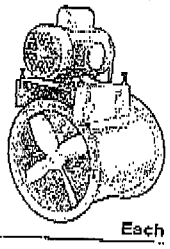
Attachment A

Fan Manufacturer Information

Duct Fans

For information about static pressure (SP), sones, and decibels, see page 610.

Belt-Drive Axial Duct Fans



These dependable fans are shipped to you assembled and with the belt-drive aligned. Motors are totally enclosed fan-cooled and run on 60 Hz. Flanges have eight evenly spaced 7/16" mounting holes (hardware not included).

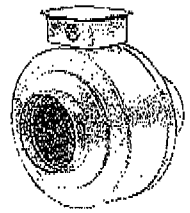
Steel/Aluminum Fans—The motor base has four jackscrews for easy future alignment. Housings are steel, propellers are spark-resistant cast aluminum. Maximum temperature is 175° F. Tested to AMCA standards.

Also Available Fans with hazardous-location motors for Class I, Group D and Class II, Group F and G applications. Please ask for 2097K85 and specify duct dia.: 12", 15", 18", 24", or 36" and specify voltage: 115/230 VAC, single phase or 230/460 VAC, 3 phase. Performance matches the motor specifications listed in the table.

Stainless Steel Fans—With Type 304 stainless steel propellers and housings, these fans stand up to corrosive environments better than the steel/aluminum fans. Maximum temperature is 200° F.

cfm @ Static Pressure (SP)			For Duct Dia.	O'all Lg.	Flange OD	O'all Ht. w/Motor	dB @ 10 ft.	hp	rpm	VAC	Phase	Amps		Each
⅛"	Max. SP													
Steel/Aluminum Fans														
1,718	1,600 @	¼"	12"	12"	14 1/16"	18 9/16"	67	⅛	3,051	115/230	1	7.0/3.5	2097K32	$581.43
3,210	2,695 @	½"	15"	12"	17 1/16"	20⅛"	66	¾	2,288	115/230	1	8.2/4.1	2097K93	684.29
3,500	2,590 @	⅝"	18"	12"	20 1/16"	22¼"	61	½	1,615	115/230	1	7.0/3.5	2097K35	640.00
4,840	3,700 @	⅝"	18"	12"	20 1/16"	22¼"	66	1	2,153	230/460	3	2.8/1.4	2097K36	670.00
8,230	1,800 @	1"	24"	12"	26 11/16"	25 9/16"	74	1½	1,684	230/460	3	4.2/2.1	2097K38	797.18
14,600	10,000 @	½"	36"	16"	39¼"	31 13/16"	69	2	972	230/460	3	5.6/2.8	2097K88	1352.86
Type 304 Stainless Steel Fans														
1,866	1,497 @	½"	12"	20"	14 1/16"	18 9/16"	69	¾	3,051	230/460	3	2.6/1.3	2357K13	2061.02
4,802	4,000 @	¾"	18"	20"	20 1/16"	22 9/16"	69	1½	2,374	230/460	3	4.2/2.1	2357K67	2410.17
7,850	3,150 @	⅞"	24"	21"	26 11/16"	25⅝"	72	2	1,711	230/460	3	5.6/2.8	2357K62	2895.65

Direct-Drive Centrifugal Duct Fans



Quiet and corrosion resistant—these variable speed inline fans have Noryl plastic or galvanized steel housings. Motors are totally enclosed air over motor (motor is cooled by the air from the fan), single phase and operate on 115 VAC, 60 Hz. Maximum temperature is 140° F. UL and C-UL listed.

Noryl Plastic Housing—Built-in UV protection and a weather-tight seal make these fans great for outdoor applications.

Galvanized Steel Housing—Have a powder-coated finish. Tested to AMCA standards.

Also Available Mounting clamps, sold in pairs. Please ask for 1967K74 and specify your duct diameter.

cfm @ Static Pressure (SP)		For Duct Dia.	O'all Dia.	O'all Lg.	Sones @ 5 ft.	Watts	rpm	Amps		Each
0"	Max. SP									
Noryl Plastic Housing										
122	15 @ ¾"	4"	9⅛"	8¾"	—	19	2950	0.18	19135K65	$160.47
148	47 @ ⅝"	5"	9½"	7"	—	18	2950	0.18	19135K92	167.41
263	17 @ 1½"	6"	11¾"	9⅝"	—	71	2700	0.67	19135K66	181.27
408	72 @ 1½"	8"	13¼"	12¼"	—	122	2750	1.11	19135K67	250.61
429	50 @ 2"	8"	13¼"	12¼"	—	137	3100	1.35	19135K95	295.19
649	15 @ 2⅛"	10"	13¼"	9¼"	—	241	3000	2.40	19135K96	336.79
Galvanized Steel Housing										
117	56 @ ½"	4"	8"	7¼"	4.8	19	2950	0.17	1967K11	180.96
132	65 @ ½"	5"	8"	7"	4.8	19	2950	0.17	1967K12	188.76
257	59 @ 1½"	6"	11½"	7⅝"	7.1	84	2700	0.74	1967K13	196.07
481	76 @ 1½"	8"	13¼"	8⅛"	9.1	116	2600	1.02	1967K14	271.07
521	180 @ 1½"	8"	13¼"	8⅛"	11.4	152	2950	1.31	1967K15	306.76
590	290 @ 1½"	10"	13¼"	8⅛"	12.7	242	3000	2.11	1967K16	315.93
711	166 @ 1½"	12"	16"	10½"	11.5	196	2450	1.70	1967K17	402.50

Axial Duct Booster Fans

By increasing air volume through ducts, these fans eliminate undue strain on your ventilation system's main fan. They operate via control switches, thermostats, or can be wired directly to the main fan.

Housings are galvanized steel with aluminum propellers, except where noted. Motors are open air over motor (motor is cooled by the air from the fan), single phase and operate on 115 VAC, 60 Hz.

A

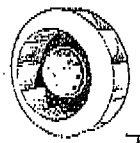
B

cfm @ 0" Static Pressure (SP)	For Duct Size	O'all Size	dB @ 6 ft.	Max. Temp.	Watts	rpm	Amps		Each
A...80	4" Dia.	6" Lg.	52	140° F	30	1500	0.3	1850K11■	$30.00
A...240	6" Dia.	7¼" Lg.	—	266° F	37	2250	0.64	1850K12•	33.88
A...180/300	6" Dia.	6" Lg.	50	140° F	30	1950/2200	0.25/0.35	1850K13A■	43.81
A...420	8" Dia.	7¼" Lg.	—	266° F	37	2700	0.64	1850K14•	41.79
A...450/600	8" Dia.	8" Lg.	53	140° F	60	1350/1750	0.85	1850K15A■	50.00
A...650	10" Dia.	8" Lg.	—	257° F	35	1400	0.43	1850K16•	56.26
A...800	12" Dia.	8" Lg.	56	140° F	120	1300	2.80	1850K18	62.22
A...1350	14" Dia.	9⅛" Lg.	—	257° F	65	1500	0.80	1850K27•	70.42
B...250	6"-8" Dia.	11" Lg. × 4" Ht.	56	140° F	30	1950	0.35	1850K22■	30.91

Adjustable Electronic Thermostat—Remote Mount ..... 1850K52 Each $40.22

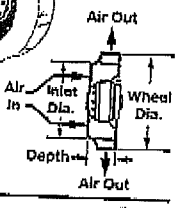
■ Propellers are plastic. • Not sound rated. ▲ Motors have two speeds.

Centrifugal Duct and Cabinet Ventilating Fans



Also called motorized impellers, these direct-drive fans are compact and quiet. Great for enclosure/cabinet ventilation and for low clearance rectangular ducts. Fans include a startup capacitor and inlet ring.

Each has a single-phase, totally enclosed air over motor (motor is cooled by the air from the fan).



cfm @ 0" Static Pressure (SP)	Wheel Dia.	Inlet Dia.	Dp.	dB @ 3.28' (1 meter)	Impeller Material	Max. Temp.	Watts	Amps	VAC	Hz		Each
180	5.24"	3.56"	3.58"	53	Plastic	140° F	30	0.26	115	60	19285K54	$77.96
365	7.48"	5.16"	2.70"	62	Plastic	131° F	85	0.74	115	50/60	19285K56	85.98
530	8.66"	6.26"	2.80"	70	Plastic	104° F	100	0.87	115	50/60	19285K57	99.74
530	8.66"	6.26"	2.80"	70	Plastic	104° F	100	0.43	230	60	19285K72	93.31

Attachment B

SCREEN 3 output files

Frazier- Tri methylbenzene from Stack 1- URBAN

01/21/08
09:09:17

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Frazier Industrial Tri Methylbenzene from Stack 1

SIMPLE TERRAIN INPUTS:
SOURCE TYPE = POINT
EMISSION RATE (G/S) = 1.18570
STACK HEIGHT (M) = 14.3256
STK INSIDE DIAM (M) = .0000
STK EXIT VELOCITY (M/S)= 13.3080
STK GAS EXIT TEMP (K) = 293.1600
AMBIENT AIR TEMP (K) = 293.1600
RECEPTOR HEIGHT (M) = .0000
URBAN/RURAL OPTION = URBAN
BUILDING HEIGHT (M) = 13.1000
MIN HORIZ BLDG DIM (M) = 91.4400
MAX HORIZ BLDG DIM (M) = 182.8800

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = .000 M**4/S**3; MOM. FLUX = .000 M**4/S**2.

