Respondent's Exhibit 6

Minnesota Pollution Control Agency

September 7, 2005

Mr. Gene Jensen
Vice President
Fox Packaging
51 East Maryland Avenue
St. Paul, MN 55117

Dear Mr. Jensen:

The purpose of this letter is to inform you that Minnesota Pollution Control Agency (MPCA) staff considers the method of calculating Hazardous Air Pollutant (HAP) emissions from your facility described in Wenck's technical memorandum dated August 30, 2005, acceptable. Please submit an application for a Capped Air Permit by October 3, 2005.

This determination was based on several factors. MPCA staff acknowledges that a material balance only works in cases where the loss rate is measurable, that is, when the difference between usage and losses is large enough to be measured by purchase and shipment records or similar data. Further, material balance typically works in cases where the loss is intentional, planned, or defined in some way. One example is solvent in a paint. The solvent is intended to be a carrier and is intentionally driven off in the process. The loss rate is relatively large compared to amount of materials purchased, and therefore is measurable. Further, it is assumed that all paint solvent is driven off. Therefore, a mass balance calculation is straightforward: amount of paint purchased multiplied by the percent solvent assuming 100 percent lost to evaporation.

At Fox Packaging, the material purchased *is* the product. It is diluted, put in bottles and no loss is intended. Therefore, no assumption about loss can be made or inferred from the intended use (such as 100 percent loss for paint solvents). Further, the volume purchased is so large that trying to attempt a mass balance is not practical. For 2004 the purchased amount of methanol was 10,736,000 gallons, or 70,694,524 lbs. The calculated losses of 4.61 tons per year based on the measurements taken in May 2005 amount to approximately 0.013 percent loss. MPCA staff acknowledges this would not be measurable via mass balance.

Any attempt at using a mass balance would also have to address the addition of water for dilution (millions of lbs). The shipments include the water and that would have to be subtracted out. It is unlikely that the dilution rate is exact (at levels approaching 0.013 percent), therefore, trying to use receipts, less shipments (minus water) would likely include significant error in just the water amounts and the results would not be accurate enough to provide good data for methanol at the levels necessary for consideration in air permitting applicability.

Minnesota Pollution Control Agency

Air Pollutant Emissions Inventory Report

Facility ID: 12300601 Inventory Year: 2005

Facility Name:	B Bros Packaging Inc/Fox Packaging Inc	Inventory Contact:	Gene Jensen
Location Street Address:	51 Maryland Ave E	Job Title:	General Manager
City/ZIP:	St. Paul 55117	Mail Address:	51 Maryland Ave E
County:	Ramsey	City/St/ZIP:	St. Paul, MN 55117
		Contact Phone:	(651) 393-2781
		Contact Fax:	(651) 489-8247
		Contact E-Mail:	

I certify under penalty of law that this document and all attachments were prepared under my direction or supervised by qualified personnel. The Information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I understand that the data provided in this document will be used by the MPCA to calculate a fee, which my facility will be required to pay under Minnesota Rules, part 7002.0025, based on tons of pollutants emitted by the facility.

Signature and Title of Company Official (please write): Gene Jensen General Manager Date: 8-11-06

Name and Title of Company Official (please print): Gene Jensen General Manager

Return To: Paul Kim (651) 296-7320
or Michael Smith (651) 282-5849
Minnesota Pollution Control Agency
Environmental Analysis and Outcomes Division
Environmental Data Management Unit
520 Lafayette Road N
St. Paul, MN 55155-4194

Minnesota Pollution Control Agency

Air Pollutant Emissions Inventory Report

Facility ID: 12300601 Inventory Year: 2005

Operating Schedule

	Average Working Schedule				% Annual Throughput			
	Percent Heating	Hours Per Day	Days Per Week	Hours Per Year	Dec-Feb	Mar-May	Jun-Aug	Sep-Nov
EU 001 Polyethy Pellet		16	5	5000	36	14	14	36
EU 002 Methanol Washer		16	5	5000	36	14	14	36
EU 003 IPA Fill Line		16	5	5000	36	14	14	36
EU 004 Methanol Washer		16	5	5000	36	14	14	36
EU 005 Co-Ray-Vac Heating		16	5	5000	36	14	14	36
EU 006 Ethylene Glycol		Ø	Ø	Ø	Ø	Ø	Ø	Ø
TK 001 Isopropanol		16	5	5000	36	14	14	36
TK 002 Methanol		16	5	5000	36	14	14	36

