



Department of
Toxic Substances
Control

*Preventing
environmental
damage from
hazardous waste,
and restoring
contaminated
sites for all
Californians.*



State of California



California
Environmental
Protection Agency

Fact Sheet, January 2007

How to Manage Mercury Switches in Vehicles

For: Scrap metal recyclers, auto dismantlers and auto repair shops.

This fact sheet explains how to remove, replace, and handle mercury switches in vehicles. It also tells you about changes in the laws that say how to dispose of mercury and what to do if you have a spill. This fact sheet does not replace or supersede statutes or regulations. Always review the most current statutes and regulations. Mention of vehicle makes and models, repair facilities, or mercury switch handling facilities or other companies in this fact sheet is not to be construed as an endorsement by DTSC.

What is mercury?

Mercury is a metal with special properties. It is liquid at room temperature and conducts electricity. This makes it ideal for use in light switches in vehicles.

What is a mercury light switch?

Mercury light switches look like small capsules. When you open the hood or trunk of your car, the mercury moves to the end of the capsule and touches an electrical contact and the light turns on. When you close the hood or trunk, the mercury moves away from the contact and the light turns off.

There are also mercury switches in other parts of vehicles, such as the ABS system G-force sensors.

How much mercury is in a light switch?

A mercury light switch contains about one drop of mercury.

Is mercury dangerous?

Mercury is poisonous. If mercury is not disposed of safely, it can be released into the environment and harm people and wildlife.

Contact with mercury can cause:

- birth defects,
- nerve disorders,
- brain damage, or
- death.

How do people come into contact with mercury?

Mercury can be inhaled, absorbed through the skin, or eaten (in contaminated food).

Are there laws about handling mercury?

Yes. In 2001, California passed a law called SB 633. This law:

- makes it illegal to sell certain items that contain mercury,



- encourages people who dismantle, recycle and repair vehicles to remove mercury switches, and
- makes the rules for handling switches simpler.

For more information about SB 633 go to: www.dtsc.ca.gov/Schools/EA_FS_SB633.pdf

In 2003, DTSC adopted the “Mercury Waste Classification and Management regulations.” The regulations cleared up the rules for people who handle mercury switches removed from vehicles, and changed the rules for people who dismantle and recycle vehicles.

Starting January 1, 2005, a vehicle with a mercury switch is considered hazardous waste as soon as someone decides to

- crush,
- bale,
- shred, or
- shear it.

Since January 1, 2005, if you crush or shred a car without taking out the mercury switches, you will be breaking the law.

These laws also say you can handle mercury switches like *universal waste*.

Note: You do not have to remove the switches if damage to the vehicle makes it impossible.

What is universal waste?

Universal waste is a type of hazardous waste that uses simpler rules for transportation and disposal than the ones for other hazardous wastes.

How do you know if a car has mercury switches?

Read page 5. It lists car makes and models that have mercury switches in the hood or trunk. Additionally, the End of Life Vehicle Solutions (ELVS) vehicle list also has a list of vehicles.

This list is obtainable by going to <http://www.elvsolutions.org/california.htm>. Neither list is all-inclusive. To be sure, check with the vehicle manufacturer.

Note: If a car has a hood or trunk light, and you don’t see a mechanical switch, it probably has a mercury switch.

Who should remove mercury switches from vehicles?

Anyone who plans to crush, bale, shear, or shred a vehicle has to remove the mercury light switches from the hood and trunk. Usually, car dismantlers and scrap metal recyclers do this.

Auto repair shops do not have to remove mercury switches when they work on cars that are still in use. But, DTSC encourages repair shops to offer to replace and recycle mercury switches in the cars they repair. If a repair shop replaces or removes a mercury switch, they may handle it like universal waste.

Note: Before you remove mercury switches, make sure you and your employees know how to handle them safely, and know what to do if there’s a mercury spill.

When should mercury switches be removed?

It is easiest for dismantlers to remove mercury switches when they remove the battery, coolant, and brake fluid.