*** FULL METEOROLOGY ***
****
*** SCREEN AUTOMATED DISTANCES ***
****
*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
5.	.0000	0	.0	.0	.0	.00	.00	.00	NA
100.	1307.	5	1.0	1.1	10000.0	14.33	10.79	12.62	SS
200.	633.2	5	1.0	1.1	10000.0	14.33	21.17	19.05	SS
300.	373.9	5	1.0	1.1	10000.0	14.33	31.18	24.49	SS
400.	249.9	5	1.0	1.1	10000.0	14.33	40.85	29.49	SS
500.	181.1	5	1.0	1.1	10000.0	14.33	50.21	34.13	SS
600.	138.7	5	1.0	1.1	10000.0	14.33	59.27	38.46	SS
700.	110.6	5	1.0	1.1	10000.0	14.33	68.06	42.54	SS
800.	90.93	5	1.0	1.1	10000.0	14.33	76.59	46.39	SS
900.	76.56	5	1.0	1.1	10000.0	14.33	84.89	50.04	SS
1000.	65.69	5	1.0	1.1	10000.0	14.33	92.97	53.53	SS
1100.	57.25	5	1.0	1.1	10000.0	14.33	100.83	56.87	SS
1200.	50.53	5	1.0	1.1	10000.0	14.33	108.50	60.07	SS
1300.	45.09	5	1.0	1.1	10000.0	14.33	115.99	63.14	SS
1400.	40.60	5	1.0	1.1	10000.0	14.33	123.30	66.11	SS
1500.	36.85	5	1.0	1.1	10000.0	14.33	130.44	68.98	SS
1600.	33.68	5	1.0	1.1	10000.0	14.33	137.43	71.76	SS
1700.	30.97	5	1.0	1.1	10000.0	14.33	144.27	74.45	SS
1800.	28.62	5	1.0	1.1	10000.0	14.33	150.97	77.07	SS
1900.	26.58	5	1.0	1.1	10000.0	14.33	157.54	79.61	SS
2000.	24.79	5	1.0	1.1	10000.0	14.33	163.98	82.09	SS
2100.	23.21	5	1.0	1.1	10000.0	14.33	170.30	84.50	SS

```
 2200.  21.80      5    1.0    1.1 10000.0  14.33  176.50   86.86    SS
 2300.  20.55      5    1.0    1.1 10000.0  14.33  182.59   89.17    SS
 2400.  19.42      5    1.0    1.1 10000.0  14.33  188.57   91.42    SS
 2500.  18.39      5    1.0    1.1 10000.0  14.33  194.45   93.63    SS
 2600.  17.47      5    1.0    1.1 10000.0  14.33  200.24   95.79    SS
 2700.  16.63      5    1.0    1.1 10000.0  14.33  205.93   97.90    SS
 2800.  15.86      5    1.0    1.1 10000.0  14.33  211.54   99.98    SS
 2900.  15.15      5    1.0    1.1 10000.0  14.33  217.05  102.02    SS
 3000.  14.50      5    1.0    1.1 10000.0  14.33  222.49  104.03    SS
 3500.  11.91      5    1.0    1.1 10000.0  14.33  248.52  113.56    SS
 4000.  10.08      5    1.0    1.1 10000.0  14.33  272.88  122.40    SS
 4500.  8.713      5    1.0    1.1 10000.0  14.33  295.82  130.68    SS
 5000.  7.664      5    1.0    1.1 10000.0  14.33  317.54  138.49    SS
 5500.  6.834      5    1.0    1.1 10000.0  14.33  338.21  145.90    SS
 6000.  6.162      5    1.0    1.1 10000.0  14.33  357.94  152.96    SS
 6500.  5.607      5    1.0    1.1 10000.0  14.33  376.84  159.72    SS
 7000.  5.142      5    1.0    1.1 10000.0  14.33  395.00  166.21    SS
 7500.  4.746      5    1.0    1.1 10000.0  14.33  412.50  172.47    SS
 8000.  4.406      5    1.0    1.1 10000.0  14.33  429.40  178.51    SS
 8500.  4.111      5    1.0    1.1 10000.0  14.33  445.74  184.36    SS
 9000.  3.852      5    1.0    1.1 10000.0  14.33  461.59  190.03    SS
 9500.  3.623      5    1.0    1.1 10000.0  14.33  476.98  195.54    SS
10000.  3.420      5    1.0    1.1 10000.0  14.33  491.93  200.90    SS

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND     5. M:
  40.  2204.      5    1.0    1.1 10000.0  14.33    4.70    8.85    SS

 DWASH=   MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB
****************************************
    *** REGULATORY (Default) ***
   PERFORMING CAVITY CALCULATIONS
  WITH ORIGINAL SCREEN CAVITY MODEL
        (BRODE, 1988)
****************************************

 *** CAVITY CALCULATION - 1 ***      *** CAVITY CALCULATION - 2 ***
  CONC (UG/M**3)     =    .0000       CONC (UG/M**3)     =    .0000
  CRIT WS @10M (M/S) =    99.99        CRIT WS @10M (M/S) =    99.99
  CRIT WS @ HS (M/S) =    99.99        CRIT WS @ HS (M/S) =    99.99
  DILUTION WS (M/S)  =    99.99       DILUTION WS (M/S)  =    99.99
  CAVITY HT (M)      =    13.10       CAVITY HT (M)      =    13.10
  CAVITY LENGTH (M)  =    71.28        CAVITY LENGTH (M)  =    58.29
  ALONGWIND DIM (M)  =    91.44        ALONGWIND DIM (M)  =   182.88

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S.  CONC SET = 0.0
****************************************
     END OF CAVITY CALCULATIONS
****************************************
    *** SUMMARY OF SCREEN MODEL RESULTS ***
****************************************
 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
 --------------   -----------  -------  -------
 SIMPLE TERRAIN      2204.        40.       0.
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Frazier- Tri methylbenzene from Stack 1- RURAL

01/21/08
09:08:39

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Frazier Industrial Tri Methylbenzene from Stack 1

SIMPLE TERRAIN INPUTS:
SOURCE TYPE = POINT
EMISSION RATE (G/S) = 1.18570
STACK HEIGHT (M) = 14.3256
STK INSIDE DIAM (M) = .0000
STK EXIT VELOCITY (M/S)= 13.3080
STK GAS EXIT TEMP (K) = 293.1600
AMBIENT AIR TEMP (K) = 293.1600
RECEPTOR HEIGHT (M) = .0000
URBAN/RURAL OPTION = RURAL
BUILDING HEIGHT (M) = 13.1000
MIN HORIZ BLDG DIM (M) = 91.4400
MAX HORIZ BLDG DIM (M) = 182.8800

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = .000 M**4/S**3; MOM. FLUX = .000 M**4/S**2.

*** FULL METEOROLOGY ***
****
*** SCREEN AUTOMATED DISTANCES ***
****
*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
5.	.0000	0	.0	.0	.0	.00	.00	.00	NA
100.	1720.	4	1.0	1.1	320.0	14.33	8.65	12.62	SS
200.	964.5	6	1.0	1.2	10000.0	14.33	13.51	15.56	SS
300.	765.1	6	1.0	1.2	10000.0	14.33	16.86	16.38	SS
400.	632.1	6	1.0	1.2	10000.0	14.33	20.15	17.17	SS
500.	536.7	6	1.0	1.2	10000.0	14.33	23.39	17.94	SS
600.	464.8	6	1.0	1.2	10000.0	14.33	26.58	18.70	SS
700.	408.6	6	1.0	1.2	10000.0	14.33	29.73	19.43	SS
800.	363.4	6	1.0	1.2	10000.0	14.33	32.85	20.15	SS
900.	326.4	6	1.0	1.2	10000.0	14.33	35.94	20.86	SS
1000.	295.5	6	1.0	1.2	10000.0	14.33	39.00	21.55	SS
1100.	274.1	6	1.0	1.2	10000.0	14.33	42.03	21.55	SS
1200.	251.9	6	1.0	1.2	10000.0	14.33	45.04	22.15	SS
1300.	232.6	6	1.0	1.2	10000.0	14.33	48.04	22.72	SS
1400.	215.8	6	1.0	1.2	10000.0	14.33	51.01	23.28	SS
1500.	201.1	6	1.0	1.2	10000.0	14.33	53.96	23.83	SS
1600.	188.0	6	1.0	1.2	10000.0	14.33	56.89	24.37	SS
1700.	176.3	6	1.0	1.2	10000.0	14.33	59.81	24.90	SS
1800.	165.8	6	1.0	1.2	10000.0	14.33	62.71	25.41	SS
1900.	156.3	6	1.0	1.2	10000.0	14.33	65.60	25.93	SS
2000.	147.8	6	1.0	1.2	10000.0	14.33	68.47	26.43	SS
2100.	140.0	6	1.0	1.2	10000.0	14.33	71.33	26.92	SS

2200.	135.9	6	1.0	1.2	10000.0	14.33	74.17	26.56	SS
2300.	129.3	6	1.0	1.2	10000.0	14.33	77.00	27.04	SS
2400.	123.3	6	1.0	1.2	10000.0	14.33	79.82	27.46	SS
2500.	117.9	6	1.0	1.2	10000.0	14.33	82.63	27.86	SS
2600.	112.8	6	1.0	1.2	10000.0	14.33	85.43	28.26	SS
2700.	108.1	6	1.0	1.2	10000.0	14.33	88.22	28.65	SS
2800.	103.8	6	1.0	1.2	10000.0	14.33	91.00	29.04	SS
2900.	99.72	6	1.0	1.2	10000.0	14.33	93.76	29.42	SS
3000.	95.93	6	1.0	1.2	10000.0	14.33	96.52	29.80	SS
3500.	80.27	6	1.0	1.2	10000.0	14.33	110.18	31.60	SS
4000.	68.60	6	1.0	1.2	10000.0	14.33	123.63	33.29	SS
4500.	59.60	6	1.0	1.2	10000.0	14.33	136.91	34.89	SS
5000.	52.48	6	1.0	1.2	10000.0	14.33	150.02	36.40	SS
5500.	46.73	6	1.0	1.2	10000.0	14.33	163.00	37.85	SS
6000.	42.00	6	1.0	1.2	10000.0	14.33	175.84	39.24	SS
6500.	38.46	6	1.0	1.2	10000.0	14.33	188.57	40.06	SS
7000.	35.16	6	1.0	1.2	10000.0	14.33	201.18	41.22	SS
7500.	32.33	6	1.0	1.2	10000.0	14.33	213.70	42.34	SS
8000.	29.88	6	1.0	1.2	10000.0	14.33	226.11	43.41	SS
8500.	27.74	6	1.0	1.2	10000.0	14.33	238.44	44.45	SS
9000.	25.86	6	1.0	1.2	10000.0	14.33	250.68	45.46	SS
9500.	24.20	6	1.0	1.2	10000.0	14.33	262.84	46.43	SS
10000.	22.71	6	1.0	1.2	10000.0	14.33	274.92	47.38	SS

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 5. M:

40.	2326.	4	1.0	1.1	320.0	14.33	4.70	8.85	SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

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****************************************
   *** REGULATORY (Default) ***
  PERFORMING CAVITY CALCULATIONS
 WITH ORIGINAL SCREEN CAVITY MODEL
      (BRODE, 1988)
****************************************
 *** CAVITY CALCULATION - 1 ***      *** CAVITY CALCULATION - 2 ***
 CONC (UG/M**3)     =    .0000       CONC (UG/M**3)     =    .0000
 CRIT WS @10M (M/S) =    99.99       CRIT WS @10M (M/S) =    99.99
 CRIT WS @ HS (M/S) =    99.99       CRIT WS @ HS (M/S) =    99.99
 DILUTION WS (M/S)  =    99.99       DILUTION WS (M/S)  =    99.99
 CAVITY HT (M)      =    13.10       CAVITY HT (M)      =    13.10
 CAVITY LENGTH (M)  =    71.28       CAVITY LENGTH (M)  =    58.29
 ALONGWIND DIM (M)  =    91.44       ALONGWIND DIM (M)  =   182.88

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S.  CONC SET = 0.0
****************************************
   END OF CAVITY CALCULATIONS
****************************************
      *** SUMMARY OF SCREEN MODEL RESULTS ***
   ****************************************
 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
 --------------   -----------  -------   -------
SIMPLE TERRAIN      2326.         40.       0.
```

Frazier- Tri methylbenzene from Stack 2- URBAN

01/21/08
09:09:56

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Frazier Industrial Tri Methylbenzene Stack 2 release

SIMPLE TERRAIN INPUTS:
SOURCE TYPE = POINT
EMISSION RATE (G/S) = 1.18570
STACK HEIGHT (M) = 15.8500
STK INSIDE DIAM (M) = .6096
STK EXIT VELOCITY (M/S)= 13.3080
STK GAS EXIT TEMP (K) = 293.1600
AMBIENT AIR TEMP (K) = 293.1600
RECEPTOR HEIGHT (M) = .0000
URBAN/RURAL OPTION = URBAN
BUILDING HEIGHT (M) = 13.1000
MIN HORIZ BLDG DIM (M) = 91.4400
MAX HORIZ BLDG DIM (M) = 182.8800

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = .000 M**4/S**3; MOM. FLUX = 16.453 M**4/S**2.

*** FULL METEOROLOGY ***
****
*** SCREEN AUTOMATED DISTANCES ***
****
*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
26.	.0000	0	.0	.0	.0	.00	.00	.00	NA
100.	407.5	3	1.0	1.1	320.0	23.18	21.57	20.00	SS
200.	253.7	4	1.0	1.1	320.0	26.07	30.79	27.20	SS
300.	194.0	6	1.0	1.1	10000.0	28.23	31.18	19.93	SS
400.	170.6	6	1.0	1.1	10000.0	28.23	40.85	25.30	SS
500.	140.0	6	1.0	1.1	10000.0	28.23	50.21	30.24	SS
600.	114.7	6	1.0	1.1	10000.0	28.23	59.27	34.82	SS
700.	95.17	6	1.0	1.1	10000.0	28.23	68.06	39.11	SS
800.	80.30	6	1.0	1.1	10000.0	28.23	76.59	43.15	SS
900.	68.82	6	1.0	1.1	10000.0	28.23	84.89	46.97	SS
1000.	59.81	6	1.0	1.1	10000.0	28.23	92.97	50.60	SS
1100.	52.62	6	1.0	1.1	10000.0	28.23	100.83	54.06	SS
1200.	46.78	6	1.0	1.1	10000.0	28.23	108.50	57.37	SS
1300.	41.98	6	1.0	1.1	10000.0	28.23	115.99	60.55	SS
1400.	37.98	6	1.0	1.1	10000.0	28.23	123.30	63.61	SS
1500.	34.60	6	1.0	1.1	10000.0	28.23	130.44	66.56	SS
1600.	31.72	6	1.0	1.1	10000.0	28.23	137.43	69.42	SS
1700.	29.24	6	1.0	1.1	10000.0	28.23	144.27	72.18	SS
1800.	27.09	6	1.0	1.1	10000.0	28.23	150.97	74.86	SS
1900.	25.20	6	1.0	1.1	10000.0	28.23	157.54	77.47	SS
2000.	23.54	6	1.0	1.1	10000.0	28.23	163.98	80.00	SS
2100.	22.07	6	1.0	1.1	10000.0	28.23	170.30	82.47	SS

2200.	20.76	6	1.0	1.1	10000.0	28.23	176.50	84.87	SS
2300.	19.59	6	1.0	1.1	10000.0	28.23	182.59	87.22	SS
2400.	18.53	6	1.0	1.1	10000.0	28.23	188.57	89.52	SS
2500.	17.57	6	1.0	1.1	10000.0	28.23	194.45	91.77	SS
2600.	16.70	6	1.0	1.1	10000.0	28.23	200.24	93.96	SS
2700.	15.91	6	1.0	1.1	10000.0	28.23	205.93	96.12	SS
2800.	15.18	6	1.0	1.1	10000.0	28.23	211.54	98.23	SS
2900.	14.51	6	1.0	1.1	10000.0	28.23	217.05	100.30	SS
3000.	13.90	6	1.0	1.1	10000.0	28.23	222.49	102.34	SS
3500.	11.44	6	1.0	1.1	10000.0	28.23	248.52	112.00	SS
4000.	9.692	6	1.0	1.1	10000.0	28.23	272.88	120.95	SS
4500.	8.391	6	1.0	1.1	10000.0	28.23	295.82	129.32	SS
5000.	7.387	6	1.0	1.1	10000.0	28.23	317.54	137.20	SS
5500.	6.592	6	1.0	1.1	10000.0	28.23	338.21	144.67	SS
6000.	5.946	6	1.0	1.1	10000.0	28.23	357.94	151.79	SS
6500.	5.414	6	1.0	1.1	10000.0	28.23	376.84	158.60	SS
7000.	4.966	6	1.0	1.1	10000.0	28.23	395.00	165.13	SS
7500.	4.586	6	1.0	1.1	10000.0	28.23	412.50	171.43	SS
8000.	4.259	6	1.0	1.1	10000.0	28.23	429.40	177.50	SS
8500.	3.974	6	1.0	1.1	10000.0	28.23	445.74	183.38	SS
9000.	3.725	6	1.0	1.1	10000.0	28.23	461.59	189.08	SS
9500.	3.504	6	1.0	1.1	10000.0	28.23	476.98	194.62	SS
10000.	3.308	6	1.0	1.1	10000.0	28.23	491.93	200.00	SS

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 26. M:

66.	450.6	3	1.5	1.6	480.0	18.58	14.55	13.40	SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****
*** REGULATORY (Default) ***
PERFORMING CAVITY CALCULATIONS
WITH ORIGINAL SCREEN CAVITY MODEL
(BRODE, 1988)
****

*** CAVITY CALCULATION - 1 ***	*** CAVITY CALCULATION - 2 ***
CONC (UG/M**3) = .0000	CONC (UG/M**3) = .0000
CRIT WS @10M (M/S) = 99.99	CRIT WS @10M (M/S) = 99.99
CRIT WS @ HS (M/S) = 99.99	CRIT WS @ HS (M/S) = 99.99
DILUTION WS (M/S) = 99.99	DILUTION WS (M/S) = 99.99
CAVITY HT (M) = 13.10	CAVITY HT (M) = 13.10
CAVITY LENGTH (M) = 71.28	CAVITY LENGTH (M) = 58.29
ALONGWIND DIM (M) = 91.44	ALONGWIND DIM (M) = 182.88

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0
****
END OF CAVITY CALCULATIONS
****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	450.6	66.	0.