Minnesota Pollution Control Agency

Air Pollutant Emissions Inventory Report

Facility ID: 12300601 Inventory Year: 2005

Throughput Information

Unit	Unit Description	Segment Description	Throughput	Throughput Units	Sulfur %	Ash %
EU 001	Polyethy Pellet	Bottle forming TONS	2738	Tons of product		
EU 002	Methanol Washer	Methanol Gallons	5569000	Tons solvent		
EU 003	IPA Fill Line	Isopropanol Gallons	96,921	Tons solvent		
EU 004	Methanol Washer	Washer mixing Gallons	5569000	Tons solvent		
EU 005	Co-Ray-Vac Heating	Natural Gas	2.7	Million cubic feet burned		
EU 006	Ethylene Glycol	Storage	0	Tons product		
TK 001	Isopropanol	Standing loss	1	1000 gallons storage capa		
TK 001	Isopropanol	Working loss	20.54	1000 gallons throughput		
TK 002	Methanol	Standing loss	9.43	1000 gallons storage capa		
TK 002	Methanol	Working loss	1556	1000 gallons throughput		

* note: Throughput is Total Production

Fox Packaging
St. Paul MN

Monthly Data for Emissions Calculations

		Methanol Related Sources			Isoproanol Related Sources		Bleach	Bottle	Natural
		Methanol Used	Square Line	Round Line	Isopropanol Used	Gas Line	Operations	Forming	Gas Use
Month	Year	Gallons	Hours	Hours	Gallons**	Hours	Hours	Tons	1000 cf
January	2005	852,162	420	412	10,435	168	8	566,064	
February	2005	446,756	210	186	4,648	84	24	339,738	
March	2005	143,658	168	155	0	0	13	148,231	
April	2005	77,815	126	102	0	0	24	129,757	
May	2005	174,499	126	95	1,013	12	31	159,917	
June	2005	84,426	126	91	1,062	12	35	151,865	
July	2005	154,279	126	91	0	0	35	161,623	
August	2005	390,477	210	181	9,311	160	29	428,814	
September	2005	362,870	210	200	21,158	336	10	392,995	
October	2005	417536	210	178	16,889	294	32	489,116	
November	2005	615904	336	322	11,806	210	14	459,077	
December	2005	915451	420	412	7,388	147	8	613,034	
November	2004	375,711	210	195	8,650	155	15	269,127	
December	2004	557,288	336	318	4,561	83	18	367,323	
Sum		5568832	3234	2938	96921	1661	296	4676681	0

*This is methanol bottled - prior to dilution. i.e. the value is methanol, not diluted methanol.
**This is isopropanol bottled - prior to dilution. i.e. the value is isopropanol, not diluted isopropanol

FOX PACKAGING
Actual Methanol Emission Calculations based on May 2005 Testing

The facility receives methanol, dilutes it and fills primarily 1 gallon bottles at a rate of 90 bottles/minute.
Methanol is received and held in rail cars. The rail cars are treated as tanks and TANKS calculations conducted.
Methanol is taken in from the rail car to the mixing room where it is diluted. The mixing room is a separate enclosed room.
Material from the mixing room goes to filling stations.
1 gallon bottles are filled at 2 filling stations - the square line (square bottles, line 1) and the round line (round bottles, line 2)
Operations are seasonal. 2 filling stations run in winter months when demand is high.
Operations also include a small 'gas' line that fills 10 oz bottles with isoproanol or methanol - used for gasoline additives.
IPA calcs on separate sheet.
Methanol is a hazardous air pollutant and therefore emission caclulations for methanol are most important to this permitting analysis.
There is a general exhaust located in the vicinity of each filling station.

Emission Rate Calculation

Calculation	MW * ppm / ideal gas volume = mg/m3			
Ideal Gas Law value	24.5 liters/gram-mole @ 25C and 760 mmHg			
molecular weight methanol	32.1 lbs/lb-mole			
ft3/m3	35.3 conversion factor			
Production Rate	90.0 bottle/min	1 gal/bottle	90 gal/min	Production is consistent while running.
Safety Factor	10%			

Area	Monitored Value, ppm as Methanol	Estimated Value, ppm as methanol	With Safety Factor	Methanol mg/m3	Fan rate ft3/min	lbs methanol/ minute	lbs methanol/ hr operation	lbs methanol/ gallon filled	Notes
Filling station 1 during operation	91.9	na	101.1	132.45	100	0.00083	na	9.19E-06	Fan operates during operation only
Mixing Room during operation	210	na	231.0	302.68	495	0.00935	0.561	na	Fan operates at all times
**Mixing Room non-operating hours	na	42	46.2	60.53	495	0.00187	0.112	na	Estimated from current and past data, see below
General Exhaust during operations	9.43	na	10.4	13.59	16000	0.01357	0.814	na	Full time during operation, 1 fans @ 16,000 each
General Exhaust non-operating hours	1.91	na	2.1	2.75	16000	0.00275	0.165	na	fan runs 15 minutes per 2 hours; tested starting at end of operating day for 10 hours, so this is a conservative value.

