Rule 1200 Health Risk Assessment

Facility Name:	Woodman Autobody
Facility ID:	APCD2023-SITE-04408
Application:	APCD2023-APP-007986
Project Engineer:	John Lee
Modeler:	Bill Reeve
Toxics Risk Analyst:	Maria Galvez
Date Submitted to Toxics:	02/21/2024
Date Completed by Toxics:	02/22/2024
HRA Tools Used:	Lakes-AERMOD (Version 23132)/HARP (v22118)

The following estimated risks are valid only for the input data provided by the Project Engineer.

Because this application requires notification to a school, risk was also assessed for the students while attending the school, as outlined below.

Estimated Risk Levels:

Maximum Individual Cancer Risk (Worker)	= 18.27 in one million
Maximum Individual Cancer Risk (Resident)	= 44.99 in one million
Maximum Individual Cancer Risk (Student)	= 8.89 in one million
Chronic Noncancer Health Hazard Index (Worker)	= 8.90E-04
Chronic Noncancer Health Hazard Index (Resident)	= 7.65E-04
Chronic Noncancer Health Hazard Index (Student)	= 1.61E-04
Acute Health Hazard Index (Worker)	= 0.01
Acute Health Hazard Index (Resident)	= 0.01
Acute Health Hazard Index (Student)	= 0.002

Input Data Provided by Project Engineer:

Type of Source: Autobody shop
Controls Description:
T-BACT:

Worst-Case TAC Emissions Increase:

Toxic Air Contaminant	Hourly Emission Rate (lb/hr)	Annual Emission Rate (lb/yr)
n-Butanol	0.009	16.1
Ethyl Benzene	0.012	21.3
Ethylene Glycol Monobutyl Ether	0.002	3.71
n-Hexane	0.001	1.10
Isopropanol	0.018	33.1
Methanol	0.003	4.6
Methyl Ethyl Ketone	0.024	42.8
Methyl Isobutyl Ketone	0.017	30.5
Propylene Glycol Monomethyl Ether Acetate	0.025	45.2
Propylene Glycol Monomethyl Ether	0.001	2.4
Styrene	0.007	13.5
Toluene	0.063	113.8
Xylenes (mixed)	0.066	120.4
PCBTF	0.70	1276.6
Aluminum	7.24E-06	0.013
Barium	1.60E-05	0.029
Cobalt	6.63E-09	1.21E-05
Copper	3.32E-09	6.04E-06
Lead	0.00E+00	0
Nickel	0.00E+00	0
Selenium	1.66E-09	3.02E-06
Zinc	5.09E-06	0.009

Release Parameters:

Stack Height (ft)	24.75
Stack Diameter (ft)	3.75 x 1.5
Temperature (deg F)	ambient
Exhaust Flow Rate (acfm)	14430

Discussion

The HRA was conducted in accordance with EPA and OEHHA guidance and District standard procedures. One point source were modeled with refined air dispersion modeling using EPA's AERMOD model, AERMET (Version 22112) processed Lexington Elementary School 2019/2021 sigma theta updated meteorology data, AERMAP terrain processing, and urban dispersion coefficients. Building downwash effects were calculated using the EPA BPIP-Prime model. The receptor grid was sufficiently dense to identify maximum impacts.

These risk results are based on the risk scenario calculations and health data at the time of the review and should not be scaled with revised emissions rates without consulting with the Toxics Section.