Frazier- Tri methylbenzene from Stack 2- RURAL

01/21/08
09:10:46

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Frazier Industrial Tri Methylbenzene Stack 2 release

SIMPLE TERRAIN INPUTS:
SOURCE TYPE = POINT
EMISSION RATE (G/S) = 1.18570
STACK HEIGHT (M) = 15.8500
STK INSIDE DIAM (M) = .6096
STK EXIT VELOCITY (M/S)= 13.3080
STK GAS EXIT TEMP (K) = 293.1600
AMBIENT AIR TEMP (K) = 293.1600
RECEPTOR HEIGHT (M) = .0000
URBAN/RURAL OPTION = RURAL
BUILDING HEIGHT (M) = 13.1000
MIN HORIZ BLDG DIM (M) = 91.4400
MAX HORIZ BLDG DIM (M) = 182.8800

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = .000 M**4/S**3; MOM. FLUX = 16.453 M**4/S**2.

*** FULL METEOROLOGY ***
****
*** SCREEN AUTOMATED DISTANCES ***
****
*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
26.	.0000	0	.0	.0	.0	.00	.00	.00	NA
100.	495.8	6	3.0	3.9	10000.0	16.24	4.07	8.80	SS
200.	420.3	6	2.5	3.2	10000.0	16.61	7.73	10.62	SS
300.	328.3	6	2.0	2.6	10000.0	17.53	11.23	10.91	SS
400.	279.4	6	2.0	2.6	10000.0	17.53	14.64	11.74	SS
500.	248.4	6	2.0	2.6	10000.0	17.53	17.97	12.75	SS
600.	222.3	6	2.0	2.6	10000.0	17.53	21.24	13.73	SS
700.	198.1	6	2.0	2.6	10000.0	17.53	24.46	14.38	SS
800.	179.4	6	2.0	2.6	10000.0	17.53	27.63	15.24	SS
900.	170.0	6	1.5	1.9	10000.0	20.27	30.78	15.03	SS
1000.	160.6	6	1.5	1.9	10000.0	20.27	33.88	15.87	SS
1100.	151.3	6	1.5	1.9	10000.0	20.27	36.96	16.67	SS
1200.	142.4	6	1.5	1.9	10000.0	20.27	40.01	17.46	SS
1300.	134.1	6	1.5	1.9	10000.0	20.27	43.04	18.22	SS
1400.	126.3	6	1.5	1.9	10000.0	20.27	46.05	18.97	SS
1500.	119.1	6	1.5	1.9	10000.0	20.27	49.03	19.70	SS
1600.	112.4	6	1.5	1.9	10000.0	20.27	51.99	20.41	SS
1700.	106.2	6	1.5	1.9	10000.0	20.27	54.94	21.11	SS
1800.	100.8	6	1.5	1.9	10000.0	20.27	57.87	21.21	SS
1900.	95.62	6	1.5	1.9	10000.0	20.27	60.78	21.86	SS
2000.	92.30	6	1.0	1.3	10000.0	27.95	63.68	21.63	SS
2100.	89.79	6	1.0	1.3	10000.0	27.95	66.56	22.21	SS

2200.	87.28	6	1.0	1.3	10000.0	27.95	69.42	22.78	SS
2300.	84.79	6	1.0	1.3	10000.0	27.95	72.28	23.34	SS
2400.	82.34	6	1.0	1.3	10000.0	27.95	75.12	23.89	SS
2500.	79.96	6	1.0	1.3	10000.0	27.95	77.95	24.42	SS
2600.	77.63	6	1.0	1.3	10000.0	27.95	80.76	24.95	SS
2700.	75.38	6	1.0	1.3	10000.0	27.95	83.57	25.47	SS
2800.	73.20	6	1.0	1.3	10000.0	27.95	86.36	25.98	SS
2900.	71.10	6	1.0	1.3	10000.0	27.95	89.15	26.48	SS
3000.	69.07	6	1.0	1.3	10000.0	27.95	91.92	26.98	SS
3500.	60.10	6	1.0	1.3	10000.0	27.95	105.65	28.98	SS
4000.	52.87	6	1.0	1.3	10000.0	27.95	119.17	30.84	SS
4500.	46.97	6	1.0	1.3	10000.0	27.95	132.50	32.57	SS
5000.	42.11	6	1.0	1.3	10000.0	27.95	145.67	34.21	SS
5500.	38.04	6	1.0	1.3	10000.0	27.95	158.69	35.76	SS
6000.	34.60	6	1.0	1.3	10000.0	27.95	171.58	37.23	SS
6500.	31.66	6	1.0	1.3	10000.0	27.95	184.34	38.64	SS
7000.	29.13	6	1.0	1.3	10000.0	27.95	196.99	40.00	SS
7500.	26.97	6	1.0	1.3	10000.0	27.95	209.54	41.16	SS
8000.	25.09	6	1.0	1.3	10000.0	27.95	221.98	42.28	SS
8500.	23.42	6	1.0	1.3	10000.0	27.95	234.34	43.36	SS
9000.	21.95	6	1.0	1.3	10000.0	27.95	246.61	44.40	SS
9500.	20.63	6	1.0	1.3	10000.0	27.95	258.79	45.41	SS
10000.	19.44	6	1.0	1.3	10000.0	27.95	270.90	46.38	SS

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 26. M:

130.	513.7	6	3.0	3.9	10000.0	16.24	5.23	10.18	SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****
*** REGULATORY (Default) ***
PERFORMING CAVITY CALCULATIONS
WITH ORIGINAL SCREEN CAVITY MODEL
(BRODE, 1988)
****

*** CAVITY CALCULATION - 1 ***
CONC (UG/M**3) = .0000
CRIT WS @10M (M/S) = 99.99
CRIT WS @ HS (M/S) = 99.99
DILUTION WS (M/S) = 99.99
CAVITY HT (M) = 13.10
CAVITY LENGTH (M) = 71.28
ALONGWIND DIM (M) = 91.44

*** CAVITY CALCULATION - 2 ***
CONC (UG/M**3) = .0000
CRIT WS @10M (M/S) = 99.99
CRIT WS @ HS (M/S) = 99.99
DILUTION WS (M/S) = 99.99
CAVITY HT (M) = 13.10
CAVITY LENGTH (M) = 58.29
ALONGWIND DIM (M) = 182.88

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0
****
END OF CAVITY CALCULATIONS
****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	513.7	130.	0.

Frazier- Tri methylbenzene from Wall vent-URBAN

01/21/08
09:05:08

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***
Frazier Industrial Tri Methylbenzene from Horizontal vent

SIMPLE TERRAIN INPUTS:
SOURCE TYPE = POINT
EMISSION RATE (G/S) = 1.18570
STACK HEIGHT (M) = 7.6200
STK INSIDE DIAM (M) = .0010
STK EXIT VELOCITY (M/S)= .0010
STK GAS EXIT TEMP (K) = 293.1600
AMBIENT AIR TEMP (K) = 293.1600
RECEPTOR HEIGHT (M) = .0000
URBAN/RURAL OPTION = URBAN
BUILDING HEIGHT (M) = 13.1000
MIN HORIZ BLDG DIM (M) = 91.4400
MAX HORIZ BLDG DIM (M) = 182.8800

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = .000 M**4/S**3; MOM. FLUX = .000 M**4/S**2.

*** FULL METEOROLOGY ***
****
*** SCREEN AUTOMATED DISTANCES ***
****
*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	.0000	0	.0	.0	.0	.00	.00	.00	NA
100.	2240.	5	1.0	1.0	10000.0	7.62	10.79	13.24	SS
200.	838.4	5	1.0	1.0	10000.0	7.62	21.17	19.74	SS
300.	460.1	5	1.0	1.0	10000.0	7.62	31.18	25.12	SS
400.	297.5	5	1.0	1.0	10000.0	7.62	40.85	30.07	SS
500.	211.6	5	1.0	1.0	10000.0	7.62	50.21	34.67	SS
600.	160.3	5	1.0	1.0	10000.0	7.62	59.27	38.97	SS
700.	126.9	5	1.0	1.0	10000.0	7.62	68.06	43.01	SS
800.	103.8	5	1.0	1.0	10000.0	7.62	76.59	46.84	SS
900.	87.08	5	1.0	1.0	10000.0	7.62	84.89	50.48	SS
1000.	74.51	5	1.0	1.0	10000.0	7.62	92.97	53.94	SS
1100.	64.79	5	1.0	1.0	10000.0	7.62	100.83	57.26	SS
1200.	57.09	5	1.0	1.0	10000.0	7.62	108.50	60.44	SS
1300.	50.87	5	1.0	1.0	10000.0	7.62	115.99	63.51	SS
1400.	45.75	5	1.0	1.0	10000.0	7.62	123.30	66.46	SS
1500.	41.49	5	1.0	1.0	10000.0	7.62	130.44	69.32	SS
1600.	37.88	5	1.0	1.0	10000.0	7.62	137.43	72.09	SS
1700.	34.81	5	1.0	1.0	10000.0	7.62	144.27	74.77	SS
1800.	32.15	5	1.0	1.0	10000.0	7.62	150.97	77.38	SS
1900.	29.84	5	1.0	1.0	10000.0	7.62	157.54	79.91	SS
2000.	27.82	5	1.0	1.0	10000.0	7.62	163.98	82.38	SS
2100.	26.03	5	1.0	1.0	10000.0	7.62	170.30	84.79	SS
2200.	24.44	5	1.0	1.0	10000.0	7.62	176.50	87.14	SS

2300.	23.03	5	1.0	1.0	10000.0	7.62	182.59	89.44	SS
2400.	21.75	5	1.0	1.0	10000.0	7.62	188.57	91.69	SS
2500.	20.60	5	1.0	1.0	10000.0	7.62	194.45	93.89	SS
2600.	19.56	5	1.0	1.0	10000.0	7.62	200.24	96.05	SS
2700.	18.61	5	1.0	1.0	10000.0	7.62	205.93	98.16	SS
2800.	17.75	5	1.0	1.0	10000.0	7.62	211.54	100.23	SS
2900.	16.96	5	1.0	1.0	10000.0	7.62	217.05	102.27	SS
3000.	16.23	5	1.0	1.0	10000.0	7.62	222.49	104.27	SS
3500.	13.32	5	1.0	1.0	10000.0	7.62	248.52	113.78	SS
4000.	11.26	5	1.0	1.0	10000.0	7.62	272.88	122.61	SS
4500.	9.732	5	1.0	1.0	10000.0	7.62	295.82	130.87	SS
5000.	8.558	5	1.0	1.0	10000.0	7.62	317.54	138.67	SS
5500.	7.629	5	1.0	1.0	10000.0	7.62	338.21	146.07	SS
6000.	6.877	5	1.0	1.0	10000.0	7.62	357.94	153.13	SS
6500.	6.257	5	1.0	1.0	10000.0	7.62	376.84	159.88	SS
7000.	5.737	5	1.0	1.0	10000.0	7.62	395.00	166.37	SS
7500.	5.295	5	1.0	1.0	10000.0	7.62	412.50	172.62	SS
8000.	4.915	5	1.0	1.0	10000.0	7.62	429.40	178.65	SS
8500.	4.585	5	1.0	1.0	10000.0	7.62	445.74	184.50	SS
9000.	4.296	5	1.0	1.0	10000.0	7.62	461.59	190.16	SS
9500.	4.041	5	1.0	1.0	10000.0	7.62	476.98	195.67	SS
10000.	3.814	5	1.0	1.0	10000.0	7.62	491.93	201.02	SS

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:

40.	6281.	5	1.0	1.0	10000.0	7.62	4.70	9.28	SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB
****

*** REGULATORY (Default) ***
PERFORMING CAVITY CALCULATIONS
WITH ORIGINAL SCREEN CAVITY MODEL
(BRODE, 1988)
****

*** CAVITY CALCULATION - 1 ***	*** CAVITY CALCULATION - 2 ***
CONC (UG/M**3) = 329.9	CONC (UG/M**3) = 659.9
CRIT WS @10M (M/S) = 1.00	CRIT WS @10M (M/S) = 1.00
CRIT WS @ HS (M/S) = 1.00	CRIT WS @ HS (M/S) = 1.00
DILUTION WS (M/S) = 1.00	DILUTION WS (M/S) = 1.00
CAVITY HT (M) = 13.10	CAVITY HT (M) = 13.10
CAVITY LENGTH (M) = 71.28	CAVITY LENGTH (M) = 58.29
ALONGWIND DIM (M) = 91.44	ALONGWIND DIM (M) = 182.88

****

END OF CAVITY CALCULATIONS
****

*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	6281.	40.	0.
BLDG. CAVITY-1	329.9	71.	-- (DIST = CAVITY LENGTH)
BLDG. CAVITY-2	659.9	58.	-- (DIST = CAVITY LENGTH)

Frazier- Tri methylbenzene from Wall vent-RURAL

01/21/08
09:07:33

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***
Frazier Industrial Tri Methylbenzene from Horizontal vent

SIMPLE TERRAIN INPUTS:
SOURCE TYPE = POINT
EMISSION RATE (G/S) = 1.18570
STACK HEIGHT (M) = 7.6200
STK INSIDE DIAM (M) = .0010
STK EXIT VELOCITY (M/S)= .0010
STK GAS EXIT TEMP (K) = 293.1600
AMBIENT AIR TEMP (K) = 293.1600
RECEPTOR HEIGHT (M) = .0000
URBAN/RURAL OPTION = RURAL
BUILDING HEIGHT (M) = 13.1000
MIN HORIZ BLDG DIM (M) = 91.4400
MAX HORIZ BLDG DIM (M) = 182.8800

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = .000 M**4/S**3; MOM. FLUX = .000 M**4/S**2.