2004 Actual Emission Calculations	2004 production gallons	2004 hours	tons methanol/ year	
Area				
***Filling Stations	10,736,000	na	0.049	
Mixing Room during operation	na	5000	1.403	Hours = sum of Square Line and Round Line
**Mixing Room non-operating hours	na	3760	0.211	
****General Exhaust during operations - Square Line	na	4000	1.629	
*General Exhaust non-operating hours - Square Line	na	595	0.049	
****General Exhaust during operations - Round Line	na	1000	0.407	
*General Exhaust non-operating hours - Round Line	na	970	0.080	
Tanks - methanol railcars - raw material	10,736,000	na	0.760	from 'TANKS' runs in 2004 AEI
SUM			4.608	needs to be less than 8 tons

After hours general exhaust — (8760-operating hours) .25 hours/2 hours
runs 15 minutes every 2 hours during non-operating periods.

**Estimated mixing room non-op hrs — Sampling during non-operating hours in the mixing room was not conducted.

Operating and non-operating hours for general exhaust show:	9.43	1.92	20%
Prior sampling did include non-operating hours for the mixing room			
Operating and non-operating hours from prior sampling were	806	75	9%

During non-operating hours emissions decrease because the tank is not filling and emptying.
It is located inside in a separate room and is therefore not subject to signficant breathing losses.
Based on data summarized here a 20% estimate of the operation hours is used.

FOX PACKAGING
Actual Methanol Emission Calculations based on May 2005 Testing

***Filling Stations	There are two filling stations. Each is a similar operation and is similarly vented. 10 oz bottles may also be filled at the 'gas line'. Again, such operations are similarly vented. Results for Filling station 1 are therefore assumed for all stations and applied to total production.
****General Exhaust	There are two general exhaust fans. One is located near filling station 1 - square line. This is where sampling was done. The other is located near filling station 2 - round line. Filling station 2 was not operating during sampling. It is assumed that during operation of filling station 2, the air concentration near the 2nd fan will be similar to that of the fan in the filling station 1 area. The general exhaust emission was calculated based on sampling and hours of operation for each filling station. Any addition to general exhaust from the gas line will be negligible as gas line operations are at a rate that is less than 1% of main filling line stations (see rates on isopropanol sheet).

FOX PACKAGING
Actual Isopropanol Emission Calculations

10 oz bottles of isopropanol are filled on a small filling line
Results for methanol are converted to IPA on a vapor pressure basis to determine IPA emissions.
IPA is a VOC but not e HAP and therefore, emissions determiations are less critical.

Emission Rate Calculation

molecular weight methanol	32.1				
Molecular weight isopropanol	60				
Partial pressure of 38% methanol	31.9	from prior analysis at FOX			
Vapor pressure of IPA	33	from prior analysis at FOX			
ft3/m3	35.3				
Production Rate filling station	90.0	bottle/min	1 gal/bottle	90 gal/min	Production is consistent while running.
Production Rate gas line	8.75	bottle/min	10 oz/bottle	0.68 gal/min	8400 bottles/16 hours
Safety Factor	10%				

Area	Monitored Value, ppm as Methanol	With Safety Factor	Monitored Value, w/SF converted to IPA, ppm	Adjusted based on process rate, ppm	Fan rate ft3/min	lbs IPA/min	lbs IPA /hr operation	lbs IPA /gallon filled	Notes
IPA Filling station 1 during operation	91.9	101.1	104.58	na	100	0.00085	na	9.55E-04	Fan operates during operation only
General Exhaust during operations	9.43	10.4	10.73	0.08	16000	0.00008	0.005	na	Full time during operation, 2 fans @ 16,000 each
General Exhaust non-operating hours	1.91	2.1	2.17	0.02	16000	0.00002	0.001	na	15 minutes per 2 hours

2004 Actual Emission Calculations	2004 production gallons	2004 hours	tons Isopropanol/ year	
Area				
Filling Station - gas line	65,224	na	0.0311	
General Exhaust during operations	na	5000	0.012	see notes from methanol calcs
General Exhaust non-operating hours	na	470	0.00023	see notes from methanol calcs
Tanks - IPA railcars - raw material			0.120	from 'TANKS' runs in 2004 AEI
SUM			0.164	

Process rate adjustment - ratio of filling station and gas line rates.
The gas line is located near one general exhaust vent. The other one is quite distant. Therefore only one vent is considered.
No mixing room is related to the IPA process.

