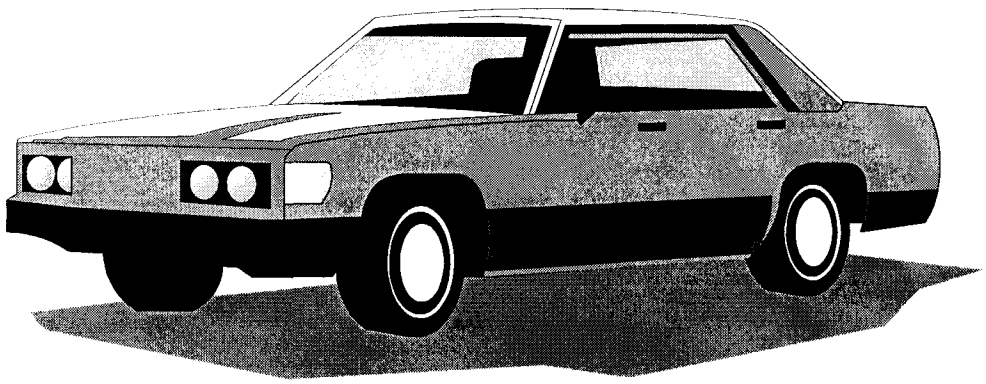
Senate Bill (SB) 1731
Risk Reduction Audits and Plans



Guidelines for Automobile Refinishing Facilities

California Environmental Protection Agency
Air Resources Board

Stationary Source Division
Emissions Assessment Branch

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These guidelines have been reviewed by the staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

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Introduction

In 1987, the Governor signed into law Assembly Bill (AB) 2588, the Air Toxics "Hot Spots" Information and Assessment Act of 1987. This law established a statewide program for the inventory of air toxics emissions from individual facilities as well as requirements for risk assessment and public notification of potential health risks. In 1992, the Governor signed into law Senate Bill (SB) 1731. SB 1731 amended AB 2588. Among other things, it adds a risk reduction element to the Air Toxics "Hot Spots" Information and Assessment Act of 1987. The paragraphs below explain the requirements of SB 1731.

What does SB 1731 require?

This law requires:

facilities which have risks above a significant risk level, or an unreasonable risk level, to develop Risk Reduction Audits and Plans,

and

that the Risk Reduction Plans identify the actions a facility will take to reduce its risk to below the significant risk level within five years.

For your convenience, a copy of SB 1731 is included in Appendix VI.

What are these guidelines?

These guidelines will assist you in complying with the requirements of SB 1731. The guidelines contain a self conducted audit and checklist. These guidelines will help you determine possible actions to reduce risk. The self conducted audit and checklist when completed, may serve as the risk reduction plan required by SB 1731.

This document also contains a checklist developed with the assistance of the Department of Toxics Substances Control (DTSC), which may help you reduce your hazardous waste generation. Using some of the suggestions presented here may also save you money. DTSC maintains an extensive listing of hazardous waste reduction publications, and also maintains a database of source reduction information. The phone number for DTSC can be found in Appendix III.

Who developed this document?

This document was developed by a workgroup that included representatives of the California Air Resources Board (ARB), air pollution control districts (districts), and industry.

What is a significant risk?

Significant risk levels are risk levels above which emissions from a facility can potentially have adverse impacts on the health of the neighboring community. Any facility above the significant risk level is considered a "significant risk facility". Significant risk levels are established by the district. For example, some districts have identified significant risk levels of 100 per million cancer risk, or a noncancer total acute or chronic hazard index of 5.0. Please contact your district to determine the significant risk level for your area.

What is an unreasonable risk?

Unreasonable risk levels maybe considered to be more severe then significant risk levels. They are risk levels above which emissions from your facility potentially pose an unreasonable risk to the neighboring community. Unreasonable risk levels are also established by the district. For example, some districts have identified unreasonable risk levels of
100 per million cancer risk with significant risk levels of 10 per million cancer risk. Other districts have identified unreasonable risk levels that are identical to the significant risk levels. The requirements for facilities with an unreasonable risk are slightly different than the requirements for facilities with a significant risk. A facility with an unreasonable risk must reduce the risk as soon as possible. Please contact your district to determine the unreasonable risk level for your area.

How will I know the risk from my facility?

Either the district will determine your facility's risk based on an industry-wide risk assessment and inform you of the result, or the district will approve the risk assessment you conducted for the Hot Spots Program. If the district did an industry-wide risk assessment for your facility and you believe your facility's risk is different from the typical facility used, you may have a facility-specific emission inventory and risk assessment done at your own expense.

How do I know if I am a significant risk facility?

Your district will notify you if you are a significant risk facility. In general, the district will let you know the following:

what your risk is,
and
what chemicals you are emitting cause the risk,
and
what process is emitting these chemicals.

Appendix VI contains an example notification letter. This will give the districts and facilities an idea of what significant risk notification letters can look like.

What do I do if I am a significant risk facility or an unreasonable risk facility?

Initially, you must conduct a risk reduction audit. The risk reduction audit will help you to identify various risk reduction options available for your current operation.

Once you have identified the risk reduction options available for your operation, you need to evaluate them based on:

Risk reduction potential
and
Technological feasibility
and
Economic practicability

Technical feasibility and economic practicability are dependent upon your specific facility. For example, increasing your stack height may not be feasible because of local building codes or unreasonable costs. You can work with district staff to help you choose which options are most appropriate for your facility.

Once you have evaluated the available options, select those options that will reduce your facility's risk below the significant risk level.

To complete your risk reduction plan, please complete the self conducted audit and checklist in the Risk Reduction Guidelines. If your district will accept the Risk Reduction Audit and Checklist in this document, complete the Risk Reduction Audit and Checklist on pages 7 and 8 and return it in to your district as your risk reduction plan.

How much risk reduction is required to get below the significant risk level?