*** FULL METEOROLOGY ***
****
*** SCREEN AUTOMATED DISTANCES ***
****
*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	.0000	0	.0	.0	.0	.00	.00	.00	NA
100.	2792.	4	1.0	1.0	320.0	7.62	8.65	13.24	SS
200.	1538.	6	1.0	1.0	10000.0	7.62	13.51	16.28	SS
300.	1187.	6	1.0	1.0	10000.0	7.62	16.86	17.08	SS
400.	957.9	6	1.0	1.0	10000.0	7.62	20.15	17.85	SS
500.	797.6	6	1.0	1.0	10000.0	7.62	23.39	18.61	SS
600.	679.3	6	1.0	1.0	10000.0	7.62	26.58	19.34	SS
700.	588.6	6	1.0	1.0	10000.0	7.62	29.73	20.07	SS
800.	517.1	6	1.0	1.0	10000.0	7.62	32.85	20.77	SS
900.	459.4	6	1.0	1.0	10000.0	7.62	35.94	21.47	SS
1000.	422.6	6	1.0	1.0	10000.0	7.62	39.00	21.51	SS
1100.	382.7	6	1.0	1.0	10000.0	7.62	42.03	22.11	SS
1200.	349.1	6	1.0	1.0	10000.0	7.62	45.04	22.68	SS
1300.	320.3	6	1.0	1.0	10000.0	7.62	48.04	23.24	SS
1400.	295.4	6	1.0	1.0	10000.0	7.62	51.01	23.79	SS
1500.	273.7	6	1.0	1.0	10000.0	7.62	53.96	24.33	SS
1600.	254.6	6	1.0	1.0	10000.0	7.62	56.89	24.86	SS
1700.	237.7	6	1.0	1.0	10000.0	7.62	59.81	25.38	SS
1800.	222.6	6	1.0	1.0	10000.0	7.62	62.71	25.89	SS
1900.	209.1	6	1.0	1.0	10000.0	7.62	65.60	26.40	SS
2000.	196.9	6	1.0	1.0	10000.0	7.62	68.47	26.89	SS
2100.	191.4	6	1.0	1.0	10000.0	7.62	71.33	26.52	SS
2200.	181.0	6	1.0	1.0	10000.0	7.62	74.17	27.01	SS

2300.	172.0	6	1.0	1.0	10000.0	7.62	77.00	27.42	SS
2400.	163.6	6	1.0	1.0	10000.0	7.62	79.82	27.83	SS
2500.	156.0	6	1.0	1.0	10000.0	7.62	82.63	28.23	SS
2600.	149.0	6	1.0	1.0	10000.0	7.62	85.43	28.62	SS
2700.	142.5	6	1.0	1.0	10000.0	7.62	88.22	29.01	SS
2800.	136.4	6	1.0	1.0	10000.0	7.62	91.00	29.39	SS
2900.	130.9	6	1.0	1.0	10000.0	7.62	93.76	29.77	SS
3000.	125.7	6	1.0	1.0	10000.0	7.62	96.52	30.14	SS
3500.	104.3	6	1.0	1.0	10000.0	7.62	110.18	31.92	SS
4000.	88.58	6	1.0	1.0	10000.0	7.62	123.63	33.59	SS
4500.	76.56	6	1.0	1.0	10000.0	7.62	136.91	35.17	SS
5000.	67.13	6	1.0	1.0	10000.0	7.62	150.02	36.67	SS
5500.	59.56	6	1.0	1.0	10000.0	7.62	163.00	38.11	SS
6000.	53.35	6	1.0	1.0	10000.0	7.62	175.84	39.49	SS
6500.	48.84	6	1.0	1.0	10000.0	7.62	188.57	40.25	SS
7000.	44.55	6	1.0	1.0	10000.0	7.62	201.18	41.41	SS
7500.	40.88	6	1.0	1.0	10000.0	7.62	213.70	42.51	SS
8000.	37.72	6	1.0	1.0	10000.0	7.62	226.11	43.58	SS
8500.	34.96	6	1.0	1.0	10000.0	7.62	238.44	44.62	SS
9000.	32.55	6	1.0	1.0	10000.0	7.62	250.68	45.62	SS
9500.	30.41	6	1.0	1.0	10000.0	7.62	262.84	46.59	SS
10000.	28.51	6	1.0	1.0	10000.0	7.62	274.92	47.53	SS

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:

40.	6281.	4	1.0	1.0	320.0	7.62	4.70	9.28	SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB
****

*** REGULATORY (Default) ***
PERFORMING CAVITY CALCULATIONS
WITH ORIGINAL SCREEN CAVITY MODEL
(BRODE, 1988)
****

*** CAVITY CALCULATION - 1 ***		*** CAVITY CALCULATION - 2 ***	
CONC (UG/M**3) =	329.9	CONC (UG/M**3) =	659.9
CRIT WS @10M (M/S) =	1.00	CRIT WS @10M (M/S) =	1.00
CRIT WS @ HS (M/S) =	1.00	CRIT WS @ HS (M/S) =	1.00
DILUTION WS (M/S) =	1.00	DILUTION WS (M/S) =	1.00
CAVITY HT (M) =	13.10	CAVITY HT (M) =	13.10
CAVITY LENGTH (M) =	71.28	CAVITY LENGTH (M) =	58.29
ALONGWIND DIM (M) =	91.44	ALONGWIND DIM (M) =	182.88

****

END OF CAVITY CALCULATIONS
****

*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	6281.	40.	0.
BLDG. CAVITY-1	329.9	71.	-- (DIST = CAVITY LENGTH)
BLDG. CAVITY-2	659.9	58.	-- (DIST = CAVITY LENGTH)

APPENDIX E

MSDS

ORANGE PAINT

PRODUCT SPECIFICATIONS

SHEBOYGAN PAINT COMPANY
1439 NORTH 25th STREET
P.O. BOX 417
SHEBOYGAN, WI 53082-0417
TELEPHONE (920) 458-2157

DATE OF PREPARATION 03/05/07
PRINTED DATE 07/23/07
TRANSPORTATION EMERGENCY (800) 688-4005
CUSTOMER SERVICE custserv@shebpaint.com

TRADE NAME
NEW FAST DRY ORANGE HI-SOLIDS
DIP ENAMEL

MFG. PRODUCT NO.
43-62154B

		BY WEIGHT	BY VOLUME
CUSTOMER PART NUMBER	:		
WEIGHT PER GALLON (density)	:	10.40 POUNDS	
PERCENT SOLIDS	:	68.72	54.94
PERCENT WATER	:		
PERCENT SOLVENT	:	31.28	45.06
% EXEMPT SOLVENT	:		
VOC (WITH WATER AND EXEMPT SOLV)	:	3.25 LBS/GAL	389.48 GMS/LITER
VOC (LESS WATER AND EXEMPT SOLV)	:	3.25 LBS/GAL	389.48 GMS/LITER
PERCENT HAPS BY WEIGHT	:	2.09	
VOC LBS PER GALLON SOLIDS	:	5.92	
VOC KILOGRMS PER KILOGRMS SOLIDS	:	.46	
VOC HAPS LBS PER GALLON SOLIDS	:	.40	
VOC HAPS LBS PER LBS SOLIDS	:	.03	

FLASHPOINT (FAHRENHEIT) : 80 F

APPLICATION : DIP

REDUCTION : NONE

CURE : AIR DRY

SUBSTRATE : STEEL

COVERAGE : 881.238 SQUARE FEET @ 1 MIL NO LOSS

VISC @ 80 F : 20-27/3 ZAHN

CRYPTOMETER : 8-15#7 WEDGE

GLOSS : 85-95 OVERNIGHT DRY NO ADJ

COMMENTS

43-62154B PAGE: 1

MATERIAL SAFETY DATA SHEET
FOR COATINGS, RESINS AND RELATED MATERIALS

HAZARD RATING
0 - MINIMAL
1 - SLIGHT
2 - MODERATE
3 - SERIOUS
4 - SEVERE
* - CHRONIC

HMIS RATING HEALTH - * 3 FLAMMABILITY - 3 REACTIVITY - 0

SECTION I

SHEBOYGAN PAINT COMPANY
1439 NORTH 25th STREET / P.O. BOX 417
SHEBOYGAN, WI 53082-0417
TELEPHONE: (920) 458-2157

DATE OF PREPARATION 03/05/07
TRANSPORTATION EMERGENCY (800) 688-4005
EMAIL: custserv@shebpaint.com

PRODUCT CLASS
SURFACE COATING

TRADE NAME
NEW FAST DRY ORANGE HI-SOLIDS
DIP ENAMEL

MFG PRODUCT NO.
43-62154B

SECTION II - HAZARDOUS INGREDIENTS

NT	INGREDIENT	CAS#	ACGIH TLV PPM	ACGIH TLV mg/m3	ACGIH STEL PPM	ACGIH STEL mg/m3	OSHA PEL PPM	OSHA PEL mg/m3	OSHA CEILING PPM	OSHA CEILING mg/m3	LEL % VOLUM	VAPOR PRESS mm/Hg	DEG F	% BY Wght
A	1,2,4-Trimethylbenzene	95-63-6	25.00	123.0	-----	-----	25.00	125.0	-----	-----	0.900	1.000	@ 56.	9.33
	Aromatic Petroleum Distillate	64742-95-6	-----	-----	-----	-----	100.0	-----	-----	-----	1.000	3.000	@ 68.	
C	n-Butyl Alcohol (skin)	71-36-3	-----	-----	-----	-----	100.0	300.0	50.00	152.0	1.400	4.400	@ 68.	2.50
C	Xylene (mixed isomers)	VHAP 1330-20-7	100.0	434.0	150.0	651.0	100.0	435.0	-----	-----	1.000	5.100	@ 68.	1.39
	1,3,5-Trimethylbenzene	108-67-8	-----	-----	-----	-----	-----	-----	-----	-----	1.000	-----	@ ---	
	Titanium Dioxide (dust)	13463-67-7	-----	10.00	-----	-----	-----	15.00	-----	-----	-----	-----	@ ---	
WI	Talc (dust)	14807-96-6	-----	2.000	-----	-----	-----	2.000	-----	-----	-----	-----	@ ---	3.03
	Barium Compound (Insoluble)	7727-43-7	-----	10.00	-----	-----	-----	5.000	-----	-----	-----	-----	@ ---	18.0
	C.I. Pigment Orange #5	3468-63-1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	@ ---	
	Iron (III) Oxide (dust)	20344-49-4	-----	5.000	-----	-----	-----	10.00	-----	-----	-----	-----	@ ---	
	Aromatic Terpene Polymer	64536-06-7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	@ ---	

A -This toxic chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).
HAP = HAZARDOUS AIR POLLUTANT (SOLID)
VHAP = VOLATILE HAZARDOUS AIR POLLUTANT (VAPOR)

C -This toxic chemical is subject to the reporting requirements of both Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372) and the Wisconsin Dept. of Natural Resources Administrative Code Chapter NR445.
VHAP = VOLATILE HAZARDOUS AIR POLLUTANT (VAPOR)
HAP = HAZARDOUS AIR POLLUTANT (SOLID)
(skin) = OSHA Skin Absorption Hazard

WI-This chemical is subject to reporting procedures outlined in the Wisconsin Department of Natural Resources Administrative Code Chapters NR438 and/or NR445.