FOX PACKAGING
Actual Emission Calculations from Bleach Line Operation

Fox Packaging also operates a Bleach Line. It operates only a limited amount of time - see below.
The line takes bleach received as a dilute solution of NaOCl and puts it in 1 gallon bottles for sale.
The dilute solution received is not further diluted.

Bleach can release Cl gas in the precense of an acid. Small amounts of Cl gas may be emitted.
Cl is a HAP and therefore emissions should be quantified.
A worst case calulcation using the OSHA maximum 8-hr level is used below to determine a worst case Cl emisison rate.
This value is a hypothetical maximum and actual values should be lower.
Theoretically HCl could also be emitted. HCl is also a HAP. Therefore, a maximum calculation is included for HCl as well

	Chlorine 7782-50-5		HCl	
MN OSHA Ceiling Limit - 8-hr TWA	0.5	ppm	5	ppm
MW	35.45		36.46	
Calculation - MW * ppm / ideal gas volume = mg/m3				
Ideal Gas Law value	24.5	liters/gram-mole @ 25C and 760 mmHg	24.5	liters/gram-mole @ 25C and 760 mmHg
mg/m3	0.72	mg/m3 = ppm * MW/24.5	7.44	mg/m3 = ppm * MW/24.5
Convert to lbs/ft3:				
ft3/m3	35.3	conversion factor	35.3	conversion factor
lbs/ft3	4.52E-08	lbs/ft3	4.64E-07	lbs/ft3
Operating hours 2004	29	days/year	29	days/year
	8	hrs/day	8	hrs/day
	232	hrs/yr	232	hrs/yr
Emission Calculation at OSHA Rate				
Ventilation Rate - exhaust rate when line in operation.	8753	ft3/min	8753	ft3/min
Amount in airflow at OSHA limit, lbs/min	0.00040	lbs/min	0.00406	lbs/min
Convert to lbs/hr at OSHA Limit	0.024	lbs/hr	0.244	lbs/hr
lbs/yr based on operating hours/year	5.50	lbs/yr	56.57	lbs/yr
tons/yr based on operating hours/year	0.0028	tons/yr	0.0283	tons/yr

Other Process Data - not used in above worst case calculation.

Fox transfers to 1 gallon bottle for sale			material is not diluted
Sodium Hypochlorite	NaOCl		7681-52-9
Received and Bottled at:		5.25	%
Rate		27	bottle/min
		1	gallon/bottle
		27	gallons/min
		1.42	gallons/min NaOCl
Specific Gravity		1.21	na
		14.30	lbs/min NaOCl
		858.27	lbs/hr NaOCl, processed

MW	Na	22.99
	O	16
	Cl	35.45
	NaOCl	74.44

FOX PACKAGING
Actual Emission Calculations from Bottle Forming

PM, PM10, VOC from Bottle Forming

Unit	Pollutant	lbs/ton formed	Tons Formed 2004	tons/year
EU001	PM	0.27	1645	0.22
EU001	PM10	0.27	1645	0.22
EU001	VOC	30	1645	24.68

Emission Factors from prior emissions inventories

FOX PACKAGING
Actual Emission Calculations from Space Heating

Natural Gas Fuel Usage - Space heating

Fuel Use 2.7 million ft3

		PM	PM10	NOx	SO2	CO	VOC	Lead
Emission Factors	lbs/million ft3	7.6	7.6	100	0.6	84	5.5	0.0005
Emissions	Tons per year	0.010	0.010	0.14	0.00081	0.11	0.0074	6.75E-07

Emission factors from AP-42 Chapter 1.4

HAPs from natural gas space heating are assumed to be negligible due to low level of use.