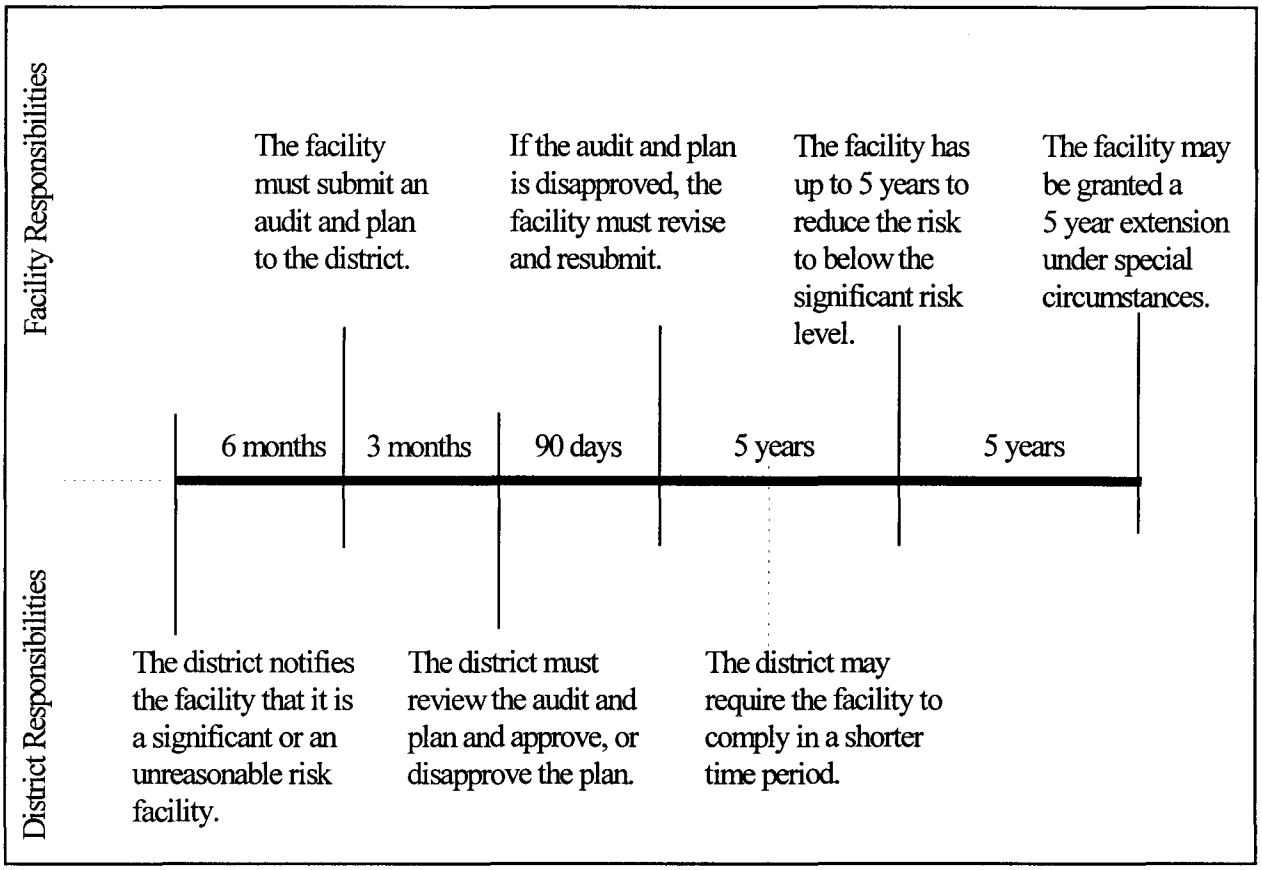
The required risk reduction for your facility is indicated in the notification letter you received from the district. The following is an example of how the percent risk reduction is calculated.

$$\text{Risk Reduction Required (\%)} = \frac{\text{Facility Risk - Significant Risk}}{\text{Facility Risk}} \times 100$$

When must the risk reduction be implemented?

SB 1731 requires that the risk associated with the emissions from your facility be below the district identified "significant" risk level within five years of the risk reduction plan submittal date. The districts may require you to reduce your risk more quickly then five years, if your shop poses an unreasonable risk or you can afford to do so. If facilities cannot reduce their risk below the significant risk level within five years because they cannot identify additional technologies that will reduce emissions and risk, or because they do not have enough money to purchase equipment to reduce emissions and risk, they can apply to their district for an extension of up to five years, provided the facility is below the unreasonable risk level, and provided the district allows such extensions.

FIGURE 1 : TIMELINE FOR COMPLIANCE



Am I required to complete the hazardous waste reduction checklist? (see Appendix IV)

No, this checklist is optional. **Do not send this checklist to your district.** However, it is recommended that you complete this checklist. By completing the hazardous waste checklist, you may see opportunities to reduce hazardous waste generation.

The California Department of Toxics Control (DTSC) maintains an extensive library of hazardous waste reduction topics. The phone number for DTSC can be found in Appendix III. Please retain this checklist for your records.

If I am not notified by the district that I am a significant risk facility, do I still need to complete the Risk Reduction Audit and Checklist?

No. However, we recommend that you do the checklist anyway. The checklist gives you some recommendations to reduce your facility air pollution emissions, which may save you money.

Why would I want to reduce my risk if I am not a significant risk facility?

Because of AB 2588, many districts require facilities that pose cancer risks greater than 10-in-a-million to notify the surrounding community that they pose a health risk. If your risk is below the 10-in-a-million level, then no notification is required. Emissions and risk reduction will also benefit employees who use toxic chemicals in your facility, as well as benefit the neighboring community.

What if the options I have chosen do not get me below the significant risk level?

If the options you have selected do not reduce your risk below the significant risk level, there are a couple of things that you can do:

As mentioned earlier, you can perform a facility specific health risk assessment to obtain a more detailed analysis of your facility risk. This health risk assessment may indicate that your facility risk is different than previously determined.

or

If you are unable to develop a plan that would reduce your risk to below the significant risk level within five years, contact the district for further guidance.

How do I complete the Risk Reduction Audit and Checklist?

complete the Risk Reduction Audit on page 7,
and
complete the Risk Reduction Checklist on page 8,
and
when you have finished the Risk Reduction Audit and Checklist, if you are a significant or unreasonable risk facility, please send them to your district:
and
complete the Hazardous Waste Reduction Checklist in Appendix IV. This step is optional.

When is my risk reduction plan due to the district?

The risk reduction plan must be submitted to the district for approval within six months of receiving notice of being declared an unreasonable or significant risk facility.
Figure 1 (see page 4) illustrates the timeline for compliance for SB 1731. Once the risk reduction plan has been submitted to the district, the district has three months to notify you if the plan was approved or not. If the plan was not approved, you have ninety days to resubmit a revised plan to the district.

