLE 1-4**  
**AEROSOL CLASS COMPATIBILITY CHART**

	petroleum hydrocarbons	resinous materials	aqueous liquids	halocarbon solvents	alkaline products	acidic product
petroleum hydrocarbons	yes	yes <sup>6</sup>	yes <sup>7</sup>	yes <sup>6</sup>	no <sup>8</sup>	no <sup>8</sup>
resinous materials	yes <sup>6</sup>	yes	no <sup>9</sup>	yes	no	no
aqueous liquids	yes <sup>7</sup>	no <sup>9</sup>	yes	yes <sup>10</sup>	yes	yes
halocarbon solvents	yes <sup>6</sup>	yes	yes <sup>10</sup>	yes	no <sup>11</sup>	no <sup>11</sup>
alkaline products	no <sup>8</sup>	no	yes	no <sup>11</sup>	yes	no
acidic product	no <sup>8</sup>	no	yes	no <sup>11</sup>	no	yes

**TABLE 1-5**  
**AEROSOL CLASS CONSOLIDATION CHART**

	petroleum hydrocarbons	resinous materials	aqueous liquids	halocarbon solvents	alkaline products	acidic product
petroleum hydrocarbons	yes	no	no	no	no	no
resinous materials	no	yes	no	no	no	no
aqueous liquids	no	no	yes	no	no	no
halocarbon solvents	no	no	no	yes	no	no
alkaline products	no	no	no	no	yes	no
acidic product	no	no	no	no	no	yes

<sup>6</sup> Refer to recommended consolidation chart.

<sup>7</sup> Petroleum hydrocarbons are compatible with but not typically soluble in aqueous liquids. Refer to recommended consolidation chart.

<sup>8</sup> Petroleum hydrocarbons and corrosive materials are typically compatible. However, some corrosive materials are incompatible with petroleum hydrocarbons. As such, for purposes of simplicity, this chart recommends not commingling the two.

<sup>9</sup> Some resinous materials react adversely with water. This chart reflects conservative management.

<sup>10</sup> Halocarbons are compatible with but not typically soluble in aqueous liquids. Refer to recommended consolidation chart.

<sup>11</sup> Halocarbon solvents and corrosive materials are typically compatible. However, some corrosive materials are incompatible with halocarbons. As such, for purposes of simplicity, this chart recommends not commingling the two.







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