FOX PACKAGING

Substitute CAP-GI-07

Acutal Emissions Summary - 2004 (Limited and Controlled*)

	PM	PM10	NOx	SO2	CO	VOC	Lead	Methanol	Cl	HCl	SUM HAPs
Bottle Forming	0.22	0.22				24.68					0
Filling Lines & general exhaust						2.21		2.21			2.21
Mixing Room						1.61		1.61			1.61
Gas Line & general exhaust						0.04					0
Methanol Tanks						0.78		0.78			0.78
IPA Tanks						0.12					0
Bleach Line									0.0028	0.028	0.031
Space heating	0.010	0.010	0.14	0.00081	0.11	0.0074	6.75E-07				6.75E-07
SUM	**0.23**	**0.23**	**0.14**	**0.00**	**0.11**	**29.45**	**6.75E-07**	**4.61**	**0.0028**	**0.028**	**4.64**
Major Title V Source Thresholds	*100*	*100*	*100*	*100*	*100*	*100*	*0.5*	*10*	*10*	*10*	*25*
Capped Permit Thresholds	*75*	*75*	*90*	*85*	*85*	*85*	*0.5*	*8*	*8*	*8*	*20*

(if below major source and capped permit thresholds may get state capped permit which limits emissions to below those thresholds)

**Emission units are not limited and do not have controls.*

FOX PACKAGING
Potential Methanol Emission Calculations based on May 2005 Testing

The facility receives methanol, dilutes it and fills primarily 1 gallon bottles at a rate of 90 bottles/minute.
Methanol is received and held in rail cars. The rail cars are treated as tanks and TANKS calculations conducted.
Methanol is taken in from the rail car to the mixing room where it is diluted. The mixing room is a separate enclosed room.
Material from the mixing room goes to filling stations.
1 gallon bottles are filled at 2 filling stations - the square line (square bottles, line 1) and the round line (round bottles, line 2)
Operations are seasonal. 2 filling stations run in winter months when demand is high.
Operations also include a small 'gas' line that fills 10 oz bottles with isoproanol or methanol - used for gasoline additives.
IPA calcs on separate sheet.
Methanol is a hazardous air pollutant and therefore emission cacluations for methanol are most important to this permitting analysis.
There is a general exhaust located in the vicinity of each filling station.

Emission Rate Calculation

Calculation	MW * ppm / ideal gas volume = mg/m3			
Ideal Gas Law value	24.5 liters/gram-mole @ 25C and 760 mmHg			
molecular weight methanol	32.1 lbs/lb-mole			
ft3/m3	35.3 conversion factor			
Production Rate	90.0 bottle/min	1 gal/bottle	90 gal/min	Production is consistent while running.
Safety Factor	10%			

Area	Monitored Value, ppm as Methanol	Estimated Value, ppm as methanol	With Safety Factor	Methanol mg/m3	Fan rate ft3/min	lbs methanol/ minute	lbs methanol/ hr operation	lbs methanol/ gallon filled	Notes
Filling station 1 during operation	91.9	na	101.1	132.45	100	0.00083	na	9.19E-06	Fan operates during operation only
Mixing Room during operation	210	na	231.0	302.66	495	0.00935	0.561	na	Fan operates at all times
**Mixing Room non-operating hours	na	42	46.2	60.53	495	0.00187	0.112	na	Estimated from current and past data, see below
General Exhaust during operations	9.43	na	10.4	13.59	16000	0.01357	0.814	na	Full time during operation, 1 fans @ 16,000 each
General Exhaust non-operating hours	1.91	na	2.1	2.75	16000	0.00275	0.165	na	fan runs 15 minutes per 2 hours; tested starting at end of operating day for 10 hours, so this is a conservative value.

2004 Actual Emission Calculations	2004 production gallons	2004 hours	tons methanol/ year	Potential production gallons	Potential Hours	lbs methanol/ minute	Potential methanol tons/year	
Area								
***Filling Stations	10,736,000	na	0.049	na	17,520	0.00083	0.435	
Mixing Room during operation	na	5,000	1.403	na	8,760	0.00935	2.458	
**Mixing Room non-operating hours	na	3,760	0.211	na	0	0.00187	0	
****General Exhaust during operations - Square Line	na	4,000	1.629	na	8,760	0.01357	3.567	
*General Exhaust non-operating hours - Square Line	na	595	0.049	na	0	0.00275	0	
****General Exhaust during operations - Round Line	na	1,000	0.407	na	8,760	0.01357	3.567	
*General Exhaust non-operating hours - Round Line	na	970	0.080	na	0	0.00275	0	
Tanks - methanol railcars - raw material	10,736,000	na	0.780	37,618,944	17,520	na	3.182	Actual from 'TANKS' runs in 2004 AEI
SUM			4.608				13.188	Potential from 'TANKS' using 10,736,000 gal * (17,520 hrs / 5,000 hrs [2004])

*After hours general exhaust

(8760-operating hours)* .25 hours/2 hours
runs 15 minutes every 2 hours during non-operating periods.
Assumed zero hours of non-operating general exhaust for potential emissions.