Risk Reduction Audit

Company Name: _____

Facility Location Address:

Street: _____

City: _____

State: _____ Zip: _____ SIC Code: _____

Facility Mailing Address (if different from location address):

Street: _____

City: _____

State: _____ Zip: _____

Contact Person: _____

Phone Number: (_____) _____ - _____

Have you been notified that your facility is a Significant or Unreasonable Risk Facility?

yes _____ **no** _____ (if yes, complete the table below. If no, please complete for your records, but do not send this form to your local district.)

What compounds are responsible for the risk?	*What processes emit these compounds?*

Risk Reduction Checklist for Automotive Refinishing Facilities

This checklist is designed to enable you to identify and evaluate risk reduction options for your shop. If your shop has been designated a significant or unreasonable risk facility, this checklist will help you to reduce the risk. If this is not a significant or unreasonable risk facility, then this checklist is not required, but will give you some ideas on how to reduce toxic emissions from your facility. **If you check any of the questions "no", look at the recommendations to the right of the question. If you decide to carry out any of the recommendations, your emissions and risk will be reduced by the amount mentioned in the recommendation.** Recommendations with this symbol (☎) may already be required by your local air pollution control laws.

Once you have finished this checklist, you should send it to your local district. If you are not a significant or unreasonable risk facility, you do not need to send the completed checklist to the district. The district will then calculate the risk reduction you have achieved. If you wish to do this calculation yourself, you can do this as follows:

1. Write down the risk your local district tells you comes from your facility. For instance, if the district says your cancer risk is 40-in-a-million, write down 40.

2. Note the emissions reduction achieved by using additional control technologies. For instance, if you have not been using a spray booth, and you decide to use a spray booth with dry filters, then note that dry filters will give you 95% control of particulate emissions. (Gaseous emissions are not reduced by this type of filtration).

3. Use the formula below to calculate your new risk.

   (district risk) X (100- control efficiency) X (1/100) = new risk

   Using the numbers from the example, the calculation looks like this:

   (40) X (100- 95) X (1/100) = new risk
   (40) X (5) = 200
   (200) X (1/100) = 2

So, your new risk is **2-in-a-million**.

Note that this calculation is not required and the risk you calculate is just an estimate. Please work with your local air pollution control district to get an accurate risk assessment. Your local air pollution district will also make the final risk reduction calculation. The local district will then notify you of your actual risk reduction after carrying out the recommendations included in the checklist.

Risk Reduction Checklist

Facility Name_____

1. Do you use coatings that do not contain the toxic compounds listed in Appendix II, or have low concentrations of these toxic chemicals?☜ **yes** ____ **no** ____	The best way to reduce your emissions of a toxic compound is to use coatings that do not contain that compound. If your risk is caused by using a coating that contains a particular toxic compound, talk to your distributor about using alternate coatings that do not contain the compound(s) responsible for your risk, or coatings that have reduced amounts of the compound(s) responsible for your risk. Also, carefully read the Material Safety Data Sheet (MSDS) that comes with your coatings. The MSDS should contain the most toxic compounds contained in the coatings you use, and also the approximate concentrations of these compounds. If you do not receive an MSDS with your coatings, ask your distributor or call the coating manufacturer to request a copy. (See Appendix I for instructions on how to read an MSDS, and see Appendix II for a list of common toxic compounds used in coatings and solvents).
2. Do you use solvents for surface preparation, surface cleaning, or to thin coatings, that do not contain the toxic compounds listed in Appendix II, or have low concentrations of the toxic compounds listed in Appendix II? **yes** ____ **no** ____	Talk to your distributor about using surface preparation or cleaning solvents that are considered low- volatile organic compound (VOC) solvents (solvents with VOC concentrations below 72 grams per liter). Also, try to use solvents that do not contain toxic compounds listed in Appendix II. Read the MSDS that comes with your solvents. If you do not receive an MSDS with your solvents, ask your distributor for a copy or call the solvent manufacturer to request a copy.

Recommendations with this symbol (☜) may be required by local air pollution control laws.

Risk Reduction Checklist

Facility Name_____

3. Do you apply your coatings inside a spray booth? ☜ **yes** ____ **no** ____	Fully enclosed spray booths capture up to 100% of the particulate matter emissions produced during spray painting and vent the collected particulate through a filtering system. They also provide a clean, protected work area. Spray booth dry filters can control about 95% of the vented particulate matter. A spray booth with a water curtain can control about 90% of the vented particulate emissions.
4. Are your spray booth filters installed and maintained properly? ☜ **yes** ____ **no** ____	Spray booth filters must be in place and installed properly in order to work. Watch the pressure drop across the filters, or change them according to the manufacturer's schedule. Watch for and repair tears and openings in the filters.
5. Do you use and maintain your water curtain properly? ☜ **yes** ____ **no** ____	Proper maintenance of the water curtain is necessary to ensure adequate control efficiencies. Always maintain proper concentrations of water treatment chemicals and skim your water wash reservoir regularly. Properly dispose of liquid waste.

Recommendations with this symbol (☜) may be required by local air pollution control laws.

Risk Reduction Checklist

Facility Name_____

6. Do you use High Volume Low Pressure (HVLP) application equipment? ☜ **yes ____ no ____**	HVLP equipment has a transfer efficiency of about 65%. This means that 65% of the paint solids that you spray go onto the part, while 35% of the paint solids are overspray. Conventional, air spray guns have transfer efficiencies of about 35%, meaning that only 35% of the paint goes onto the part. Higher transfer efficiency means that more paint gets to the surface being painted, reducing the amount of paint that needs to be used. This will reduce air emissions, and save you money.
7. Do you use High Efficiency Particulate Air filters (HEPA filters) inside your spray booth? **yes ____ no ____**	HEPA filters are more efficient at capturing particulate matter than conventional spray booth filters. HEPA filters have control efficiencies of about 99.9% for particulate matter.

If you suspect that the emissions reduction measures noted in the checklist will not reduce your risk to below the significant risk level, and you cannot think of other emissions reduction measures, then you may want to consider a different configuration for your facility. Examples of changes you may want to consider are increasing your stack exit velocity, increasing your stack height, or changing the location of your stack. Making these changes is not actually reducing your emissions, so please consult your local district before you consider these options. The district may be able to tell you what effect these facility changes will have on your emissions, or they may prefer that you consider other options (such as VOC incineration, or carbon adsorption) besides changing your facility configuration.

Recommendations with this symbol (☜) may be required by local air pollution control laws.