SECTION III - PHYSICAL DATA

BOILING RANGE 241-390 F

VOC KG/KG SOLIDS=.46
% HAPS BY WEIGHT= 2.09

VOC (WITH WATER AND EXEMPT SOLV) = 3.25 LBS/GAL 389 GMS/LITER
VOC (LESS WATER AND EXEMPT SOLV) = 3.25 LBS/GAL 389 GMS/LITER

VAPOR DENSITY
VAPOR DENSITY HEAVIER THAN AIR

EVAPORATION RATE
EVAPORATION RATE SLOWER THAN ETHER

%VOLATILE BY WEIGHT	%VOLATILE BY VOLUME	WEIGHT PER GALLON	SPECIFIC GRAVITY	AVG SOLV DENSITY
31.28	45.06	10.395	1.248	7.22

SECTION IV - FIRE & EXPLOSION HAZARDS

PROPER SHIPPING NAME - PAINT, 3, UN1263, III (FLASH POINT 73 to 100 DEGREES)
SHIPPING LABEL - FLAMMABLE (3) LABEL (LIM QTY IF 1 GALLON OR LESS) FLASHPOINT 80 F

EXTINGUISHING MEDIA: Use carbon dioxide or dry chemical for small fires. For large fires, use an alcohol-type or multi-purpose foam extinguishing agent. Water may be ineffective to extinguish fires involving this type of product.
UNUSUAL FIRE & EXPLOSION HAZARDS: Handling dry materials or dust created from this product may pose an explosion hazard. Use explosion proof equipment. Avoid dust accumulations. Always electrically bond/ground processing equipment. Use good housekeeping practices to keep dust to a minimum. Smoke from burning product may be toxic. Spilled product, residue, or dust may burn fiercely if ignited. Runoff firefighting water may contain toxic or acidic materials.
SPECIAL FIRE FIGHTING PROCEDURES: Water may be used to cool closed containers to prevent pressure buildup. Keep people away from any fire fighting operations involving chemicals. Wear a self-contained positive pressure breathing apparatus in addition to full protective gear.

SECTION V - HEALTH HAZARD

EFFECTS OF OVEREXPOSURE: Irritation of the respiratory tract or acute nervous system depression characterized by headache dizziness, staggered gait, confusion, unconsciousness, coma. There is no applicable information available regarding the carcinogen potential for this product as a whole, however any relevant information regarding any ingredient's status as a potential, suspect, or confirmed carcinogen is listed in SECTION V of the MSDS.
Chronic overexposure may damage the liver and/or kidneys, blood cells, cause cardiac sensations, hearing effects, and/or cause birth or fertility defects in lab animals.
Repeated and prolonged exposure to some solvents has been associated with permanent brain and nervous system damage.
Intentional misuse by deliberately concentrating & inhaling vapors from this product may be harmful or fatal.
Exposure limits for n-Butanol: (CAS# 71-36-3 Butyl Alcohol) ACGIH(TLV): Ceiling = 50 ppm or 152 mg/m3.
This product contains 1,2,4-trimethylbenzene which is on the New Jersey and Pennsylvania Right-to-Know lists. Pseudocumene) CAS #96-63-3
This product contains aromatic naphtha, light which is on the Pennsylvania Right-to-Know list. CAS# 64742-95-6
This product contains n-Butyl Alcohol which is on the Pennsylvania & New Jersey Right-to-Know Lists.
Chemical Name: 1-Butanol CAS# 71-36-3
Ingestion of alcohol can increase the effects of overexposure from some solvents in this product.
Exposure to XYLENE can affect the cardiovascular, pulmonary, CNS, and gastrointestinal systems. Liver enzymes, serum electrolytes, EKG and chest X-ray should be done in cases of massive exposure to xylene.
ETHYLBENZENE (CAS# 100-41-4) is present in this product. Ethylbenzene has been classified by IARC as a possible human carcinogen group 2B. * Ethylbenzene is a potential chronic health hazard and is on the New Jersey Right-to-Know list.
This product contains xylenes, mixed isomers which is on the New Jersey and Pennsylvania Right-to-Know Lists. benzene, dimethyl-) CAS# 1330-20-7
This product contains 1,3,5-trimethylbenzene which is on the New Jersey Right-to-Know List. CAS# 108-67-8
This product contains Titanium Dioxide, which is currently listed by OSHA and ACGIH as a nuisance dust hazard.
Exposure Limits for Titanium Dioxide(dust): OSHA (PEL): TWA =15 mg/m3 (total dust) 5mg/m3 (respirable)
ACGIH(TLV): TWA =10 mg/m3 (total dust).
Prolonged and continuous exposure to excessive concentration of dust of any kind without using a dust mask may have an adverse pulmonary effect on some people. This overexposure may result in coughing, sputum, and reduced lung capacity. Pre-existing asthmatic conditions may worsen. Persons with lung diseases should not work in dusty areas unless a physician certifies their fitness to wear a respirator. (OSHA 1910.134). Liquid paint does not readily release dust.
Exposure Limits For Inert and Nuisance Dust Particulates Not Otherwise Classified: OSHA (PEL): TWA =15 mg/m3 (total dust) mg/m3 (respirable fraction). ACGIH(TLV): TWA = 10 mg/m3 (total dust).
This product contains Talc (containing no asbestos) which is currently listed by OSHA & ACGIH as a nuisance dust hazard. Prolonged exposure to dried talc particles can result in scarring of the lungs (talcosis) or of the covering of the lungs (pleural thickening). Excessive exposure to any dust may aggravate pre-existing respiratory conditions. Wet paint and paint overspray does not retain the hazardous properties of the dust particles.
Exposure Limits For Talc (containing no asbestos fibers): OSHA (PEL): TWA = 2 mg/m3 (respirable dust).
ACGIH(TLV): TWA = 2 mg/m3 (respirable fraction).
This product contains Barium Sulfate which is listed by OSHA and ACGIH as a nuisance dust. Long term overexposure to barium sulfate dust may produce benign Pneumoconiosis termed "baritosis" and may reduce lung functions.
Exposure Limits For Barium Sulfate: (CAS# 7727-43-7) OSHA (PEL): TWA =10 mg/m3 (total dust), 5 mg/m3 (respirable)
ACGIH(TLV): TWA =10 mg/m3 (total dust).
This product contains Barium Sulfate which is on the New Jersey, Massachusetts or Pennsylvania Right-to-Know Lists. CAS #7727-43-7

This product contains C.I. Pigment Orange #5 which has been reported to be an invitro mutagen. The FDA has concluded that this pigment is an animal carcinogen by ingestion. Liver effects have also been observed in laboratory animal tests. There are no definitive findings linked to humans.

Chronic overexposure may cause allergic skin reactions, respiratory irritation, inflammation and asthma-like symptoms.

This product contains an organic pigment which is listed as a hazardous substance. If exposed to high temperatures or fire for an extended period of time, the product may smolder or burn giving off noxious fumes which can include oxides of nitrogen and carbon or other toxic compounds.

This product contains Iron Oxide, which is currently listed by OSHA & ACGIH as a fume hazard. Overexposure to dried particles may pose hazards to the eyes, ears & nose. Injury to the skin or mucous membranes can occur by rigorous skin cleaning or direct mechanical abrasion. Long term exposure to dust without respiratory protection may cause siderosis, a benign pneumoconiosis. Wet paint or paint overspray would not retain the hazardous properties of the dust particles.

This product contains C.I. Pigment Yellow #42 which is on the Pennsylvania Right-to-Know List. CAS# 20344-49-4

This product contains trace amounts of naturally occuring arsenic, chromium and nickel. These metals have not been added but are part of the pigment mineral ore. Potential exposure to the California Prop 65 chemicals in this pigment have been determined to be below the No Significant Risk Level (NSRL).

Exposure Limits For Iron Oxide (fume): (CAS# 1309-37-1) OSHA (PEL): TWA =10 mg/m3 (as total particulates)
ACGIH(TLV): TWA = 5 mg/m3.

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE: Proexisting eye, skin, central nervous system, digestive tract, and respiratory tract. May adversely affect persons with liver, kidney & blood forming organ disorders.

ROUTE(S) OF ENTRY: Inhalation, skin contact absorption, eye contact. Products that are free-flowing liquids or pastes are not expected to have routes of exposure for dust. Dried product residue may exhibit dust inhalation hazards.

INHALATION: May cause slight to moderate respiratory tract irritation accompanied by congestion, headache, weakness, dizziness, drowsiness, and/or nausea. FIRST AID: Move person to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and get immediate emergency medical assistance.

EYE CONTACT: Liquid, vapor or dust may cause moderate to severe irritation, redness, tearing, blurred vision & pain. Prolonged or chronic overexposure may cause eye damage. FIRST AID: Flush eyes with large amounts of water for at least 15 minutes. Hold eyelids apart to flush the entire contaminated area. Get medical help if irritation persists.

SKIN CONTACT: May cause moderate to severe skin irritation. May cause burning sensations, defatting and/or dermatitis. Chronic overexposure may cause skin cracking and/or eczema. FIRST AID: Remove contaminated clothing and shoes. Wash area with soap and water. Get medical attention as needed.

SKIN ABSORPTION: May be absorbed through skin tissues. Chronic overexposure to the skin without using protective barriers (gloves, aprons, etc.) may cause toxic effects.

INGESTION: Single dose oral toxicity is low. May cause irritation to the gastrointestinal tract. Ingestion may cause nausea, discomfort, diarrhea, dizziness and vomiting. FIRST AID: DO NOT INDUCE VOMITING! Contents of this product pose an inhalation hazard. If aspirated into the lungs, may cause chemical pneumonitis and/or pulmonary edema which can be fatal. Never leave individual unattended, keep head low to prevent aspiration. SEEK IMMEDIATE MEDICAL ATTENTION!

SECTION VI - REACTIVITY DATA

STABILITY: ____UNSTABLE _XX_STABLE

INCOMPATABILITY (Materials to avoid): Keep away from all oxidizing materials, avoid strong acids & alkalis (caustics) and never distill solvents to dryness. Material can react violently under such conditions.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon/nitrogen, metal oxides and/or silicon dioxide fumes and other toxic or irritating vapors such as incompletely burned hydrocarbons, aldehydes, amines, HCN and/or sulfur oxides.

HAZARDOUS POLYMERIZATION: ____May Occur _XX_Will Not Occur

CONDITIONS TO AVOID: Container is not a pressure vessel. Never use pressure to empty. Do not drag, puncture or drop container (prevent sparking). Dust particles from this product may pose a flammable or explosion hazard. Avoid dust accumulations. Containers should be grounded.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Remove all sources of ignition(flames), electrical static or frictional sparks. Provide good ventilation to spill area. Dike spill area and add inert absorbent. Remove spilled material with non-sparking tools. Avoid breathing vapors and use respirator protective devices (SEE SECTION VIII). Only properly trained personnel should clean spilled hazards. Follow local, state and federal spill notification rules.

WASTE DISPOSAL: Consult licensed waste handling and/or transportation facility. Follow local, state and federal waste regulations. Do not incorporate into municipal sewage treatment facilities. Empty containers retain product residue, follow label and MSDS warnings even after container is emptied.

SECTION VIII - SAFE HANDLING & USE INFO

RESPIRATORY PROTECTION: In outdoor or open areas with unrestricted ventilation, use NIOSH approved dust mask to protect from overspray or solid airborne particulates. In restricted areas, use a NIOSH approved combination organic vapor and particulate respirator. In confined areas, use an airline type respirator hood or self contained breathing apparatus. Consult the OSHA confined space regulations.

VENTILATION: Provide sufficient ventilation to keep hazards at levels below current ACGIH TLV and OSHA PEL of the most hazardous ingredient in SECTION II. Solvent vapors must be removed from the lower levels of work areas and all ignition sources eliminated. Remove decomposition products formed by welding or flame cutting coated surfaces. Dust and particle hazards are elevated during sanding, grinding, or surface preparation of previously coated surfaces.

SKIN PROTECTION REQUIREMENTS: Chemical resistant gloves are recommended. Use neoprene, nitrile, or butyl rubber. Cover as much of the exposed skin as possible with appropriate impervious clothing. If skin creams are used, keep the area protected by the cream to a minimum. Do not use skin creams to protect skin when working with acids or acid catalysts.

EYE PROTECTION: Eye protection should be worn in any type of industrial operation. The use of chemical goggles and a full face shield to prevent splash from liquids is recommended. Contact lenses should not be worn.

OTHER PROTECTIVE EQUIPMENT: Using a suit or apron to prevent contamination of clothing is recommended. Prevent prolonged skin contact with contaminated clothing. Remove and wash all contaminated clothing before re-use. Never wear contaminated clothes or shoes away from the workplace. Use an industrial type professional cleaning service, do not wash at home.

HYGIENIC PRACTICES: Emergency eye wash stations and safety showers are recommended. Wash hands prior to eating, using the washroom or smoking. Precautions must be taken so that persons handling this product do not breathe the vapors or have it contact the skin or eyes. In spray operations, protection must be afforded against exposure to both vapor and spray mist.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Store large quantities in buildings designed and protected for storage of flammable liquids. Reference storage conditions in OSHA 1910.106. Avoid high temperature areas and open flames. Do not store above 120 F. Keep closures tight and container upright to avoid leakage.

OTHER PRECAUTIONS: Maintain a clean work area. Use only in a well ventilated area. VHAP-VOLATILE HAZARDOUS AIR POLLUTANT

CAUTION! DO NOT TAKE INTERNALLY. Avoid breathing vapor/dust.

NOTICE: The HMIS rating for this material involves data and interpretations compiled from the various material suppliers of the component ingredients. This information will vary from supplier to supplier. The rating is intended for rapid and general identification of this product's hazards. To adequately deal with the safe handling of this material, all information contained in the MSDS must be reviewed as part of an ongoing Hazard Communication Program.

This product complies with the Toxic Substances Control Act (TSCA) 40 CFR 700-799. The Material Safety Data Sheet (MSDS) complies with 29 CFR 1910.1200, Hazardous Communication Std. In the event of a TRANSPORTATION RELATED INCIDENT involving this product, CALL 1-800-688-4005.

WARNING! Sudden release of hot organic chemical vapors from equipment operating at elevated temperatures or sudden introduction to vacuum conditions may result in vapor ignition.