FOX PACKAGING
Potential Methanol Emission Calculations based on May 2005 Testing

**Estimated mixing room non-op hrs	Sampling during non-operating hours in the mixing room was not conducted.			
	Operating and non-operating hours for general exhaust show:	9.43	1.92	20%
	Prior sampling did include non-operating hours for the mixing room			
	Operating and non-operating hours from prior sampling were	808	75	9%
	During non-operating hours emissions decrease because the tank is not filling and emptying.			
	It is located inside in a separate room and is therefore not subject to signficant breathing losses.			
	Based on data summarized here a 20% estimate of the operation hours is used.			
	Assumed zero hours of mixing room non-operating hours for potential emissions.			
***Filling Stations	There are two filling stations. Each is a similar operation and is similarly vented.			
	10 oz bottles may also be filled at the 'gas line'. Again, such operations are similarly vented.			
	Results for Filling station 1 are therefore assumed for all stations and applied to total production.			
	Assumed 2 x 8,760 hours = 17,520 hours to account for both filling stations' potential to emit.			
****General Exhaust	There are two general exhaust fans. One is located near filling station 1 - square line. This is where sampling was done.			
	The other is located near filling station 2 - round line. Filling station 2 was not operating during sampling.			
	It is assumed that during operation of filling station 2, the air concentration near the 2nd fan will be similar to that			
	of the fan in the filling station 1 area.			
	The general exhaust emission was calculated based on sampling and hours of operation for each filling station.			
	Any addition to general exhaust from the gas line will be negligible as gas line operations are			
	at a rate that is less than 1% of main filling line stations (see rates on isopropanol sheet).			
	Assumed 8,760 hours for both square and round lines' general exhaust potential emissions.			

FOX PACKAGING
Potential Isopropanol Emission Calculations

10 oz bottles of isopropanol are filled on a small filling line
Results for methanol are converted to IPA on a vapor pressure basis to determine IPA emissions.
IPA is a VOC but not a HAP and therefore, emissions determiations are less critical.

Emission Rate Calculation

molecular weight methanol	32.1				
Molecular weight Isopropanol	60				
Partial pressure of 38% methanol	31.9	from prior analysis at FOX			
Vapor pressure of IPA	33	from prior analysis at FOX			
ft3/m3	35.3				
Production Rate filling station	90.0	bottle/min	1 gal/bottle	90 gal/min	Production is consistent while running.
Production Rate gas line	8.75	bottle/min	10 oz/bottle	0.68 gal/min	8400 bottles/16 hours
Safety Factor	10%				

Area	Monitored Value, ppm as Methanol	With Safety Factor	Monitored Value, w/SF converted to IPA, ppm	Adjusted based on process rate, ppm	Fan rate ft3/min	lbs IPA/min	lbs IPA /hr operation	lbs IPA /gallon filled	Notes
IPA Filling station 1 during operation	91.9	101.1	104.58	na	100	0.00065	na	9.55E-04	Fan operates during operation only
General Exhaust during operations	9.43	10.4	10.73	0.08	16000	0.00008	0.005	na	Full time during operation, 2 fans @ 16,000 each
General Exhaust non-operating hours	1.91	2.1	2.17	0.02	16000	0.00002	0.001	na	15 minutes per 2 hours

2004 Actual Emission Calculations	2004 production gallons	2004 hours	tons Isopropanol/ year	Potential production gallons	Potential Hours	lbs Isopropanol/ minute	Potential Isopropanol tons/year	
Area								
Filling Station - gas line	65,224	na	0.0311	na	8,760	0.00065	0.172	
General Exhaust during operations	na	5000	0.012	na	8,760	0.00008	0.021	see notes from methanol calcs
General Exhaust non-operating hours	na	470	0.00023	na	0	0.00002	0	see notes from methanol calcs
Tanks - IPA railcars - raw material	65,224	na	0.120	114,272	8,760	na	0.127	Actual from 'TANKS' runs in 2004 AEI
SUM			0.164				0.320	Potential from 'TANKS' using 65,224 gal * (8,760 hrs / 5,000 hrs [2004])

Process rate adjustment - ratio of filling station and gas line rates.
The gas line is located near one general exhaust vent. The other one is quite distant. Therefore only one vent is considered.
No mixing room is related to the IPA process.

FOX PACKAGING
Potential Emission Calculations from Bleach Line Operation

Fox Packaging also operates a Bleach Line. It operates only a limited amount of time - see below.
The line takes bleach receieved as a dilute solution of NaOCl and puts it in 1 gallon bottles for sale.
The dilute solution received is not further diluted.