Risk Reduction Checklist

Facility Name_____

If you are a significant or unreasonable risk facility, please complete the following:

Please write the numbers of the risk reduction measures you have chosen (for example, 1, 5, 7)

_____

If you are going to use risk reduction measures that are not included in the checklist, please note below what the risk reduction measure will be, and how much you think these risk reduction measures will reduce your risk.

_____

_____

_____

_____

By what date or dates will you implement these measures?

_____

_____

This audit and plan must be reviewed and certified as meeting the requirements of SB 1731 by an engineer who is registered as a professional engineer pursuant to Section 6762 of the Business and Professions Code, by an individual who is responsible for the processes and operations of the site, or by an environmental assessor registered pursuant to Section 25570.3.

Name_____ Date_____

I certify that this plan meets the requirements of H&SC section 44390-44394

Appendix I

How Do I Read a Material Safety Data Sheet?

You are entitled to receive a Material Safety Data Sheet (MSDS) with each can of coating or solvent that you purchase. This is required by federal and state law. These sheets can be used to determine if the coating or solvent that you use contains chemicals that may result in a health risk to you or the community surrounding your shop. This appendix will show you how to read some of the important parts of the MSDS. The sections outlined below explain sections of the MSDS. The next pages contain an example MSDS. For further information on reading your MSDS, contact Cal/OSHA (see appendix III for the phone number).

You should first cross reference your MSDS to make certain that you are reading an MSDS for the product you have purchased. If for any reason you suspect that the MSDS is not up to date, call the product manufacturer.

Section I. General Information

(a) This is the name of the coating or solvent manufacturer. The phone number of the manufacturer is also usually on the MSDS.
(b) Phone number of Chemtrec, an emergency service that will give you information on the chemicals in coatings and solvents you are using. This number should be used only in an emergency.

Section II. Hazardous Ingredients

This is the section where you will find out what toxic chemicals are contained in the coating or solvent you are using. The fourth column, labeled "%W", indicates the weight percentage of each compound that is in the coating or solvent. For example, this coating contains between 1-10% of xylene. If you were interested in using a coating that has reduced concentrations of xylene, choose a coating whose MSDS xylene concentration is below 1-10%.

Section III. Physical Data

This section contains information on the VOC content and density (pounds/gallon) of the product.

Section VI. Spill or Leak Procedures

(a) This tells you what to do if you spill the coating or solvent.
(b) This tells you how to dispose of the coating or solvent waste.

Section VII. Special Protection Information

This section tells you how to protect yourself from exposure to toxic chemicals contained in the solvent or coating you are using. Always use proper protective equipment when you are using coatings and solvents. This includes eye protection, gloves for skin protection, and respirators to protect yourself from coating and solvent vapors and mists .

Section X. Health Hazard Data

This section tells you what may happen if you are exposed to large amounts of the coating or solvent, and what to do if you get the coating or solvent in your eyes, on your skin, or if you swallow or breathe the coating or solvent.

✷ **If you are exposed to large amounts of the product, and you believe it may be dangerous, call your physician.**

Material Safety Data Sheet

Date of Preparation: June 28, 1993

Automotive Refinish Products

Trade Name [redacted]

MSDS# 12

SECTION I

(a) MANUFACTURER
(b) EMERGENCY TELEPHONE NO. 1-800-424-9300 (CHEMTREC)
INFORMATION TELEPHONE NO
D.O.T. DESIGNATION, HAZARD CLASS : Paint UN1263

HMIS code [2] H [3] F [0] R [ ] S

Production Code

SECTION II — HAZARDOUS INGREDIENTS

Chemical Name	see footnote	CAS Registry No.	% W	OSHA TWA*	OSHA STEL*	ACGIH TWA*	ACGIH STEL*	CERCLA RQ (in lbs)
Xylene	1	1330-20-7	1-10	100	150	100	150	1,000
Ethyl Benzene	1	100-41-4	1-10	100	125	100	125	1,000
n-Butyl Acetate		123-86-4	20-30	150	200	150	200	5,000
Propylene Glycol Methyl Ether Acetate		108-65-6	1-10	n/a	n/a	n/a	n/a	
Titanium Dioxide, Rutile	¶	1317-80-2	1-10	n/a	n/a	n/a	n/a	
Kaolin (Total Dust)	§	1332-58-7	10-20	10	n/a	10 mg/m3	n/a	
Talc (non-fibrous), Respirable Fraction		14807-96-6	1-10	2 mg/m3	n/a	2 mg/m3	n/a	
Zinc Phosphate	1	7779-90-0	10-20	n/a	n/a	n/a	n/a	
Barium Sulfate (Total Dust)	§ 1	7727-43-7	10-20	10 mg/m3	n/a	10 mg/m3	n/a	
Formaldehyde	1,2,3,4,5	50-00-0	<0.01	.75	2	0.3(c)	n/a	100
Epoxy Resin		Proprietary	1-5	n/a	n/a	n/a	n/a	
Nitrocellulose		9004-70-0	1-5	n/a	n/a	n/a	n/a	

¶ • See Section X - Health Hazard Data
§ • See Section X - Health Hazard Data

*ppm unless otherwise indicated (c = ceiling, s = skin)

1 • Chemical subject to the reporting requirements of section 313 SARA (EPCRA)
2 • Warning: This product contains a chemical known to the state of California to cause cancer, birth defects or other reproductive harm.
3, 4, 5 • Carcinogenic according to criteria established by: 3 = IARC 4 = NTP 5 = OSHA

SECTION III — PHYSICAL DATA

Boiling Point Range ° F	174-381	Weight per Gallon (lbs/gal)	7.88	Percent Volatile by Volume (%)	60
Vapor Pressure @ 68°F (mmHg)	9.84	*VOC (lbs/gal) (gms/ltr)	4.39/526	Percent Solid(s) by Weight (%)	65
Vapor Density (Air = 1)	>1	Evaporation Rate (Ether = 1)	<1	*VOC is Less Water and Exempt Solvent	
Appearance and Odor Gray with Aromatic odor				Physical State Liquid	

SECTION IV — REACTIVITY DATA

Stability: Stable

Hazardous Polymerization: Will not occur

Hazardous Decomposition Products: Unknown other than CO2 and possibly CO and carbon smoke.

Incompatibility (materials to avoid): Strong acid, alkalies, and oxidizers.

Conditions to Avoid: Heat, open flames, electrical and static discharge.

SECTION V — FIRE & EXPLOSION HAZARD DATA

Flammability Classification: Flammable IB **Flash Point:** 20 ± 5 °F **Method Used:** S.C.C. **Flammable Limits:** LEL 0.5 UEL 13.80

Extinguishing Media: Foam - Carbon Dioxide - Chemical Powder

Special Fire Fighting Procedures: Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up due to extreme heat.

