

Bay Area Air Quality Management District  
Risk Screening Assessment, A# 9979  
Corporate Sign Systems, Inc., P# 12072  
November 4, 2004

This document describes the basis for the health risk screening assessment prepared for Corporate Sign Systems, Inc., 1521 Berger Dr., California. This facility wishes to operate a new paint spray booth. In order to do this, the facility must get a permit from the Bay Area Air Quality Management District (BAAQMD). The BAAQMD, as a routine part of the evaluation of a permit application, prepared this screening risk assessment.

Methyl cellosolve acetate, toluene, xylene and chlorofluorocarbons, which are considered toxic air contaminants (TAC), will be emitted during the operation of the paint spray booth. BAAQMD staff evaluates the possible impact of these TAC emissions that will occur during routine operation of the paint spray booth. The estimated increase in each of the TAC emissions, in pounds per year, that can be expected from this source are summarized in the following table:

Toxic Air Contaminant	Annual Average Emissions, lb/yr
Methyl cellosolve acetate	98
Toluene	17
Xylene	204
Chlorofluorocarbons	873
2-Butoxy Ethanol	115
2-Methoxyethyl Acetate	27

Ambient air concentrations of the TAC were predicted using the ISCST3 air dispersion computer model. This model uses information about the facility and the emission rates of toxic air contaminants to estimate what concentrations would be expected in the air at various locations around the site. The estimated concentrations of TAC are used to calculate the possible health risk that might be expected to arise from these exposures.

The potential for health effects is evaluated by comparing the long-term exposure level to a Reference Exposure Level (REL). A REL is a concentration level at or below which no adverse health effects are anticipated. RELs are designed to protect sensitive individuals within the population. Comparisons to RELs are made by determining the hazard index, which is the ratio of the estimated exposure level to the REL. A Hazard Index of less than or equal to one is considered acceptable under the BAAQMD Risk Management Policy.

The proposed operation is located in a commercial/industrial area. The maximum exposures will occur for the off-site worker receptor. The proposed operation would result in a maximum increased hazard index of 0.04 for off-site workers near the facility. For the students at Challenger School, the increased maximum hazard index is 0.002. These health risk values, presented in the table below, meet the criteria for acceptable levels established in the BAAQMD's Risk Management Policy.

Receptor	Hazard Index
Off-site worker	0.04
Challenger School	0.002

School address: Challenger School  
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