



Industrial Hygiene Risk Assessment

Workplace Characterization

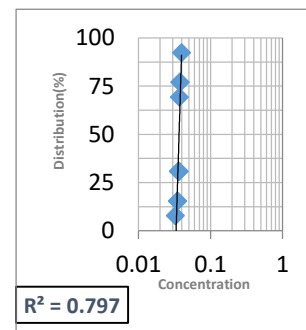
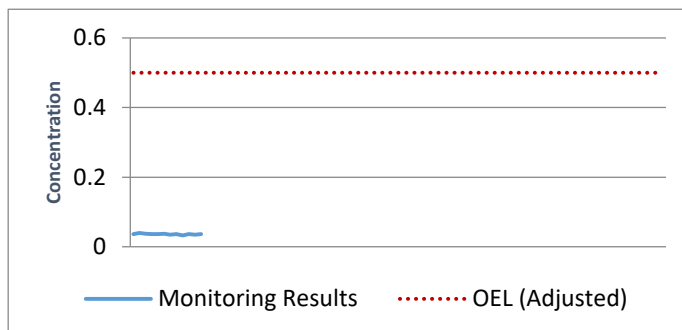
Organization	Sasol North America Operations
Facility/Location	Lake Charles - West Plant (VLCW)
Production Unit	VLCW - Ethane Cracker Process Unit (ETH2)
Similar Exposure Group (SEG)	VLCW - ETH2 - Field Operator
# of Affected Employees	13-16
Task Evaluated	Routine

Exposure Characterization

Agent Evaluated	1,3-Butadiene (106-99-0)
Health Impact	Cancer
Health Effect Rating (HER)	3
OEL (8-hour)	1ppm
Workshift Duration (hrs)	12
OEL (Adjusted)	0.5ppm

Summary of Monitoring Results

n	12
n≥TWA	0
MAX	0.040
MEAN	0.036
MEDIAN	0.036
GM	0.036
LCL ₉₅	0.035
UCL ₉₅	0.037



Risk Determination

Exposure Rating Determination

ER	%TWA	UCL ₉₅
1	<10	0.037
2	<50	
3	<100	
4	≥100	

Inherent Risk

Health Effect Rating	1	2	3	4
4	Yellow	Yellow	Red	Red
3	Green	Yellow	Yellow	Red
2	Green	Green	Yellow	Yellow
1	Green	Green	Green	Yellow

Residual Risk

Health Effect Rating	1	2	3	4
4	Yellow	Yellow	Red	Red
3	Green	Yellow	Yellow	Red
2	Green	Green	Yellow	Yellow
1	Green	Green	Green	Yellow

Residual Risk Level	Recommendations
MINIMAL	•No further action required
LOW	•Review risk assessment if changes to operating conditions occur
MODERATE	•Consider additional control measures •Continue workplace monitoring to ensure existing controls remain effective
HIGH	•Implement additional control measures

Respiratory Protection Used	None - Not Required
Assigned Protection Factor (APF)	1
Residual Exposure (UCL / APF)	0.037 ppm

Exposure Assessment

Existing Control Measures		
Control Methods	Safe Design + Process Controls + General Ventilation	
Administrative Controls	Operating Procedures + Work Practices + Training/Education + Exposure Monitoring	
Respiratory Protection	None - Not Required	
Health Risk Assessment	Exposure to 1,3-Butadiene (106-99-0)	
Health Impact	Cancer	Chronic, irreversible health effect
Inherent Risk Rating	Minimal	Personal monitoring data does not exceed the occupational exposure limit
Residual Risk Rating	Minimal	Existing PPE requirements effectively control the exposure
Uncertainty Rating	Uncertain	Insufficient data; further information is warranted to verify the exposure assessment
Exposure Monitoring Strategy	No additional monitoring is required. The inherent risk is Minimal	
Medical Surveillance Requirements	Not Required. The inherent risk is Minimal/Low	
Recommendations	The exposure profile remains uncertain; additional monitoring is required to ensure statistically significant data.	

Questions regarding the monitoring data or sampling strategy may be directed to the Industrial Hygiene Department.

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Occupational Hygienist

1/21/2021

Date