Unusual Fire and Explosion Hazards: Keep container tightly closed. Avoid heat, open flames, static electricity, electrical equipment and sparks. Closed containers may explode when exposed to extreme heat. Application to hot surfaces requires special precautions. During emergency situations, over-exposure to decomposit products may cause a health hazard with no symptoms immediately apparent. Obtain medical attention.

SECTION VI — SPILL OR LEAK PROCEDURES

(a) **Steps if spilled:** Ventilate area. Remove all possible sources of ignition. Avoid prolonged breathing of vapors. Confine spill with inert absorbent and clean up with spark-proof tools. Report to appropriate agencies if reportable quantities have been spilled.

CERCLA: Refer to **Section II — Hazardous Ingredients** for identification of chemicals and reportable quantities under CERCLA regulations.

(b) **Waste Disposal:** Dispose of in accordance with local, state, & federal regulations. Land fill or incinerate in approved facility by licensed contractor. Do not incinerate in closed container.

SECTION VII — SPECIAL PROTECTION INFORMATION

Respiratory Protection: Use NIOSH/MSHA TC23C Chemical/Mechanical type filter system to remove a combination of particles, gas & vapors. Use an air supplied respirator if necessary.

Local Exhaust: Use adequate ventilation in volume and pattern to keep TWA's and STEL's (Section II) below recommended levels, and flammable limits in air (Section V) below the level necessary to produce explosion or fire.

Mechanical: General mechanical ventilation should comply with OSHA 1910.94.

Protective Gloves: To prevent prolonged exposure, use rubber gloves. Solvents may be absorbed through the skin.

Eye Protection: Safety glasses or goggles with splash guards or side shields.

Other Protective Equipment: Prevent prolonged skin contact to contaminated clothing.

SECTION VIII — SPECIAL PRECAUTIONS

Handling Precautions: Do not store over 120°F. When storing large quantities, store in building designed and protected against flammable liquids. Use static lin when mixing and transferring material. Do not allow material to free fall more than five (5) inches.

Other Precautions: "FOR INDUSTRIAL USE ONLY." Do not take internally. If ingested, DO NOT induce vomiting - Consult a physician. Do not flame cut, weld, or braze on coated metal without a NIOSH/MSHA TC23C respirator.

SECTION IX — REGULATORY INFORMATION

These materials are reportable under section 313 of SARA (EPCRA):

Category/ Chemical Name	Percent	Category/ Chemical Name	Percent	Category/ Chemical Name	Percent
Xylene	8				
Ethyl Benzene	1				
Barium Compounds	15				
Zinc Compounds	14				

SECTION X — HEALTH HAZARD DATA

Effects of Overexposure:

ACUTE: Inhalation — Anesthetic. Irritation of respiratory tract or acute nervous system depression. Overexposure may result in headaches and nausea possibly followed by loss of consciousness. Ingestion: G... ...tinal irritation including vomiting can occur. Aspiration of material into lungs may result in chemical pneumonitis which can be fatal.

Skin contact may result in irritation and absorption through skin. Eye contact will irritate

CHRONIC: Some reports have associated repeated, prolonged overexposure to solvents with permanent central nervous system changes. Misuse by concentrating and inhaling the contents may be harmful or fatal.

California Proposition 65 requires that warnings be given regarding exposures to chemicals listed by the State as being known to cause cancer, birth defects or other reproductive harm. This product is not intentionally formulated with chemicals that are listed by California as causing the above effects. However, we are informed by the suppliers of some chemical ingredients used in this product that they may contain trace, but detectable, levels of some listed chemicals as impurities. Therefore, trace, but detectable, levels of listed chemicals may be present in this product.

SECTION X — HEALTH HAZARD DATA (continued)

Emergency & First Aid Procedures:

Vapor inhalation — Restore breathing. Remove to fresh air. Keep warm and quiet. Notify a physician. Eye Contact — Flush immediately with copious amounts of running water for at least 15 minutes. Take to physician for definitive medical treatment. Skin contact — Clean and wash affected area with water. Consult a physician. Ingestion — DO NOT INDUCE VOMITING. Call physician immediately.

Primary Routes of Entry: The primary route of entry when using paint and paint related products is considered to be inhalation. All of the listed effects there pertain specifically to inhalation unless otherwise specified, even though the same effects may occur from other routes of entry as

Target Organ Effects:

No data is available which addresses medical conditions that are generally recognized as being aggravated by exposure to this product. Please refer to specific materials in this section for effects observed in animals.

Organic Solvents (General): The following are common to all Organic Solvents. Dermatitis upon repeated skin contact may result due to defatting action. Reports have associated repeated, prolonged overexposure to solvents with changes in the brain and central nervous system. Misuse by concentrating and inhaling the contents may be harmful or fatal.

Xylene: The chronic effects of overexposure include possible liver and kidney damage. A mixture of o, m and p-xylene was teratogenic and embryotoxic to mice by the oral route, however, these effects were accompanied by maternal toxicity. Rats exposed to 1000 mg/m3 by inhalation exhibited no teratogenic effects; however, minor skeletal abnormalities occured.

Ethyl Benzene: Extremely irritating to the eyes, skin and upper respiratory tract. Prolonged contact with the skin will cause edema and blistering. Eye contact may result in conjunctivitis and possible corneal damage. Ethyl benzene is absorbed through the skin at a low rate. Vapors are readily absorbed through the lungs. Inhalation of vapors causes drowsiness, narcosis, headaches, cramps and tightness of the chest. Severe overexposure can cause death due to respiratory center paralysis. If aspiration occurs, chemical pneumonitis or pulmonary edema may result. Ingestion may result in kidney or liver damage. Animal studies indicate that chronic overexposure may cause liver or kidney injury. Increased liver and kidney weights were found in rats exposed to 400 ppm for 186 days. Animal studies indicate that the vapors may be embryotoxic.

N Butyl Acetate: Prolonged or repeated skin contact may result in dryness or dermititis. Vapors are also irritating to the eyes and respiratory tract. Inhalation of vapors may result in headache, dizziness, nausea, irritation of the respiratory tract and CNS depression.

Propylene Glycol Methyl Ether Acetate: May cause eye burning. May be absorbed through the skin in harmful amounts.