How do I remove mercury switches?

DTSC has 2 training manuals that tell you how to safely remove mercury switches from vehicles:

- *Guide for Auto Repair Shops*, and
- *Guide for Auto Dismantlers*.

You can download them at:

<http://www.dtsc.ca.gov/HazardousWaste/Mercury/index.cfm>

How do I store mercury switches?

- Keep the mercury switches in a closed container in good condition.
- Do not use a metal container. Mercury can react with metal or leak through the seams.
- Wrap the switches in padding, like bubble wrap, so they won’t break.
- Keep the containers where they won’t be disturbed.
- Mark the container. Write on the label:
 - “Universal Waste – Mercury” or
 - “Waste – Mercury Switches” or
 - “Used Mercury Switches”

How long can I keep mercury switches?

If you handle them as universal waste, you can keep mercury switches for up to a year. Write the date on the container when you first store a mercury switch in it. That way you can show an inspector that you have not kept mercury switches for more than a year.

Do I need an EPA identification number to handle mercury switches as universal waste?

You do not need an EPA ID number unless you have more than 11,000 pounds of universal waste at one time. But, you still have to:

- Have a system for cleaning up mercury, and
- Train employees on how to handle switches and what to do in an emergency.

Do I need a special carrier to transport mercury switches?

No. If you handle them as universal waste you can transport the switches yourself. They have to be in sealed containers. If a switch is broken or damaged, put it in a sealed plastic bag inside the container. You do not have to use a hazardous waste manifest or a registered hazardous waste transporter.

If you handle other hazardous wastes, you can use your hazardous waste hauler to transport your mercury switches. You can also hire a commercial carrier that takes universal waste. Make sure the carrier knows and follows the rules for transporting universal waste.

If you ship packages of mercury switches by **air or by water**, you must follow the U.S. Department of Transportation (DOT) regulations for transporting hazardous materials. If you use **ground** shipment, your package must meet the DOT regulations only if it contains more than one pound of mercury. The website for the DOT is: <http://www.dot.gov>.

There is a new program that is available here in California for the collection and proper disposal of mercury switches obtained from vehicles. This program provides collection buckets and educational materials regarding the switches and the program. It also provides a method for free dis-

posal of the switches, and may even pay you to collect these switches. For more information, please contact the ELVS program, or DTSC.

Where can I ship mercury switches?

If you do not use the mercury switch collection program listed in the previous paragraph, you have to ship mercury switches to an authorized mercury recycling facility. You can take your mercury switches to a recycler or to a universal waste handler who collects switches before sending them to a recycler.

See page 6 for a list of mercury switch handlers, transporting facilities and waste destination facilities in California.

Do I have to keep records?

Yes. If you manage mercury switches as universal waste, then you must keep the following records for at least three years:

- How many vehicles you crushed, baled, shredded, or sheared,
- How many of the vehicles had mercury switches,
- How many mercury switches you removed from the vehicles, and
- How many vehicles had mercury switches that you could not remove because of accident damage.

Can I replace mercury switches?

Yes. You can replace them with switches without mercury. They will work in almost all vehicles.

Here are two companies that manufacture and supply mercury-free switches:

Comus International
454 Allwood Road
Clifton, NJ 07012
Tel: 973-777-6900
Fax: 973-777-8405
www.comus-intl.com/productinfo.asp

Signal Systems International
P.O. Box 470, 1700 Route 35 North
Lavallette, NJ 08735
Tel: 732-793-4668
Fax: 732-793-4679
<http://www.signalsystem.com/>

Note: DTSC does not endorse these companies. Contact the companies if you have questions about replacing mercury switches with mercury-free switches.

What if there is a mercury spill?

Be very careful! It is dangerous to inhale, swallow, or handle mercury. If you see a broken, leaking, or damaged mercury switch, put it in a sealed plastic bag and then into a container.

Do not try to vacuum a mercury spill! Vacuuming spreads mercury vapors into the air. It can do more harm than good.