Bleach can release Cl gas in the precense of an acid. Small amounts of Cl gas may be emitted.
Cl is a HAP and therefore emissions should be quantified.
A worst case calulcation using the OSHA maximum 8-hr level is used below to determine a worst case Cl emisison rate.
This value is a hypothetical maximum and actual values should be lower.
Theoretically HCl could also be emitted. HCl is also a HAP. Therefore, a maximum calculation is included for HCl as well

	Chlorine 7782-50-5		HCl	
MN OSHA Ceiling Limit - 8-hr TWA	0.5	ppm	5	ppm
MW	35.45		36.45	
Calculation - MW * ppm / ideal gas volume = mg/m3				
Ideal Gas Law value	24.5	liters/gram-mole @ 25C and 760 mmHg	24.5	liters/gram-mole @ 25C and 760 mmHg
mg/m3	0.72	mg/m3 = ppm * MW/24.5	7.44	mg/m3 = ppm * MW/24.5
Convert to lbs/ft3:				
ft3/m3	35.3	conversion factor	35.3	conversion factor
lbs/ft3	4.52E-08	lbs/ft3	4.64E-07	lbs/ft3
Potential operating hours	8,760	hrs/yr	8,760	hrs/yr
Emission Calculation at OSHA Rate				
Ventilation Rate - exhaust rate when line in operation.	8753	ft3/min	8753	ft3/min
Amount in airflow at OSHA limit, lbs/min	0.00040	lbs/min	0.00406	lbs/min
Convert to lbs/hr at OSHA Limit	0.024	lbs/hr	0.244	lbs/hr
lbs/yr based on operating hours/year	207.76	lbs/yr	2136.17	lbs/yr
tons/yr based on operating hours/year	**0.1039**	tons/yr	**1.0681**	tons/yr

Sodium Hypochlorite NaOCl 7681-52-9

Specific Gravity 1.21 na
0.00 lbs/min NaOCl
0.00 lbs/hr NaOCl, processed

MW

Na	22.99
O	16
Cl	35.45
NaOCl	74.44

FOX PACKAGING
Potential Emission Calculations from Bottle Forming

VOC from Bottle Forming

111	bottles/min
110	grams/bottle
12,210	grams/min
27	lbs/min

Unit	Pollutant	lbs/ton formed	Tons Formed	tons/year	lb/hr
EU001	PM	0.27	7,074	0.96	0.22
EU001	PM10	0.27	7,074	0.96	0.22
EU001	VOC	30	7,074	106.11	24.23

Emission Factors from prior emissions inventories

FOX PACKAGING
Potential Emission Calculations from Insignificant Activity Combustion Sources

Natural Gas Fuel Usage - IA Combustion Sources

Production Area 2,100,000 Btu/hr (7 @ 300,000 Btu/hr)
Space Heating 1,020 Btu/scf
2,058.82 scf/hr
18.04 mmscf/yr

		PM	PM10	NOx	SO2	CO	VOC	Lead
Emission Factors	lbs/million ft3	7.6	7.6	100	0.6	84	5.5	0.0005
Emission Rate	lbs/hr	0.016	0.016	0.206	0.001	0.173	0.011	1.03E-06
Emissions	Tons per year	0.069	0.069	0.902	0.005	0.757	0.050	4.51E-06

0.029 lb/hr per unit

Warehouse 2,760,000 Btu/hr (10 @ 276,000 Btu/hr)
Space Heating 1,020 Btu/scf
2,705.88 scf/hr
23.70 mmscf/yr

		PM	PM10	NOx	SO2	CO	VOC	Lead
Emission Factors	lbs/million ft3	7.6	7.6	100	0.6	84	5.5	0.0005
Emission Rate	lbs/hr	0.021	0.021	0.271	0.002	0.227	0.015	1.35E-06
Emissions	Tons per year	0.090	0.090	1.185	0.007	0.996	0.065	5.93E-06

0.027 lb/hr per unit

Furnace 80,000 Btu/hr (1 @ 80,000 Btu/hr)
1,020 Btu/scf
78.43 scf/hr
0.69 mmscf/yr

		PM	PM10	NOx	SO2	CO	VOC	Lead
Emission Factors	lbs/million ft3	7.6	7.6	100	0.6	84	5.5	0.0005
Emission Rate	lbs/hr	0.001	0.001	0.008	4.71E-05	0.007	4.31E-04	3.92E-08
Emissions	Tons per year	0.003	0.003	0.034	2.06E-04	0.029	1.89E-03	1.72E-07