Formaldehyde: Chronic inhalation studies in animals have shown that formaldehyde causes nasal cancer in rats. The International Agency for Research on Cancer (IARC) has classified formaldehyde as a carcinogen in Group 2A, and National Toxicology Program (NTP) included formaldehyde in its Annual Report on Carcinogens. OSHA regulates formaldehyde in 29CFR 1910.1048. Repeated overexposure may lead to sensitization in some individuals.

Talc: Prolonged or repeated exposure can result in a form of pulmonary fibrosis (talc pneumoconiosis), possibly due to asbestos content.

Barium: Chronic inhalation of barium compounds may result in a condition know an baritosis, however, persons showing signs of this condition exhibit normal lung function.

Epoxy Resin: Overexposure to some synthetic resins have been reported to cause dermatitis and sensitization reactions in some individuals. Some individuals can develop an allergic reaction to epoxy resins.

¶ Note: There are no exposure limits for these ingredients or product. OSHA assigns a TWA of 15 mg/m3 and the ACGIH assigns a TWA of 10 mg/m3 (this value is for total dust containing no asbestos and <1% crystalline silica) for Particulates Not Otherwise Classified (PNOC). The respirable fraction should not exceed 5 mg/m3 (OSHA).

§ Note: The respirable fraction should not exceed 5 mg/m3 (OSHA).

Appendix II

What are the Most Common Toxic Compounds in the Coatings and Solvents I Use?

Here is a list of some of the most toxic compounds used in coatings and solvents used by auto refinishing shops. This is not a complete list of every compounds used in coatings and solvents, but this will give you some idea of what compounds may be responsible for your risk.

hexavalent chromium (also known as "chromates")
- hexavalent chromium is the most toxic compound used in auto refinishing coatings. We strongly encourage the use of coatings that do not contain hexavalent chromium.

cadmium and compounds
nickel and compounds
lead and compounds
copper and compounds
ethylene glycol monobutyl ether
zinc and compounds
ethylene glycol monobutyl ether acetate
tolulene
xylenes
styrene
methanol
methylene chloride
isopropanol
methyl ethyl ketone
methyl isobutyl ketone
propylene glycol monomethyl ether acetate
isocyanates (e.g., toluene diisocyanate and methane diidocyanate)

Appendix III

What Organizations Can Answer Questions For Me?

California Air Resources Board (ARB)
Stationary Source Division, Emissions Assessment Branch
(916) 322-6023
http://www.arb.ca.gov

Department of Toxics Substances Control (DTSC)
Office of Pollution Prevention and Technology Development
(916) 322-3670

State Fire Marshal
(916) 262-1870

National Paint and Coatings Association
(202) 462-6272

California Autobody Association
(916) 448-5477

California Occupational Safety and Health (Cal/OSHA) Consultation Service
(916) 263-2855

Local Air Pollution Control and Air Quality Management Districts
(please check your local phone book's county government listings, or call the **ARB Business Assistance Helpline at (800) 272-4572** for the phone number of your local district)

Appendix IV

Hazardous Waste Reduction Checklist

This checklist is designed to show some ways that you can reduce the amount of hazardous waste generated by your shop. Not only will you reduce the amount of hazardous waste you generate, you will save yourself money. You will get these savings by reducing the fees you pay to dispose of hazardous waste, and by using fewer gallons of coatings and solvents. **This checklist is optional. Do not send this checklist to your district.** If you check any of the questions "no", look at the recommendations to the right of the question. These recommendations explain how you can reduce your hazardous waste generation. DTSC can provide a factsheet and Assessment Manual to facilitate hazardous waste reduction at automotive refinishing facilities. The phone number for DTSC can be found in appendix III.

Do you segregate your waste? **yes** ____ **no** ____	Combined waste costs more to manage. Segregated waste has greater potential for reuse or reclamation. Explore in-house reuse options. If you generate less than 27 gallons or 100 kg per month, you may be eligible for small quantity generator programs. Contact your city or county hazardous waste department, or the closest Department of Toxics Substances Control Regional Office (see appendix IV).
Do you "do your homework" before you acquire new or used equipment? **yes** ____ **no** ____	Do some comparison shopping for your equipment before you purchase it. Capital cost, installation costs, operating and maintenance costs, reliability, and compatibilities can vary from manufacturer to manufacturer. Contact your trade association, fellow shop owners, and paint suppliers for recommendations before you purchase equipment. Also, when new equipment is purchased, evaluate whether additional training will be necessary before the equipment is used.
Do you have an established method for cleaning your equipment? **yes** ____ **no** ____	Clean your equipment immediately after use, paying attention to how often the equipment really needs cleaning, how much and the type of solvent being used. Try to schedule work to reduce cleaning. Develop water based cleaning options for your shop.
Do you have a scheduled maintenance program? **yes** ____ **no** ____	A scheduled maintenance and cleaning program will help prevent unscheduled down time and waste generated from hurried repairs.

Appendix V

Sample District Notification Letter

Sample District Notification of Facility Risk Letter

Dear _____,

We are sending you this letter to notify you that the risk associated with air emissions from your facility exceeds the significant risk level established by the _____ [place the district name here]. The cancer risk associated with your facility is _____. The noncancer chronic hazard index is _____, and the noncancer acute hazard index is _____. These health risk levels were determined using the health risk assessment methodology developed under Assembly Bill (AB) 2588, Air Toxics Hot Spots Information and Assessment Act.

In accordance with Senate Bill (SB) 1731 (Health and Safety Code sections 44390 through 44394), you are required to reduce your facility risk to below the significant risk level within five years. The significant risk level within our district is _____ for cancer risk, _____ for noncancer chronic hazard index, and _____for noncancer acute hazard index. The compounds causing this risk are _____. These compounds are emitted by the following procesess: _____. You are required to reduce your risk ____%.

To reduce your facility risk, related provisions of SB 1731 require you to audit your facility for risk reduction opportunities and create a risk reduction plan. The risk reduction plan will document the options you plan to implement to reduce your risk to below the significant risk level. The risk reduction plan is to be submitted to the district for approval, and then followed when implementing risk reduction options to reduce the risk from your facility.

We have enclosed SB 1731 Risk Reduction Audits and Plans Guidelines for Automobile Refinishing Facilties. This document will assist you in complying with SB 1731 by providing information about the requirements of SB 1731 and by providing forms to use to prepare your risk reduction plan. The completed forms can serve as your facility's risk reduction audit and plan. If you have any questions, please contact _____ [Put district contact name] at _____[district phone number].

