

1992 CAII CONSOLIDATED AUDIT

CEI REVIEW

PRESENTATION

DOCUMENTATION

JULY 1992

ODOR THRESHOLD CIRCLES

DO A 046892
CONFIDENTIAL

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CHEMICAL EXPOSURE INDEX

PLANT: CAII
LOCATION: LAD
CHEMICAL: CHLORINE

TOTAL QUANTITY IN PLANT: 300000.00 lb
LARGEST SINGLE CONTAINMENT: 250000.00 lb
STORAGE TEMPERATURE: -10.00 deg F
STORAGE PRESSURE: 22.70 psia
BOILING POINT: -29.20 deg F
FLASH POINT: 0.00 deg F
MOLECULAR WEIGHT: 71.00
EEPG CONCENTRATION: 1.0 ppm

EXPOSURE RISK POTENTIAL SUMMARY

HEALTH HAZARD FACTOR: 4 (1.0 - 9.9)
QUANTITY FACTOR: 3 (1,000 lbs - 10,000 lbs)
MOLECULAR WEIGHT FACTOR: 4 (> 45)
PROCESS PENALTIES: 2 (overpressure or run-away reaction potential)

DISTANCE	DISTANCE FACTOR	E.R.P. VALUE
TO THE PUBLIC	3 (1000 ft - 5279 ft)	288
TO DOW PLANTS	4 (< 1000 ft)	384
TO OTHER BUSINESSES	3 (1000 ft - 5279 ft)	288

EXPOSURE RISK POTENTIAL TO THE PUBLIC = 288

ANNUAL REVIEW - SITE, SUPERINTENDENT AND MAJOR MANAGER

THE CHEMICAL EXPOSURE INDEX IS A SIMPLE, EMPIRICAL AND RELATIVE METHOD
FOR RATING THE TOXIC HAZARDS OF CHEMICALS IN A QUANTITATIVE MANNER.
** FOR INTERNAL DOW USE ONLY **

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DISPERSION SUMMARY

TOTAL DISCHARGED =	6795.20 LBS	SOURCE HEIGHT =	0.00 FT.
RELEASE DURATION =	15.00 MIN	SPILL AREA =	1000.00 FT**2
MOLECULAR WEIGHT =	71.00	SOURCE TEMPERATURE =	-29.20 DEG F
EEPG CONCENTRATION =	1.0 ppm	AMBIENT TEMPERATURE =	86.00 DEG F

THE RELEASE IS A LIQUID SPILL

THE RELEASE IS CONTINUOUS

THE RADII OF EXPOSURE ARE BASED ON PEAK CONCENTRATIONS

CONC (ppm)	RADII OF EXPOSURE (miles) @ ground level - @ plume centerline		
	UNSTABLE	NEUTRAL	STABLE
	12. mph (20 %)*	8. mph (40 %)*	4. mph (40 %)*
1.0	1.321	7.511	60.807
10.0	0.438	1.776	8.238
100.0	0.160	0.459	1.730

APPROXIMATE % OF TIME IN THIS WEATHER CONDITION

UNSTABLE ATMOSPHERIC CONDITION - SLIGHT SOLAR RADIATION WITH LOW WIND SPEEDS (<10 mph) OR STRONG RADIATION WITH HIGH WIND SPEEDS (>10 mph).

NEUTRAL ATMOSPHERIC CONDITION - WELL MIXED ATMOSPHERE DUE TO MODERATE/STRONG WIND SPEEDS (>7 mph) AND SLIGHT/MODERATE SOLAR RADIATION. ANY OVERCAST CONDITION.

STABLE ATMOSPHERIC CONDITION - LOW WIND SPEEDS (<10 mph) AT NIGHT.

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