Hot Water Heater 40,000 Btu/hr (1 @ 40,000 Btu/hr)
1,020 Btu/scf
39.22 scf/hr
0.34 mmscf/yr

		PM	PM10	NOx	SO2	CO	VOC	Lead
Emission Factors	lbs/million ft3	7.6	7.6	100	0.6	84	5.5	0.0005
Emission Rate	lbs/hr	2.98E-04	2.98E-04	0.004	2.35E-05	0.003	2.16E-04	1.96E-08
Emissions	Tons per year	0.001	0.001	0.017	1.03E-04	0.014	9.45E-04	8.59E-08

Co-Ray-Vac Burner System 1.08 MMBtu/hr
1,020 Btu/scf
9.28 MMscf/yr

		PM	PM10	NOx	SO2	CO	VOC	Lead
Emission Factors	lbs/million ft3	7.6	7.6	100	0.6	84	5.5	0.0005
Emission Rate	lbs/hr	0.008	0.008	0.102	0.001	0.086	0.006	5.10E-07
Emissions	Tons per year	0.035	0.035	0.464	0.003	0.390	0.026	2.32E-06

Total Insignificant Activity Combustion Emissions

		PM	PM10	NOx	SO2	CO	VOC	Lead
Emissions	Tons per year	0.198	0.198	2.602	0.016	2.186	0.143	1.30E-05

Emission factors from AP-42 Chapter 1.4

HAPs from natural gas IA combustion sources are assumed to be negligible due to low level of use.

FOX PACKAGING
Potential Emissions Summary (Limited and Controlled*)

Substitute CAP-GI-07

	PM	PM10	NOx	SO2	CO	VOC	Lead	Methanol	Cl	HCl	SUM HAPs
Bottle Forming	0.96	0.96				106.11					0
Filling Lines & general exhaust						7.57		7.57			7.57
Mixing Room						2.46		2.46			2.46
Gas Line & general exhaust						0.19					0
Methanol Tanks						3.16		3.16			3.162
IPA Tanks						0.13					0
Bleach Line									0.1039	1.068	1.172
Space heating	0.198	0.198	2.60	0.016	2.19	0.1431	1.3E-05				1.30E-05
SUM	**1.15**	**1.15**	**2.60**	**0.02**	**2.19**	**119.76**	**1.3E-05**	**13.19**	**0.1039**	**1.068**	**14.36**
Major Title V Source Thresholds	*100*	*100*	*100*	*100*	*100*	*100*	*0.5*	*10*	*10*	*10*	*25*

**Emission units are not limited and do not have controls.*

TANKS 4.0
Emissions Report - Summary Format
Tank Identification and Physical Characteristics

Identification

User Identification:	TK002
City:	St. Paul
State:	Minnesota
Company:	
Type of Tank:	Horizontal Tank
Description:	Methanol Tank
	Actual Methanol Emissions

Tank Dimensions

Shell Length (ft):	55.00
Diameter (ft):	10.00
Volume (gallons):	10,000.00
Turnovers:	479.02
Net Throughput (gal/yr):	4,790,169.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	Gray/Medium
Shell Condition:	Good

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig):	0.03

Meteorological Data used in Emissions Calculations: St. Paul, Minnesota (Avg Atmospheric Pressure = 14.3 psia)

TANKS 4.0
Emissions Report - Summary Format
Liquid Contents of Storage Tank

Mixture/Component	Month	Daily Liquid Surf. Temperatures (deg F) Avg.	Min.	Max.	Liquid Bulk Temp. (deg F)	Vapor Pressures (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Methyl alcohol	All	52.72	43.73	61.71	47.79	1.1423	0.8472	1.5216	32.0400			32.04	Option 2: A=7.897, B=1474.08, C=229.13

TANKS 4.0
Emissions Report - Summary Format
Individual Tank Emission Totals

Annual Emissions Report

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Methyl alcohol	957.13	599.69	1,556.83

TANKS 4.0
Emissions Report - Summary Format
Tank Identification and Physical Characteristics

Identification

User Identification:	TK002
City:	St. Paul
State:	Minnesota
Company:	
Type of Tank:	Horizontal Tank
Description:	Methanol Tank
	Potential Methanol Emissions

Tank Dimensions

Shell Length (ft):	55.00
Diameter (ft):	10.00
Volume (gallons):	10,000.00
Turnovers:	3,761.89
Net Throughput (gal/yr):	37,618,944.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	Gray/Medium
Shell Condition:	Good

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig):	0.03

Meteorological Data used in Emissions Calculations: St. Paul, Minnesota (Avg Atmospheric Pressure = 14.3 psia)