Sincerely,

_____

enclosure

Appendix VI

Senate Bill 1731

Senate Bill No. 1731

CHAPTER 1162

An act to amend Section 44360 of, to add Section 44380.5 to, and to add Chapter 6 (commencing with Section 44390) to Part 6 of Division 26 of, the Health and Safety Code, relating to toxic air contaminants, and making an appropriation therefor.

[Approved by Governor September 29, 1992. Filed with Secretary of State September 30, 1992.]

LEGISLATIVE COUNSEL'S DIGEST

SB 1731, Calderon. Toxic air contaminants.

(1) Existing law required each air quality management district and each air pollution control district, within 90 days of completion of the review of emissions inventory data, but not later than December 1, 1990, to prioritize and categorize facilities for purposes of health risk assessment into high, intermediate, and low priority categories, taking specified matters into account. Existing law further requires the operator of every high-priority category facility, within 150 days of categorization, to prepare and submit to the district a health risk assessment utilizing scientific methodologies, as specified, and specifies what the health risk assessment is to contain and how it is to be prepared.

This bill would require health risk assessments to be prepared in accordance with described guidelines established by the Office of Environmental Health Hazard Assessment, as specified.

The bill would require facility operators to conduct an airborne toxic risk reduction audit and develop a plan to implement airborne toxic risk reduction measures, and would require the facility operator to implement the measures set forth in the plan, as specified. By imposing new duties on the districts with respect to the review of those plans and assisting small businesses with compliance, the bill would impose a state-mandated local program. The bill would authorize the district, the State Air Resources Board, or the office to assess a specified supplemental fee on a facility operator. The bill would subject the facility operator to specified civil penalties for failure to submit a complete audit and plan or to implement the measures set forth in the plan, and for knowingly submitting a false statement or representation in connection with the audit or plan.

(2) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

(3) The bill would appropriate $948,000 from the Air Toxics

Inventory and Assessment Account in the General Fund for purposes of the bill, with $188,000 to be allocated to the state board and $760,000 to be allocated to the Office of Environmental Health Hazard Assessment.

Appropriation: yes.

The people of the State of California do enact as follows:

SECTION 1. Section 44360 of the Health and Safety Code is amended to read:

44360. (a) Within 90 days of completion of the review of all emissions inventory data for facilities specified in subdivision (a) of Section 44322, but not later than December 1, 1990, the district shall, based on examination of the emissions inventory data and in consultation with the state board and the State Department of Health Services, prioritize and then categorize those facilities for the purposes of health risk assessment. The district shall designate high, intermediate, and low priority categories and shall include each facility within the appropriate category based on its individual priority. In establishing priorities pursuant to this section, the district shall consider the potency, toxicity, quantity, and volume of hazardous materials released from the facility, the proximity of the facility to potential receptors, including, but not limited to, hospitals, schools, day care centers, worksites, and residences, and any other factors that the district finds and determines may indicate that the facility may pose a significant risk to receptors. The district shall hold a public hearing prior to the final establishment of priorities and categories pursuant to this section.

(b) (1) Within 150 days of the designation of priorities and categories pursuant to subdivision (a), the operator of every facility that has been included within the highest priority category shall prepare and submit to the district a health risk assessment pursuant to Section 44361. The district may, at its discretion, grant a 30-day extension for submittal of the health risk assessment.

(2) Health risk assessments required by this chapter shall be prepared in accordance with guidelines established by the Office of Environmental Health Hazard Assessment. The office shall prepare draft guidelines which shall be circulated to the public and the regulated community and shall adopt risk assessment guidelines after consulting with the state board and the Risk Assessment Committee of the California Air Pollution Control Officers Association and after conducting at least two public workshops, one in the northern and one in the southern part of the state. The adoption of the guidelines is not subject to Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code. The scientific review panel established pursuant to Section 39670 shall evaluate the guidelines adopted under this paragraph and shall recommend changes and additional criteria to

reflect new scientific data or empirical studies.

(3) The guidelines established pursuant to paragraph (2) shall impose only those requirements on facilities subject to this subdivision that are necessary to ensure that a required risk assessment is accurate and complete and shall specify the type of site-specific factors that districts may take into account in determining when a single health risk assessment may be allowed under subdivision (d). The guidelines shall, in addition, allow the operator of a facility, at the operator's option, and to the extent that valid and reliable data are available, to include for consideration by the district in the health risk assessment any or all of the following supplemental information:

(A) Information concerning the scientific basis for selecting risk parameter values that are different than those required by the guidelines and the likelihood distributions that result when alternative values are used.

(B) Data from dispersion models, microenvironment characteristics, and population distributions that may be used to estimate maximum actual exposure.

(C) Risk expressions that show the likelihood that any given risk estimate is the correct risk value.

(D) A description of the incremental reductions in risk that occur when exposure is reduced.

(4) To ensure consistency in the use of the supplemental information authorized by subparagraphs (A), (B), (C), and (D) of paragraph (3), the guidelines established pursuant to paragraph (2) shall include guidance for use by the districts in considering the supplemental information when it is included in the health risk assessment.

(c) Upon submission of emissions inventory data for facilities specified in subdivisions (b) and (c) of Section 44322, the district shall designate facilities for inclusion within the highest priority category, as appropriate, and any facility so designated shall be subject to subdivision (b). In addition, the district may require the operator of any facility to prepare and submit health risk assessments, in accordance with the priorities developed pursuant to subdivision (a).

(d) The district shall, except where site specific factors may affect the results, allow the use of a single health risk assessment for two or more substantially identical facilities operated by the same person.

(e) Nothing contained in this section, Section 44380.5, or Chapter 6 (commencing with Section 44390) shall be interpreted as requiring a facility operator to prepare a new or revised health risk assessment using the guidelines established pursuant to paragraph (2) of subdivision (a) of this section if the facility operator is required by the district to begin the preparation of a health risk assessment before those guidelines are established.

SEC. 2. Section 44380.5 is added to the Health and Safety Code,

to read:

44380.5. In addition to the fee assessed pursuant to Section 44380, a supplemental fee may be assessed by the district, the state board, or the Office of Environmental Health Hazard Assessment upon the operator of a facility that, at the operator's option, includes supplemental information authorized by paragraph (3) of subdivision (b) of Section 44360 in a health risk assessment, if the review of that supplemental information substantially increases the costs of reviewing the health risk assessment by the district, the state board, or the office. The supplemental fee shall be set by the state board in the regulation required by subdivision (a) of Section 44380 and shall be set in an amount sufficient to cover the direct costs to review the information supplied by an operator pursuant to paragraph (3) of subdivision (b) of Section 44360.