Write a plan of what to do if there's a mercury spill. Keep personal protective equipment and a mercury spill kit nearby when you remove mercury switches. Make sure that the staff knows exactly how to use them. You can get affordable spill kits from laboratory and safety supply stores.

What if someone is exposed to mercury?

Mercury on the Skin

Wash the skin with soap and water. Remove all clothes that touched the mercury. Seal the clothes in a plastic bag. Put the plastic bag in a hazardous waste container. See a doctor right away!

Mercury in the Eye

Flush eyes with water for 15 minutes. See a doctor right away!

Swallowed Mercury

Get medical help right away! Call your poison control at 1-800-222-1222 or your doctor for more information.

Where can I get more information?

To learn more about mercury and the laws for handling mercury switches, call the regional Public and Business Liaisons at: (800) 72 TOXIC (1-800-728-6942).

There is a specific area on the DTSC website for information on Mercury:

<http://www.dtsc.ca.gov/HazardousWaste/Mercury/index.cfm>

The ELVS website for California is <http://www.elvsolutions.org/california.htm>

Or, contact the DTSC office nearest you.

DTSC Headquarters
1001 I Street
Sacramento, California 95814
(916) 323-2678

Sacramento Office
8800 Cal Center Drive
Sacramento, California 95826
(916) 255-3617

Berkeley Office
700 Heinz Avenue
Berkeley, California 94710
(510) 540-3739

Clovis Office
1515 Tollhouse Road
Clovis, California 93611-0522
(559) 297-3901

Glendale Office
1011 North Grandview Avenue
Glendale, California 91201
(818) 551-2830

Cypress Office
5796 Corporate Avenue
Cypress, California 90630
(714) 484-5400

For general information about mercury and mercury switches:

U.S. EPA - RCRA

Superfund & EPCRA Call Center
800-424-9346, or
www.epacallcenter@bah.com

U.S. EPA

www.epa.gov/mercury/

U.S. EPA-Region 5

www.epa.gov/region5/air/mercury/mercury.html

Association of Municipal Recycling Coordinators

www.amrc.guelph.org

Appliance Recycling Information Center

www.aham.org/aric/aric.cfm

Vehicles that have Mercury Switches in the Hood or Trunk

Parent Company	Brand	Model/Line	Years*
BMW	BMW	7-Series	Before 1992; 1995-2002
	Rolls Royce	Rolls Royce	Before Mid-1960s
Daimler Chrysler	Chrysler	Ades	1975-1994
		Concorde	1993-1996
		Cordoba	1975-1994
		E Class	1983
		K Car	1987
		Laser	1975-1994
		LeBaron	1975-1994
		New Yorker	1975-1994
		Pacifica	1998; 2003
	Dodge	2500 4x4	1993
		2500 Pick up	1995
		3500 Van	1998
		Aries	1975-1994
		Aspen	1976
		Caravan	1987-1989, 2000
		Caravio	1992
		Dakota	1993-1994, 1998
		Daytona	1987, 1988, 1990
		Durango	1998, 2000
Duster		1990	
Dynasty		1982, 1989-1992	
Intrepid		1994, 1996	
Lancer		1986	
Landan		1989	
Laser		1975-1994	
Neon		1998, 2000	
Ram Pick up		1997-1998, 2001	
Ram Pick up 1500		1997	
Roadstar		1988	
Shadow	1974-1994		
Spirit	1990-1991, 1994, 1996		
Stratus	1996		
Voyager	1986-1987, 1991		
Eagle	Medallion	1989	
	Premier	1988-1989	
	Vision	1994	
Jeep	Cherokee	1998-1999	
	Cherokee Sport	1996	
	Grand Cherokee	1993, 1995-1999	
	Grand Cherokee Wagoneer	1989	
	Wranger	1992, 1994, 1999	
Plymouth	Acclaim	1986, 1990-1992, 1994	
	Reliant	1975-1994	
	Sundance	1975-1994	

Vehicles that have Mercury Switches in the Hood or Trunk (cont'd)