SARA Title III: This product is regulated under Section 311- 312 (40CFR370): Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard, Fire Hazard.

WARNING! This product contains chemicals known to the State of California to cause cancer or reproductive harm.

BLUE PAINT

PRODUCT SPECIFICATIONS

SHEBOYGAN PAINT COMPANY
1439 NORTH 25th STREET
P.O. BOX 417
SHEBOYGAN, WI 53082-0417
TELEPHONE (920) 458-2157

DATE OF PREPARATION 02/12/07
PRINTED DATE 07/23/07
TRANSPORTATION EMERGENCY (800) 688-4005
CUSTOMER SERVICE custserv@shebpaint.com

TRADE NAME
NEW FD BLUE H/S DIP

MFG. PRODUCT NO.
43-41491B

CUSTOMER	:	
PART NUMBER	:	
WEIGHT PER GALLON (density)	:	10.36 POUNDS
	BY WEIGHT	BY VOLUME
PERCENT SOLIDS	: 68.33	54.49
PERCENT WATER	:	
PERCENT SOLVENT	: 31.67	45.51
% EXEMPT SOLVENT	:	
VOC (WITH WATER AND EXEMPT SOLV)	: 3.28 LBS/GAL	393.07 GMS/LITER
VOC (LESS WATER AND EXEMPT SOLV)	: 3.28 LBS/GAL	393.07 GMS/LITER
PERCENT HAPS BY WEIGHT	: .89	
VOC LBS PER GALLON SOLIDS	: 6.02	
VOC KILOGRMS PER KILOGRMS SOLIDS	: .46	
VOC HAPS LBS PER GALLON SOLIDS	: .17	
VOC HAPS LBS PER LBS SOLIDS	: .01	
FLASHPOINT (FAHRENHEIT)	: 95 F	
APPLICATION	: DIP	
REDUCTION	: NONE	
CURE	: AIR DRY	
SUBSTRATE	: STEEL	
COVERAGE	: 874.02 SQUARE FEET @ 1 MIL NO LOSS	
VISC @ 80 F	: 20-26/3 ZAHN	
CRYPTOMETER	: 8-15#7 WEDGE	
GLOSS	: 85-95 OVERNIGHT DRY NO ADJ	

OMMENTS

43-41491B PAGE: 1

MATERIAL SAFETY DATA SHEET
FOR COATINGS, RESINS AND RELATED MATERIALS

HAZARD RATING 0 - MINIMAL 3 - SERIOUS
1 - SLIGHT 4 - SEVERE
2 - MODERATE * - CHRONIC

HMIS RATING HEALTH - * 3 FLAMMABILITY - 3 REACTIVITY - 0

SECTION I

SHEBOYGAN PAINT COMPANY
1439 NORTH 25th STREET / P.O. BOX 417
SHEBOYGAN, WI 53082-0417
TELEPHONE: (920) 458-2157

DATE OF PREPARATION 02/12/07
TRANSPORTATION EMERGENCY (800) 688-4005
EMAIL: custserv@shebpaint.com

PRODUCT CLASS
SURFACE COATING

TRADE NAME
NEW FD BLUE H/S DIP

MFG PRODUCT NO.
43-41491B

SECTION II - HAZARDOUS INGREDIENTS

NT	INGREDIENT	CAS#	ACGIH TLV PPM	ACGIH TLV mg/m3	ACGIH STEL PPM	ACGIH STEL mg/m3	OSHA PEL PPM	OSHA PEL mg/m3	OSHA CEILING PPM	OSHA CEILING mg/m3	LEL % VOLUM	VAPOR PRESS mm/Hg	DEG F	% BY Wght
A	1,2,4-Trimethylbenzene	95-63-6	25.00	123.0	-----	-----	25.00	125.0	-----	-----	0.900	1.000	@ 56.	9.95
	Aromatic Petroleum Distillate	64742-95-6	-----	-----	-----	-----	100.0	-----	-----	-----	1.000	3.000	@ 68.	
C	n-Butyl Alcohol (skin)	71-36-3	-----	-----	-----	-----	100.0	300.0	50.00	152.0	1.400	4.400	@ 68.	2.62
	Titanium Dioxide (dust)	13463-67-7	-----	10.00	-----	-----	-----	15.00	-----	-----	-----	-----	@ ---	
WI	Talc (dust)	14807-96-6	-----	2.000	-----	-----	-----	2.000	-----	-----	-----	-----	@ ---	3.17
	Barium Compound (Insoluble)	7727-43-7	-----	10.00	-----	-----	-----	5.000	-----	-----	-----	-----	@ ---	18.9
	1,3,5-Trimethylbenzene	108-67-8	-----	-----	-----	-----	-----	-----	-----	-----	1.000	-----	@ ---	
	Aromatic Terpene Polymer	64536-06-7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	@ ---	

A -This toxic chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).
HAP = HAZARDOUS AIR POLLUTANT (SOLID) VHAP = VOLATILE HAZARDOUS AIR POLLUTANT (VAPOR)

C -This toxic chemical is subject to the reporting requirements of both Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372) and the Wisconsin Dept. of Natural Resources Administrative Code Chapter NR445.
VHAP = VOLATILE HAZARDOUS AIR POLLUTANT (VAPOR) HAP = HAZARDOUS AIR POLLUTANT (SOLID)
(skin) = OSHA Skin Absorption Hazard

WI-This chemical is subject to reporting procedures outlined in the Wisconsin Department of Natural Resources Administrative Code Chapters NR438 and/or NR445.

SECTION III - PHYSICAL DATA

ILING RANGE 241-390 F VOC KG/KG SOLIDS=.46
% HAPS BY WEIGHT=
VOC (WITH WATER AND EXEMPT SOLV) = 3.28 LBS/GAL 393 GMS/LITER
VOC (LESS WATER AND EXEMPT SOLV) = 3.28 LBS/GAL 393 GMS/LITER

VAPOR DENSITY
POR DENSITY HEAVIER THAN AIR

EVAPORATION RATE
EVAPORATION RATE SLOWER THAN ETHER

%VOLATILE BY WEIGHT	%VOLATILE BY VOLUME	WEIGHT PER GALLON	SPECIFIC GRAVITY	AVG SOLV DENSITY
31.67	45.51	10.3606	1.244	7.21

ECTION IV - FIRE & EXPLOSION HAZARDS

PER SHIPPING NAME - PAINT, 3, UN1263, III
SHIPPING LABEL - FLAMMABLE (3) LABEL (LIM QTY IF 1 GALLON OR LESS) (FLASH POINT 73 to 100 DEGREES)
FLASHPOINT 95 F

EXTINGUISHING MEDIA: Use carbon dioxide or dry chemical for small fires. For large fires, use an alcohol-type or multi-purpose foam extinguishing agent. Water may be ineffective to extinguish fires involving this type of product.
UNUSUAL FIRE & EXPLOSION HAZARDS: Handling dry materials or dust created from this product may pose an explosion hazard. Use explosion proof equipment. Avoid dust accumulations. Always electrically bond/ground processing equipment. Use good housekeeping practices to keep dust to a minimum. Smoke from burning product may be toxic. Spilled product, residue, or dust may burn fiercely if ignited. Runoff firefighting water may contain toxic or acidic materials.
SPECIAL FIRE FIGHTING PROCEDURES: Water spray may be ineffective. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition when exposed to extreme heat. Water fog nozzle settings are preferable. A self-contained positive pressure breathing apparatus with full-face piece should be worn in addition to full firefighting safety equipment. Keep unnecessary people away, isolate hazards, stay upwind, keep out of low areas.

SECTION V - HEALTH HAZARD

EFFECTS OF OVEREXPOSURE: Irritation of the respiratory tract or acute nervous system depression characterized by headache izziness, staggered gait, confusion, unconsciousness, coma. There is no applicable information available regarding the arcinogen potential for this product as a whole, however any relevant information regarding any ingredient's status as a potential, suspect, or confirmed carcinogen is listed in SECTION V of the MSDS.
hronic overexposure may damage the liver and/or kidneys, blood cells, cause cardiac sensations, hearing effects, nd/or cause birth or fertility defects in lab animals.
epeated and prolonged exposure to some solvents has been associated with permanent brain and nervous system damage.
ntentional misuse by deliberately concentrating & inhaling vapors from this product may be harmful or fatal.
xposure limits for n-Butanol: (CAS# 71-36-3 Butyl Alcohol) ACGIH(TLV): Ceiling = 50 ppm or 152 mg/m3.
his product contains 1,2,4-trimethylbenzene which is on the New Jersey and Pennsylvania Right-to-Know lists.
Pseudocumene) CAS #96-63-3
his product contains aromatic naphtha, light which is on the Pennsylvania Right-to-Know list. CAS# 64742-95-6
his product contains n-Butyl Alcohol which is on the Pennsylvania & New Jersey Right-to-Know Lists.
hemical Name: 1-Butanol CAS# 71-36-3
his product contains Titanium Dioxide, which is currently listed by OSHA and ACGIH as a nuisance dust hazard.
xposure Limits for Titanium Dioxide(dust): OSHA (PEL): TWA -15 mg/m3 (total dust) 5mg/m3 (respirable)
CGIH(TLV): TWA -10 mg/m3 (total dust).
rolonged and continuous exposure to excessive concentration of dust of any kind without using a dust mask may have an dverse pulmonary effect on some people. This overexposure may result in coughing, sputum, and reduced lung capacity. re-existing asthmatic conditions may worsen. Persons with lung diseases should not work in dusty areas unless a hysician certifies their fitness to wear a respirator. (OSHA 1910.134). Liquid paint does not readily release dust.
his product contains Talc (containing no asbestos) which is currently listed by OSHA & ACGIH as a nuisance dust hazard.
olonged exposure to dried talc particles can result in scarring of the lungs (talcosis) or of the covering of the ungs (pleural thickening). Excessive exposure to any dust may aggravate pre-existing respiratory conditions. Wet paint nd paint overspray does not retain the hazardous properties of the dust particles.
xposure Limits For Talc (containing no asbestos fibers): OSHA (PEL): TWA - 2 mg/m3 (respirable dust).
CGIH(TLV): TWA = 2 mg/m3 (respirable fraction).
xposure Limits For Inert and Nuisance Dust Particulates Not Otherwise Classified: OSHA (PEL): TWA =15 mg/m3 (total dust) mg/m3 (respirable fraction). ACGIH(TLV): TWA = 10 mg/m3 (total dust).
his product contains Barium Sulfate which is listed by OSHA and ACGIH as a nuisance dust. Long term overexposure barium sulfate dust may produce benign Pneumoconiosis termed "baritosis" and may reduce lung functions.
xposure Limits For Barium Sulfate: (CAS# 7727-43-7) OSHA (PEL): TWA -10 mg/m3 (total dust), 5 mg/m3 (respirable)
CGIH(TLV): TWA -10 mg/m3 (total dust).
his product contains Barium Sulfate which is on the New Jersey, Massachusetts or Pennsylvania Right-to-Know Lists.
S #7727-43-7
his product contains 1,3,5-trimethylbenzene which is on the New Jersey Right-to-Know List. CAS# 108-67-8
ronic overexposure may cause skin sensitization.
his product contains a copper compound. Pigment Blue 15 CAS# 147-14-8; Pigment Green 7 CAS# 1328-53-6; and Pigment een 36 CAS# 14302-13-7 ARE ALL EXEMPT FROM REPORTING REQUIREMENTS UNDER THE CATEGORY "COPPER COMPOUNDS" from the st of toxic chemicals under section 313, EPCRA. These pigments contain up to 10% elemental copper by weight. S# 7440-50-8 which is on the SARA 313 list of chemicals.
DICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE: May cause sensitization in susceptible individuals. May cause llergic reactions to skin and/or respiratory system. May aggravate asthmatic conditions.
UTE(S) OF ENTRY: Inhalation, skin contact absorption, eye contact. Products that are free-flowing liquids or pastes e not expected to have routes of exposure for dust. Dried product residue may exhibit dust inhalation hazards.
HALATION: May cause slight to moderate respiratory tract irritation accompanied by congestion, headache, weakness, izziness, drowsiness, and/or nausea. FIRST AID: Move person to fresh air. If breathing is ficult, give oxygen. If not breathing, give artificial respiration and get immediate emergency medical assistance.

EYE CONTACT: Liquid, vapor or dust may cause moderate to severe irritation, redness, tearing, blurred vision & pain. Prolonged or chronic overexposure may cause eye damage. FIRST AID: Flush eyes with large amounts of water for at least 15 minutes. Hold eyelids apart to flush the entire contaminated area. Get medical help if irritation persists.
SKIN CONTACT: May cause moderate to severe skin irritation. May cause burning sensations, defatting and/or dermatitis. Chronic overexposure may cause skin cracking and/or eczema. FIRST AID: Remove contaminated clothing and shoes. Wash area with soap and water. Get medical attention as needed.
SKIN ABSORPTION: May be absorbed through skin tissues. Chronic overexposure to the skin without using protective barriers (gloves, aprons, etc.) may cause toxic effects.
INGESTION: Single dose oral toxicity is low. May cause irritation to the gastrointestinal tract. Ingestion may cause nausea, discomfort, diarrhea, dizziness and vomiting. FIRST AID: DO NOT INDUCE VOMITING! Contents of this product pose an inhalation hazard. If aspirated into the lungs, may cause chemical pneumonitis and/or pulmonary edema which can be fatal. Never leave individual unattended, keep head low to prevent aspiration. SEEK IMMEDIATE MEDICAL ATTENTION!