SEC. 3. Chapter 6 (commencing with Section 44390) is added to Part 6 of Division 26 of the Health and Safety Code, to read:

CHAPTER 6. FACILITY TOXIC AIR CONTAMINANT RISK REDUCTION AUDIT AND PLAN

44390. For purposes of this chapter, the following definitions apply:

(a) "Airborne toxic risk reduction measure" or "ATRRM" means those in-plant changes in production processes or feedstocks that reduce or eliminate toxic air emissions subject to this part. ATRRM's may include:

(1) Feedstock modification.

(2) Product reformulations.

(3) Production system modifications.

(4) System enclosure, emissions control, capture, or conversion.

(5) Operational standards and practices modification.

(b) Airborne toxic risk reduction measures do not include measures that will increase risk from exposure to the chemical in another media or that increase the risk to workers or consumers.

(c) "Airborne toxic risk reduction audit and plan" or "audit and plan" means the audit and plan specified in Section 44392.

44391. (a) Whenever a health risk assessment approved pursuant to Chapter 4 (commencing with Section 44360) indicates, in the judgment of the district, that there is a significant risk associated with the emissions from a facility, the facility operator shall conduct an airborne toxic risk reduction audit and develop a plan to implement airborne toxic risk reduction measures that will result in the reduction of emissions from the facility to a level below the significant risk level within five years of the date the plan is submitted to the district. The facility operator shall implement measures set forth in the plan in accordance with this chapter.

(b) The period to implement the plan required by subdivision (a) may be shortened by the district if it finds that it is technically

feasible and economically practicable to implement the plan to reduce emissions below the significant risk level more quickly or if it finds that the emissions from the facility pose an unreasonable health risk.

(c) A district may lengthen the period to implement the plan required by subdivision (a) by up to an additional five years if it finds that a period longer than five years will not result in an unreasonable risk to public health and that requiring implementation of the plan within five years places an unreasonable economic burden on the facility operator or is not technically feasible.

(d) (1) The state board and districts shall provide assistance to smaller businesses that have inadequate technical and financial resources for obtaining information, assessing risk reduction methods, and developing and applying risk reduction techniques.

(2) Risk reduction audits and plans for any industry subject to this chapter which is comprised mainly of small businesses using substantially similar technology may be completed by a self-conducted audit and checklist developed by the state board. The state board, in coordination with the districts shall provide a copy of the audit and checklist to small businesses within those industries to assist them to meet the requirements of this chapter.

(e) The audit and plan shall contain all the information required by Section 44392.

(f) The plan shall be submitted to the district, within six months of a district's determination of significant risk, for review of completeness. Operators of facilities that have been notified prior to January 1, 1993, that there is a significant risk associated with emissions from the facility shall submit the plan by July 1, 1993. The district's review of completeness shall include a substantive analysis of the emission reduction measures included in the plan, and the ability of those measures to achieve emission reduction goals as quickly as feasible as provided in subdivisions (a) and (b).

(g) The district shall find the audit and plan to be satisfactory within three months if it meets the requirements of this chapter, including, but not limited to, the requirements of subdivision (f). If the district determines the audit and plan does not meet those requirements, the district shall remand the audit and plan to the facility specifying the deficiencies identified by the district. A facility operator shall submit a revised audit and plan addressing the deficiencies identified by the district within 90 days of receipt of a deficiency notice.

(h) Progress on the emission reductions achieved by the plan shall be reported to the district in ~~the biennial updates of~~ emission inventories required pursuant to Section 44344.

(i) If new information becomes available after the initial risk reduction audit and plan, on air toxics risks posed by a facility, or emission reduction technologies that may be used by a facility that would significantly impact risks to exposed persons, the district may

require the plan to be updated and resubmitted to the district.

(j) This section does not authorize the emission of a toxic air contaminant in violation of an airborne toxic control measure adopted pursuant to Chapter 3.5 (commencing with Section 39650) or in violation of Section 41700.

44392. A facility operator subject to this chapter shall conduct an airborne toxic risk reduction audit and develop a plan which shall include at a minimum all of the following:

(a) The name and location of the facility.

(b) The SIC code for the facility.

(c) The chemical name and the generic classification of the chemical.

(d) An evaluation of the ATRRM's available to the operator.

(e) The specification of, and rationale for, the ATRRMs that will be implemented by the operator. The audit and plan shall document the rationale for rejecting ATRRMs that are identified as infeasible or too costly.

(f) A schedule for implementing the ATRRMs. The schedule shall meet the time requirements of subdivision (a) of Section 44391 or the time period for implementing the plan set by the district pursuant to subdivision (b) or (c) of Section 44391, whichever is applicable.

(g) The audit and plan shall be reviewed and certified as meeting this chapter by an engineer who is registered as a professional engineer pursuant to Section 6762 of the Business and Professions Code, by an individual who is responsible for the processes and operations of the site, or by an environmental assessor registered pursuant to Section 25570.3.

44393. The plan prepared pursuant to Section 44391 shall not be considered to be the equivalent of a pollution prevention program or a source reduction program, except insofar as the audit and plan elements are consistent with source reduction, as defined in Section 25244.14, or subsequent statutory definitions of pollution prevention.

44394. Any facility operator who does not submit a complete airborne toxic risk reduction audit and plan or fails to implement the measures set forth in the plan as set forth in this chapter is subject to the civil penalty specified in subdivision (a) of Section 44381, and any facility operator who, in connection with the audit or plan, knowingly submits any false statement or representation is subject to the civil penalty specified in subdivision (b) of Section 44381.

SEC. 4. No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because the local agency or school district has the authority to levy service charges, fees, or assessments sufficient to pay for the program or level of service mandated by this act. Notwithstanding Section 17580 of the Government Code, unless otherwise specified in this act, the provisions of this act shall become operative on the same date that the act takes effect pursuant to the California Constitution.

SEC. 5. The sum of nine hundred forty-eight thousand dollars

($948,000) is hereby appropriated from the Air Toxics Inventory and Assessment Account in the General Fund for the purposes of this act, to be allocated as follows:

(a) One hundred eighty-eight thousand dollars ($188,000) to the State Air Resources Board.

(b) Seven hundred sixty thousand dollars ($760,000) to the Office of Environmental Health Hazard Assessment.

O