Ford

Parent Company	Brand	Model/Line	Years*
Ford	Ford	Aerostar	1989
		Bronco	1986
		Bronco II	1974-1994; 1993-1997
		Crown Victoria	1974-1994, 1997, 2000-2001
		E-350	1993; 2000
		Escort	1974-1995, 1998
		Escort GT	1991
		Escort LX	1991, 1992, 1995, 1997
		Escort Pony	1991
		Escort S/W	1995
		Escort SE	1999
		Escort Wagon	1997
		Excursion	2000-2001
		Expedition	2000-2001
		Explorer	1991-2002
		F-150	1988, 1990-1991 1993, 1996-1998, 2000-2001
		F-250	1988, 1990-1993, 1995-2001
		F-350	1988, 1996, 1999-2001
		F-150 Supercrew	2000
		LTD	1974-1994
		Mustang	1986, 1989, 1992, 1995, 1996
		Probe	1989, 1993, 1994
		Ranger	1974-1997, 1998; 1995-2001
		Ranger XLT	1995, 1997
		Scorpio	1988; 1985-1993
		Superduty	1992
		Taurus	1974-1999
		Tempo	1974-1994, 1996
		Tempo GL	1988, 1993
		Thunderbird	1974-1994
		Van	1988, 1993, 1995
		Windstar	1996; 2000
Lincoln	Lincoln	Blackwood	2001
		Continental	1988-1991, 1994-1995; 2000-2002
		Mark 7	1988
		Navigator	2000-2002
		Town Car	1994; 2002
Mazda	Mazda	Pick up	1996
		RX-7 Turbo	1990
Mercury	Mercury	Cougar	1974-1990, 1995
		Grand Marquis	1985-1986, 1993, 1997, 2001
		Mountaineer	1996-2001
		Sable	1987-1995, 1998-1999
		Sable LS	1994
		Topaz	1987, 1990, 1992
		Tracer	1988, 1993

Vehicles that have Mercury Switches in the Hood or Trunk (cont'd)

Parent Company	Brand	Model/Line	Years*
Ford (continued)	Mercury	Villager XR4TI	1993; 2000 1987
	Volvo	240/260 740/760 744/764	1975-1991 1982-1990 1982-1991
General Motors	Buick	Celebrity	1977-1990
		Century	1977-1992, 1994, 1996, 1998, 2002
		Electra	1981, 1985, 1990
		Fifth Avenue	1985
		Firenza	1977-1990
		LeSabre	1974-1994, 1996-2000
		LeSabre Custom	1989
		Park Avenue	1974-1991, 1998-1999, 2002
		Regal	1974-1994, 1996
		Regal Limited	1991
Riveria	1986-1990, 1993		
Roadmaster	1992		
Skyhawk	1977-1990		
Skylark	1977-1990, 1993, 1994, 1996, 1998		
Ultra	1998		
Cadillac	Brougham	1987, 1989	
	Cimarron	1979, 1998-2003	
	DeVille	1979-1991, 1996, 2000-2002; 1998-2003	
	ElDorado	1982, 1991, 1992, 2001	
	Escalade	2000; 1998-2003	
	Seville SLS/STS	1998-2003	
Chevrolet	98	1983, 1985, 1988, 1994	
	250	1998	
	1500	1989, 1994	
	2500	1997	
	1500 4x4	1996, 1998	
	3/4 Ten Pick up	1994	
	3500 4x4	1997	
	Avalanche	2001	
	Beretta	1981-1990	
	Blazer	1987, 1989, 1993-1994, 1997, 1999-2002	
	Blazer 1500	1991	
	Blazer S-10	1989-1992, 1994, 1996-1998, 2000, 2002	
	C3500 Pick up	1989, 1991	
	Camero	1984, 1989	
	Caprice	1981-1991	
	Caprice Classic	1984, 1988	
	Cavalier	1988-1991, 1993, 1995-1996, 2000-2002	

Vehicles that have Mercury Switches in the Hood or Trunk (cont'd)