SECTION VI - REACTIVITY DATA

STABILITY: ____UNSTABLE _XX_STABLE
INCOMPATIBILITY(materials to avoid): Strong oxidizers, Strong acids.
HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon, nitrogen and/or sulfur & other toxic gases and irritating vapors like aldehydes, amines, HCN, and incompletely burned hydrocarbons.
HAZARDOUS POLYMERIZATION: ____May Occur _XX_Will Not Occur
CONDITIONS TO AVOID: Container is not a pressure vessel. Never use pressure to empty. Do not drag, puncture or drop container (prevent sparking). Dust particles from this product may pose a flammable or explosion hazard. Avoid dust accumulations. Containers should be grounded.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Remove all sources of ignition(flames), electrical static or frictional sparks. Provide good ventilation to spill area. Dike spill area and add inert absorbent. Remove spilled material with non-sparking tools. Avoid breathing vapors and use respirator protective devices (SEE SECTION VIII). Only properly trained personnel should clean spilled hazards. Follow local, state and federal spill notification rules.
WASTE DISPOSAL: Consult licensed waste handling and/or transportation facility. Follow local, state and federal waste regulations. Do not incorporate into municipal sewage treatment facilities. Empty containers retain product residue, follow label and MSDS warnings even after container is emptied.

SECTION VIII - SAFE HANDLING & USE INFO

RESPIRATORY PROTECTION: In outdoor or open areas with unrestricted ventilation, use NIOSH approved dust mask to protect from overspray or solid airborne particulates. In restricted areas, use a NIOSH approved combination organic vapor and particulate respirator. In confined areas, use an airline type respirator hood or self contained breathing apparatus. Consult the OSHA confined space regulations.
VENTILATION: Provide sufficient ventilation to keep hazards at levels below current ACGIH TLV and OSHA PEL of the most hazardous ingredient in SECTION II. Solvent vapors must be removed from the lower levels of work areas and all ignition sources eliminated. Remove decomposition products formed by welding or flame cutting coated surfaces. Dust and particle hazards are elevated during sanding, grinding, or surface preparation of previously coated surfaces.
SKIN PROTECTION REQUIREMENTS: Chemical resistant gloves are recommended. Use neoprene, nitrile, or butyl rubber. Cover as much of the exposed skin as possible with appropriate impervious clothing. If skin creams are used, keep the area protected by the cream to a minimum. Do not use skin creams to protect skin when working with acids or acid catalysts.
EYE PROTECTION: Eye protection should be worn in any type of industrial operation. The use of chemical goggles and a full face shield to prevent splash from liquids is recommended. Contact lenses should not be worn.
OTHER PROTECTIVE EQUIPMENT: Using a suit or apron to prevent contamination of clothing is recommended. Prevent prolonged skin contact with contaminated clothing. Remove and wash all contaminated clothing before re-use. Never wear contaminated clothes or shoes away from the workplace. Use an industrial type professional cleaning service, do not wash at home.
HYGIENIC PRACTICES: Emergency eye wash stations and safety showers are recommended. Wash hands prior to eating, using the washroom or smoking. Precautions must be taken so that persons handling this product do not breathe the vapors or have it contact the skin or eyes. In spray operations, protection must be afforded against exposure to both vapor and spray mist.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Store large quantities in buildings designed and protected for storage of flammable liquids. Reference storage conditions in OSHA 1910.106. Avoid high temperature areas and open flames. Do not store above 120 F. Keep closures tight and container upright to avoid leakage.

OTHER PRECAUTIONS: Maintain a clean work area. Use only in a well ventilated area. VHAP-VOLATILE HAZARDOUS AIR POLLUTANT
CAUTION! DO NOT TAKE INTERNALLY. Avoid breathing vapor/dust.
NOTICE: The HMIS rating for this material involves data and interpretations compiled from the various material suppliers of the component ingredients. This information will vary from supplier to supplier. The rating is intended for rapid and general identification of this product's hazards. To adequately deal with the safe handling of this material, all information contained in the MSDS must be reviewed as part of an ongoing Hazard Communication Program.
This product complies with the Toxic Substances Control Act (TSCA) 40 CFR 700-799. The Material Safety Data Sheet (MSDS) complies with 29 CFR 1910.1200, Hazardous Communication Std. In the event of a TRANSPORTATION RELATED INCIDENT involving this product, CALL 1-800-688-4005.
WARNING! Sudden release of hot organic chemical vapors from equipment operating at elevated temperatures or sudden introduction to vacuum conditions may result in vapor ignition.
SARA Title III: This product is regulated under Section 311- 312 (40CFR370): Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard, Fire Hazard.
WARNING! This product contains chemicals known to the State of California to cause cancer or reproductive harm.

YELLOW PAINT

TRINITY COATINGS COMPANY

1800 PARK PLACE - FORT WORTH, TX 76110

TRIN-KOTE EH-5182 MDI YELLOW
HIGH SOLIDS DIPPING ENAMEL

DESCRIPTION:
A low V.O.C., modified alkyd enamel. This product has been designed specifically for dipping application of large structural steel items. Provides a direct to metal finish coat at low millage. Finish dries hard with a high gloss. Formulated at V.O.C.'s below 3.0 lbs/gal and a low viscosity that can be adjusted with small amounts of reducer to achieve desired run off. Low in odor, this product demonstrates exceptional transfer efficiency.

RECOMMENDED USES:
Dipping applications on structural steel items.

SURFACE PREPARATION:
Be certain surface is clean, free of oil, dirt and grease. Designed for direct to metal applications.

PROPERTIES

COLOR:
Yellow

GLOSS:
80 + sheen

VISCOSITY:
25 - 30

SOLIDS:
67.5% +/- 1% by weight
55.4% +/- 1% by volume

V.O.C.
2.98 lbs/gal. or 356 gr/lt.

WEIGHT PER GALLON:
9.16 lbs

DRY TIME:

To Touch:	45-60 minutes
To Handle:	2-4 hours
Recoat:	12 hours
Through Dry:	2-3 days

THEORETICAL COVERAGE:
889 sq. ft. /gal @ 1.0 dry mils

REDUCER:
Mineral Spirits, Xylene or 150 Solvent

RECOMMENDED DFT: 1.0 - 2.0 mils
RECOMMENDED WFT: 2.0 - 4.0 mils

APPLICATION EQUIPMENT:
Dip or Spray

SAFETY PRECAUTIONS:
This material is intended for use by persons having practical painting skills and experience. The solvents used in these products are volatile, flammable, and can be irritating to the skin. Keep containers closed and away from open flame or heat. Avoid prolonged contact with skin. Adequate, continuous circulation of fresh air must be provided during application and drying.

NOTE: The information, ratings, and opinions stated above pertain to material currently offered and represent the results of laboratory evaluation. Since the customer's application and other requirements are not known, or are not under our control the Company cannot make any warranties or guarantees as to results.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: MDI YELLOW H/S ENAMEL
PRODUCT CODE: EH5182-01

HMIS CODES: H F R P
2*3 0

SECTION I - MANUFACTURER IDENTIFICATION

MANUFACTURER'S NAME: TRINKOTE INDUSTRIAL FINISHES
ADDRESS : 1800 PARK PLACE AVE.
FORT WORTH, TX 76110

EMERGENCY PHONE : 1-800-424-9300
INFORMATION PHONE : 817/926-5683

DATE PRINTED : 10/15/2007
NAME OF PREPARER : TRINKOTE INDUSTRIAL

SECTION II - HAZARDOUS INGREDIENTS/SARA III INFORMATION

REPORTABLE COMPONENTS	CAS NUMBER	VAPOR PRESSURE MM HG	@ TEMP	WEIGHT PERCENT
Mineral Spirits	8052-41-3	<2.25	68 F	10% - 20%
ACGIH TLV-TWA = 25 ppm				
ACGIH STEL = 15 ppm				
ACGIH CEILING = N.E.				
OSHA PEL = 25 ppm				
OSHA CEILING = N.E.				
* Toluene	108-88-3	22	68 F	10% - 15%
ACGIH TLV-TWA = 50 ppm				
ACGIH STEL = 150 ppm				
ACGIH CEILING = N.E.				
OSHA PEL = 200 ppm				
OSHA CEILING = 300 ppm				
Calcium Carbonate	471-34-1	NA	NA	5% - 10%
ACGIH TLV-TWA = 10 mg/m3				
ACGIH STEL = N.E.				
ACGIH CEILING = N.E.				
OSHA PEL = N.E.				
OSHA CEILING = N.E.				
Titanium Dioxide	13463-67-7	NA	NA	5% - 10%
ACGIH TLV-TWA = N.E.				
ACGIH STEL = N.E.				
ACGIH CEILING = N.E.				
OSHA PEL = 15 mg/m3				
OSHA CEILING = 10 mg/m3				
Aromatic Hydrocarbon	64742-95-6	2.09	68 F	5% - 10%
ACGIH TLV-TWA = 25 ppm				
ACGIH STEL = 150 ppm				
ACGIH CEILING = N.E.				
OSHA PEL = 25 ppm				
OSHA CEILING = N.E.				
* 1,2,4-Trimethylbenzene	95-63-6			3% - 5%
ACGIH TLV-TWA = N.E.				
ACGIH STEL = N.E.				
ACGIH CEILING = N.E.				
OSHA PEL = N.E.				
OSHA CEILING = N.E.				
1,3,5-Trimethylbenzene	108-67-8	0.88	60 F	1% - 3%
ACGIH TLV-TWA = 25 ppm				
ACGIH STEL = N.E.				

FULL PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS SHOULD BE USED. WATER SPRAY MAY BE INEFFECTIVE. WATER MAY BE USED TO COOL CLOSED CONTAINERS TO PREVENT PRESSURE BUILD-UP AND POSSIBLE AUTO-IGNITION OR EXPLOSION FROM HEATING.

UNUSUAL FIRE AND EXPLOSION HAZARDS

HANDLE AS IGNITABLE LIQUID. KEEP CONTAINERS TIGHTLY CLOSED AND ISOLATE FROM HEAT, ELECTRICAL EQUIPMENT, SPARKS OR FLAME. VAPORS FORM AND EXPLOSIVE MIXTURE IN AIR BETWEEN THE UPPER AND LOWER EXPLOSIVE LIMITS. NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

========== SECTION V - REACTIVITY DATA ==========

STABILITY: STABLE

CONDITIONS TO AVOID

Poor ventilation.

INCOMPATIBILITY (MATERIALS TO AVOID)

ALKALINE MATERIALS, STRONG ACIDS AND OXIDIZING MATERIALS.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS

THERMAL DECOMPOSITION OR COMBUSTION CAN PRODUCE FUMES OF CARBON DIOXIDE AND CARBON MONOXIDE.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR UNDER NORMAL CONDITIONS.

========== SECTION VI - HEALTH HAZARD DATA ==========

INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

VAPOR OR MIST CAN CAUSE HEADACHE, NAUSEA AND IRRITATION OF THE NOSE,THROAT,AND LUNGS IN POORLY VENTILATED ARES. SOLVENT VAPOR OR MIST CAN CAUSE DIZZINESS,BREATHING DIFFICULTY, HEADACHES, IRRITATION TO NOSE AND THROAT, LOSS OF COORDINATION. CONTINUED OVER-EXPOSURE CAN LEAD TO CENTRAL NERVOUS SYSTEM DEPRESSION.

SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE

SKIN CONTACT:IRRITATING TO THE SKIN ON REPEATED OR PROLONGED CONTACT. EYE CONTACT: DIRECT CONTACT MAY CAUSE EYE IRRITATION.

SKIN CONTACT: CAN CAUSE IRRITAITON. CAN CAUSE DEFATTING OF SKIN WHICH CAN LEAD TO DERMATITIS. EYE CONTACT: LIQUID OR VAPOR CAN CAUSE IRRITATION, TEARING DISCOMFORT, REDNESS AND BLURRED VISION.

SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

LIQUID CAN BE ABSORBED THROUGH SKIN CAUSING IRRITATION, DEFATTING AND DERMATITIS.

INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

CAN CAUSE GASTROINTESTINAL IRRITATION.

CAN CAUSE MOUTH,THROAT,ESOPHAGUS AND STOMACH IRRITATION,NAUSEA,VOMITING, AND DIARRHEA.

HEALTH HAZARDS (ACUTE AND CHRONIC)

ACUTE EFFECTS ARE LISTED ABOVE.

REPORTS HAVE ASSOCIATED REPEATED OR PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING CONTENTS MAY BE HARMFUL OR FATAL.

CARCINOGENICITY: NTP CARCINOGEN: No IARC MONOGRAPHS: Yes

OSHA REGULATED: Yes

EYE PROTECTION

Use chemical safety glassses or goggles (ANSI 287.1-1968).
Avoid contact with eyes. Use safety eyewear with splash guards or side shields, chemical goggles, or face shields.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT

PROVIDE EYEWASH STATION AND EMERGENCY SHOWER. USE OF PROTECTIVE CREAMS, HEAD CAPS, ETC. IS RECOMMENDED. AVOID CONTACT WITH CONTAMINATED CLOTHING. WASH CONTAMINATED CLOTHING, INCLUDING SHOES, BEFORE REUSE.

WORK/HYGIENIC PRACTICES

WASH HANDS BEFORE EATING OR USING WASHROOM, SMOKE IN SMOKING AREAS ONLY.