Parent Company	Brand	Model/Line	Years*
General Motors (continued)	Chevrolet (cont'd)	Celebrity	1986-1987, 1996-1997
		Cheyenne	1996
		Corsica	1988-1993
		Express Van	2000-2002
		Impala	2001
		K1500	1996, 1998
		K2500 Pick up	1991, 1994
		K3500 Pick up	1993
		Lumina	1981-1995, 1998
		Lunima Euro	1990
		Lumina Z-34	1992
		Malibu	1997
		Monte Carlo	2000
		Passport	1989
		Pick up	1988, 1989, 1991-1996, 1998, 2000-2002
		S-10 Pickup	1998, 2000
		Silverado	1999
Suburban	1990-1991, 1994-1995, 1997-2002		
Tahoe	1995-1998		
GMC	4x4	1997-1998	
	Denali	2000	
	Envoy	1998-2001	
	G-20 Van	1995	
	Jimmy	1991, 1993, 1994, 1996, 1998-2001	
	Luxury G-Van	2002	
	Pick up 1500	1993	
	Savanna Van	2000-2002	
	Sonoma	1994	
	Yukon	1998	
Pontiac	6000	1988	
	6000 LE	1990	
	Bonneville	1984-1991, 1994, 1995, 2002	
	Firebird	1989, 1994-1995, 2002	
	Grand Am	1984-1999	
	Grand Prix	1985-1986, 1988-1996	
	Parisienne	1982	
	Sunbird	1984-1990	
	Sunfire	1997-2002	
	Trans Sport	1993, 1996	
	Vibe	2002	
Oldsmobile	88	1990-1991, 1993, 1997	
	98	1983, 1985, 1988, 1990, 1992, 1994	
	98 Regency	1985	

Vehicles that have Mercury Switches in the Hood or Trunk (*cont'd*)

Parent Company	Brand	Model/Line	Years*
General Motors (<i>continued</i>)	Oldsmobile (<i>cont'd</i>)	Achieva	1992-1993
		Aurora	2001
		Bravada	2000-2001
		Calais	1977-1991
		Ciera	1977-1991, 1993-1995
		Cutlass	1977, 1983, 1988, 1990-1992, 1996
		Cutlass Cruiser	1986, 1988, 1992
		Cutlass Supreme	1977-1996
		Delta 88	1977-1995
		Firenza	1984
		Intrigue	1999
		Omega	1980
		Royale	1982, 1986, 1989
		Regency	1977-1990
		Toronado	1977-1990
		Toronado Trofeo	1987-1988
		Wagon	1991
	Saab	9000/900	Pre-1992
Other	Nissan	SER	1993
	Porche	944	1985-1991
	Toyota	Celica GT	1990
		SR5	1986
Volkswagon	Weekender Van	Not specified	