SECTION IX - DISCLAIMER

To the best of our knowledge, the information contained herein is based on data considered accurate. No warranty expressed or implied is made. Trinkote Industrial Finishes assumes no responsibility for damage to person, property or business caused by the material. It is the responsibility of the purchaser or user of the material to ensure that it is properly used. This MSDS is intended for OSHA regulating purposes only. It is not intended for the reporting of emissions, storm water, waste, or pollution reporting. Any and all such information is made available by specific requests through the Compliance or Laboratory Offices of Trinkote Industrial Finishes.

NOTES

N/A

AROMATIC 100

ExxonMobil Chemical

AROMATIC 100 FLUID

Hydrocarbon Fluid

Product Properties

Property	Test Method	Unit	Typical Value
Aromatics Content	ASTM D 1319	vol%	>99
Color	ASTM D 156	Saybolt	+30
Distillation range	ASTM D 86	°C	
Initial boiling point			161
Dry point			171
Flash Point	ASTM D 56	°C	46
Kauri-Butanol Value	ASTM D 1133	-	92
Specific Gravity	ASTM D 4052	15.6 °C/15.6 °C	0.874

= 7.29 lb/gal

Note:
Values indicated describe typical physical properties and do not constitute specification limits.
This product typically contains less than 1 ppm benzene.

solids vol % = 0.01 gal solids / gal fluid

HAPs wt % = 0.037 lb HAPs / lb fluid

MACT Subpart MMMM lb HAP / gal solids < 2.6

$$0.037 \frac{\text{lb HAPs}}{\text{lb fluid}} \times \frac{7.29 \text{ lb fluid}}{1 \text{ gal fluid}} \times \frac{1 \text{ gal fluid}}{0.01 \text{ gal solids}} = 26.97 \frac{\text{lb HAPs}}{\text{gal solids}}$$

U.S./Mexico/Canada

February 2005

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008 08/17/06 AROMATIC 100

PRODUCT NAME: AROMATIC 100

MSDS NUMBER: EQ940652

DATE ISSUED: 05/23/2006

SUPERSEDES: 02/27/2003

ISSUED BY: 008505

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MATERIAL SAFETY DATA SHEET

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: AROMATIC 100

CHEMICAL NAME:
Aromatic Hydrocarbon 64742-95-6

CHEMICAL FAMILY:
Petroleum Hydrocarbon

PRODUCT DESCRIPTION:
Clear colorless liquid.

Distributed by:
Univar USA Inc.
17425 NE Union Hill Road
Redmond, WA 98052
425-889-3400

EMERGENCY TELEPHONE NUMBERS: (24 Hours)
CHEMTREC (800) 424-9300

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

The composition of this mixture may be proprietary information. In the event of a medical emergency, compositional information will be provided to a physician or nurse.
This product is hazardous as defined in 29 CFR1910.1200, based on the following compositional information:

OSHA HAZARD	COMPONENT
Combustible	Petroleum Hydrocarbons
OSHA PEL;ACGIH TLV	Trimethylbenzene
OSHA PEL;ACGIH TLV	Xylene
OSHA PEL;ACGIH TLV	Cumene

SECTION 3 HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

EYE CONTACT:
Slightly irritating but does not injure eye tissue.

SKIN CONTACT:
Frequent or prolonged contact may irritate and cause dermatitis. Low order of toxicity.
Skin contact may aggravate an existing dermatitis condition.

INHALATION:

High vapor/aerosol concentrations (attainable at elevated temperatures well above ambient) are irritating to the eyes and the respiratory tract, and may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness, and other central nervous system effects, including death

INGESTION:
Small amounts of this product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury, possibly progressing to death.
Minimal toxicity.

SECTION 4 FIRST AID MEASURES

EYE CONTACT:
Flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.

SKIN CONTACT:
Flush with large amounts of water; use soap if available.
Remove grossly contaminated clothing, including shoes, and launder before reuse.

INHALATION:
Using proper respiratory protection, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest. Call for prompt medical attention.

INGESTION:
If swallowed, DO NOT induce vomiting. Keep at rest. Get prompt medical attention.

SECTION 5 FIRE-FIGHTING MEASURES

FLASH POINT:	108 Deg F. METHOD: TCC ASTM D56 NOTE: Minimum
FLAMMABLE LIMITS:	LEL: 0.9 UEL: 6.0 @ 77 Deg F. NOTE: Approximate
AUTOIGNITION TEMP.:	894 Deg F.

GENERAL HAZARD
Combustible Liquid, can form combustible mixtures at temperatures at or above the flashpoint.
Static Discharge, material can accumulate static charges which can cause an incendiary electrical discharge .
"Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or properly disposed of.

FIRE FIGHTING
Use water spray to cool fire exposed surfaces and to protect personnel.
Isolate "fuel" supply from fire.
Use foam, dry chemical, or water spray to extinguish fire.
Avoid spraying water directly into storage containers due to danger of boilover.
This liquid is volatile and gives off invisible vapors. Either the liquid or vapor may settle in low areas or travel some distance along the ground or surface to ignition sources where they may ignite or explode.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS
No Unusual

SECTION 6 ACCIDENTAL RELEASE MEASURES

LAND SPILL
Eliminate sources of ignition. Prevent additional discharge of material, if

possible to do so without hazard. For small spills implement cleanup procedures; for large spills implement cleanup procedures and, if in public area, keep public away and advise authorities. Also, if this product is subject to CERCLA reporting (see Section 15 REGULATORY INFORMATION) notify the National Response Center.
Prevent liquid from entering sewers, watercourses, or low areas. Contain spilled liquid with sand or earth. Do not use combustible materials such as sawdust.
Recover by pumping (use an explosion proof or hand pump) or with a suitable absorbent.
Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

WATER SPILL
Eliminate sources of ignition. Warn occupants and shipping in surrounding and downwind areas of fire and explosion hazard and request all to stay clear. Remove from surface with suitable adsorbents. If allowed by local authorities and environmental agencies, sinking and/or suitable dispersants may be used in non-confined waters.
Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

SECTION 7 STORAGE AND HANDLING

ELECTROSTATIC ACCUMULATION HAZARD
Yes, use proper bonding and/or grounding procedure.
Additional information regarding safe handling of products with static accumulation potential can be ordered by contacting the American Petroleum Institute (API) for API Recommended Practice 2003, entitled "Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents" (American Petroleum Institute, 1220 L Street Northwest, Washington, DC 20005), or the National Fire Protection Association (NFPA) for NFPA 77 entitled "Static Electricity" (National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101).

STORAGE TEMPERATURE Deg F:
Ambient

LOADING/UNLOADING TEMPERATURE Deg F:
Ambient

STORAGE/TRANSPORT PRESSURE mmHg:
Atmospheric

LOADING/UNLOADING VISCOSITY cSt:
0.9

STORAGE AND HANDLING:
Keep container closed. Handle and open containers with care. Store in a cool, well ventilated place away from incompatible materials.
Do NOT handle or store near an open flame, heat or other sources of ignition.
Protect material from direct sunlight.
Material will accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or grounding procedures. Do NOT pressurize, cut, heat, or weld containers. Empty product containers may contain product residue. Do NOT reuse empty containers without commercial cleaning or reconditioning.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE CONTROLS
The use of local exhaust ventilation is recommended to control process emissions near the source. Laboratory samples should be handled in a lab hood. Provide mechanical ventilation of confined spaces. See respiratory protection recommendations.

PERSONAL PROTECTION
For open systems where contact is likely, wear safety glasses with side shields, long sleeves, and chemical resistant gloves.
Where contact may occur, wear safety glasses with side shields.
Where concentrations in air may exceed the limits given in this Section and engineering, work practice or other means of exposure reduction are not adequate, NIOSH approved respirators may be necessary to prevent overexposure by inhalation.

WORKPLACE EXPOSURE GUIDELINES
OSHA REGULATION 29CFR1910.1000 REQUIRES THE FOLLOWING PERMISSIBLE EXPOSURE LIMITS:
A TWA of 25 ppm (125 mg/m3) for Trimethyl Benzene.
A TWA of 100 ppm (435 mg/m3) and a STEL of 150 ppm (655 mg/m3) for Xylenes.
A TWA of 50 ppm (245 mg/m3) for Cumene (skin).
The recommended permissible exposure levels indicated above reflect the levels revised by OSHA in 1989 or in subsequent regulatory activity. Although the 1989 levels have since been vacated by the 11th Circuit Court of Appeals, Vendor recommends that the lower exposure levels be observed as reasonable worker protection.
THE ACGIH RECOMMENDS THE FOLLOWING THRESHOLD LIMIT VALUES:
A TWA of 25 ppm (123 mg/m3) for Trimethyl Benzene.
A TWA of 100 ppm (434 mg/m3) and a STEL of 150 ppm (651 mg/m3) for Xylene, with an A4 designation.
A TWA of 50 ppm (246 mg/m3) for Cumene.
Vendor RECOMMENDS THE FOLLOWING OCCUPATIONAL EXPOSURE LIMITS: a TWA of 100 mg/m3 (19 ppm) based on total hydrocarbon.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

SPECIFIC GRAVITY at Deg F:	0.87 at 60
DENSITY at Deg F:	7.3 lbs/gal at 60
VAPOR PRESSURE, mmHg at Deg F:	2.09 at 68 Approximate
SOLUBILITY IN WATER, wt. % at Deg F:	0.02 at 77 Calculated
VISCOSITY OF LIQUID, cSt at Deg F:	0.9 at 77 Approximate
SP. GRAY. OF VAPOR, at 1 atm (Air=1):	4.47
FREEZING/MELTING POINT, Deg F:	7
EVAPORATION RATE, n-Bu Acetate=1:	0.3
BOILING POINT, Deg F:	318 to 338

SECTION 10 STABILITY AND REACTIVITY

STABILITY:
Stable

CONDITIONS TO AVOID INSTABILITY:
Not applicable

HAZARDOUS POLYMERIZATION:
Will not occur

CONDITIONS TO AVOID HAZARDOUS POLYMERIZATION:
Not Applicable

MATERIALS AND CONDITIONS TO AVOID INCOMPATIBILITY:
Nitric acid, sulfuric acid, strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS:
None

SECTION 11 TOXICOLOGICAL INFORMATION

Please refer to Section 3 for available information on potential health effects.

SECTION 12 ECOLOGICAL INFORMATION

No specific ecological data are available for this product. Please refer to Section 6 for information regarding accidental releases and Section 15 for regulatory reporting information.

SECTION 13 DISPOSAL CONSIDERATIONS

Please refer to Sections 5, 6 and 15 for disposal and regulatory information.

SECTION 14 TRANSPORT INFORMATION

DEPARTMENT OF TRANSPORTATION (DOT):
DOT SHIPPING DESCRIPTION: PETROLEUM DISTILLATE, N.O.S., COMBUSTIBLE LIQUID UN 1268, III
Note: In containers of 119 gallons capacity or less this product is not regulated by DOT.

SECTION 15 REGULATORY INFORMATION

TSCA:
This product is listed on the TSCA Inventory as a UVCB (Unknown, Variable Composition or Biological) Chemical at CAS Registry Number 64742-95-6 Clean Water Act/Oil Pollution Act:
This product is classified as an oil under Section 311 of the Clean Water Act (40 CFR 110) and the Oil Pollution Act of 1990. Discharge or spills which produce a visible sheen on either surface water, or in waterways/sewers which lead to surface water, must be reported to the National Response Center at 800-424-8802.

CERCLA:
This product, as sold, is derived from a fraction of crude oil and is excluded from the spill reporting requirements by CERCLA Section 101(14)(F). When this product is used in a mixture or as an ingredient in another product or in a manufacturing operation, the petroleum exclusion may terminate and an accidental spill may require reporting to the National Response Center at 800-424-8802.
This product contains approximately 2.2% of Xylene.
The RQ for Xylene is 100 pounds.
This product contains approximately 2% of Cumene.
The RQ for Cumene is 5,000 pounds.

SARA TITLE III:
Under the provisions of Title III, Sections 311/312 of the Superfund Amendments and Reauthorization Act, this product is classified into the following hazard categories:
Delayed Health, Fire.
This information may be subject to the provisions of the Community Right-to-Know Reporting Requirements (40 CFR 370) if threshold quantity criteria are met.
This product contains the following Section 313 Reportable Ingredients:

COMPONENT	CAS #	MAX. %
1,2,4-Trimethylbenzene	95-63-6	32.0
Xylene	1330-20-7	2.2 – VHAP
Cumene	98-82-8	1.5 – VHAP

SECTION 16 OTHER INFORMATION

NOTES:
Contains approximately 25 ppm BHT as an antioxidant to protect product quality.

HAZARD RATING SYSTEMS:
This information is for people trained in:
National Paint & Coatings Association's (NPCA)
Hazardous Materials Identification System (HMIS)
National Fire Protection Association (NFPA 704)

Identification of the Fire Hazards of Materials

	NPCA-HMIS	NFPA 704	KEY
HEALTH	1	1	4= Severe
FLAMMABILITY	2	2	3= Serious
REACTIVITY	0	0	2= Moderate
			1= Slight
			0= Minimal

CAUTION: HMIS ratings are based on a 0-4 rating scale with 1 representing minimal hazards or risks, and 4 representing significant hazards or risks. Recommended HMIS ratings should not be used in the absence of a fully implemented HMIS hazard communication program.

---------- FOR ADDITIONAL INFORMATION ----------

CONTACT: MSDS COORDINATOR UNIVAR USA INC.
DURING BUSINESS HOURS, PACIFIC TIME (425)889-3400

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