**Note: There may be other models that contain mercury switches.*

Companies that Handle and Transport Mercury Switches in California

Company	Address	Contact
AERC-MTI (Advanced Environmental Recycling Co. – Mercury Technologies Int'l) Chemical Waste Management	30677 Huntwood Ave. Hayward, CA 94555	Tel: 800-628-3675 Fax: 510-429-1498 http://www.aercrecycling.com Tel: 550-386-9711
Clean Harbors Los Angeles, LLC Los Angeles Facility	35251 Old Skyline Road Kettleman City, CA 93239	Tel: 323-277-2500 Fax: 323-277-2523 http://www.cleanharbors.com
Clean Harbors of San Jose, LLC San Jose Facility	5756 Alba Street Los Angeles, CA 90058	Tel: 408-451-5000 Fax: 408-453-6045 http://www.cleanharbors.com
Kinsbursky Brothers, Inc.	1040 Commercial St., Suite 109 San Jose, CA 95112	Tel: 714-738-8516 Fax: 714-441-0857 http://72.166.37.253:83/index.html
Kinsbursky Environmental Management	1314 North Anaheim Blvd. Anaheim, CA 92801	Tel: 619-409-9292 http://72.166.37.253:83/partners.html#kem
Lighting Resources, Inc. Ontario Branch	101 North Glover Ave., Suite B Chula Vista, CA 91909	Tel: 888-923-7252 Fax: 909-923-7510 http://www.lightingresourcesinc.com
North State Environmental – Southern California	805 East Francis Street Ontario, CA 91741	Tel: 909-875-9288 Fax: 909-875-9813 http://www.north-state.com
North State Environmental	2776 South Lilac Ave. Bloomington, CA 92316	Tel: 858-273-8669 Fax: 858-273-8678 http://www.north-state.com
North State Environmental – Northern California	5519 Clairemont Mesa Blvd. San Diego, CA 92117	Tel: 650-588-2838 Fax: 650-588-1950 http://www.north-state.com
Onyx Environmental Services, Inc.	90 South Spruce Ave., Ste. C3 South San Francisco, CA 94080	Tel: 510-651-2964 Fax: 510-656-4926 http://www.onyxes.com
Onyx Environmental Services, Inc.	4227 Technology Drive Fremont, CA	Tel: 626-334-5117 Fax: 626-334-4563 http://www.onyxes.com
Onyx Environmental Services, Inc.	1704 West First Street Azusa, CA 91702	Tel: 714-379-6000 Fax: 714-379-6010 http://www.onyxes.com
Onyx Environmental Services, Inc.	5202 Oceanus Drive Huntington Beach, CA 92649	Tel: 510-233-8001 Fax: 510-235-9427 http://www.onyxes.com
Recyclights, Inc.	1125 Hendey Street Richmond, CA 94801	Tel: 800-884-8982 Fax: 510-782-8984
Safety-Kleen Systems, Inc. Cluster II, Building 3	2439 Industrial Parkway West Hayward, CA 94545	Tel: 800-669-5740 Fax: 972-265-2000 http://www.safety-kleen.com
Thomas Gray & Associates, Inc.	5400 Legacy Drive Plano, TX 75024	Tel: 714-997-8090 Fax: 714-997-3561 http://www.tgainc.com

Note: Most hazardous waste transporters registered with DTSC handle and transport mercury switches.

Disclaimer: This list includes commercial firms found to offer mercury-containing switch handling services. DTSC does not endorse or recommend any specific vendor. In addition, this list is for informational purposes only and is not meant to be a complete or up-to-date list of 11 companies that provide mercury-handling and recycling services in California. Contact companies directly to obtain information regarding services provided, company-specific packaging and labeling requirements, and costs.

Waste Destination Facilities that Accept Mercury Switches from California ¹

<i>Company</i>	<i>Address</i>	<i>Contact</i>
AERC-MTI (Advanced Environmental Recycling Co. – Mercury Technologies Int'l)	2591 Mitchell Avenue Allentown, PA 18103	Tel: 800-554-2372 Fax: 610-791-7696 http://www.aercrecycling.com
Bethlehem Apparatus Company, Inc.	890 Front Street, PO Box Y Hellerton, PA 18055	Tel: 610-838-7034 Fax: 610-838-6333 http://www.bethlehemapparatus.com
Lighting Resources, Inc.	498 Park Drive Greenwood, IN 46143	Tel: 317-888-3889 Fax: 317-888-3890 http://www.lightingresourcesinc.com%20
Mercury Waste Solutions, Inc. National Processing Center	21211 Durand Avenue Union Grove, WI 53182-9711	Tel: 800-741-3343 Fax: 262-878-2699 http://www.mercurywastesolutions.com
NSSI Sources and Services, Inc.	P.O. Box 34042 Houston, TX 77234	Tel: 713-641-0391 Fax: 713-641-6153 http://www.nssihouston.com
Onyx Environmental Services, Inc. (dba: Onyx Special Services, Inc.)	5736 West Jefferson Street Phoenix, AZ 85043	Tel: 800-368-9095 http://www.superiorserv.com

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¹ These facilities have a mercury retort to recover mercury from switches.