



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

375 Beale Street, Suite 600, San Francisco, CA 94105 (415) 749-4990 FAX (415) 749-5030
www.baaqmd.gov

Form G is for general air pollution sources. Use specific forms when applicable. If this source burns fuel, then also complete Form C.

- 1. Business Name: Plant No:
2. SIC No.: Date of Initial Operation
3. Name or Description: Source No.: S-
4. Make, Model, and Rated Capacity of Equipment:
5. Process Code1 Material Code2 Usage Unit2
6. Total throughput, last 12 mos. usage units2 Maximum operating rate: usage units2 /hr
7. Typical % of total throughput: Dec-Feb % Mar-May % Jun-Aug % Sep-Nov %
8. Typical operating times: hrs/day days/week weeks/year
9. For batch or cyclic processes: minutes/cycle minutes between cycles
10. Exhaust gases from source: Wet gas flowrate cfm at F
(at maximum operation) Approximate water vapor content volume%

EMISSION FACTORS (at maximum operating rate)

If this form is being submitted as part of an application for an authority to construct, completion of the following table is mandatory. If not, and the Source is already in operation, completion of the table is requested but not required.

If this source also burns fuel, do not include those combustion products in the emission factors below; they are accounted for on Form C. If source test or other data are available for composite emissions only, estimate from those data the emissions attributable to just the general process and show below.

Check box if factors apply to emissions after Abatement Device(s).

Table with 2 columns: Emission Factors lb/Usage Unit 2, Basis Code 3. Rows include Particulate, Organics, Nitrogen Oxides, Sulfur Dioxide, Carbon Monoxide, and Other.

18. With regard to air pollutant flow from this source, what sources(s), abatement device(s) and/or emission point(s) are immediately downstream?

S- S- S- A- A- A-
P- P- P- P- P-

1See Tables G-1 through G-7 for code
3See Basis Code Table below

2See Table G5 or the Material Codes Table (available upon request)

Person completing this form: Date:

Basis Code	
Codes	Method
0	Not applicable for this pollutant
1	Source Testing or other measurement <i>by plant</i>
2	Source Testing or other measurement <i>by BAAQMD</i>
3	Specification from vendor
4	Material balance <i>by plant</i> using engineering expertise and knowledge of process
5	Material balances <i>by BAAQMD</i> using engineering expertise and knowledge of process
6	Taken from AP-42 ("Compilation of Air Pollutant Emission Factors," E.P.A.)
7	Taken from literature, other than AP-42
8	Guess

Process Code Tables for General Air Pollution Sources (Data Form G)	
Table	Process
G-1	Food & Agricultural
G-3	Metallurgical (Secondary Metals)
G-4	Mineral
G-5	Petroleum Refining
G-7	Chemical/Other
G-8	Miscellaneous
G-9	Fugitive Emissions

**TABLE G-1
FOOD AND AGRICULTURAL PROCESSES**

<u>CODE</u>	<u>PROCESS</u>
1028	Aging
1001	Brewing
1022	Cleaning
1021	Conveying/transferring
1003	Cooking
1020	Cooling/stoning
1004	Cotton ginning - cleaner
1005	Cotton ginning - stick/burr machine
1006	Cotton ginning - unloading fan
1026	Dehydration
1007	Direct fired kiln
1008	Direct fired roaster
1016	Dryer - rotary
1019	Dryer - spray
1023	Dryer - other
1009	Drying tower
1030	Extraction - mechanical
1029	Extraction - solvent
1027	Fermentation
1014	Grinding
1010	Indirect fired kiln
1011	Indirect fired roaster
1007	Kiln - direct fired
1010	Kiln - indirect fired
1012	Liquor aging
1013	Meat smoker
1024	Milling
1036	Mixing/blending
1025	Oven baking
1035	Packaging
1030	Pressing - extraction
1031	Pressing - other
1015	Prilling
1008	Roaster - direct fired
1011	Roaster - indirect fired
1016	Rotary dryer
1017	Screening
1018	Shipping & receiving
1019	Spray dryer
1032	Sterilization - food/pharmaceutical products
1020	Stoning/cooling
1034	Storage
1033	Sulfuring - fruit/food stuff
1021	Transferring/conveying
1999	Other/not specified

TABLE G-3

METALLURGICAL (SECONDARY METALS)

DRYING (Kilns/Dryers/Ovens)

3002 Calcining kiln
 3003 Concentrate dryer
 3004 Oxide kiln
 3005 Other/not specified

FURNACES

3030 Bake furnace
 3007 Blast furnace
 3008 Casting furnace
 3009 Crucible furnace
 3010 Cupola
 3011 Cupola furnace
 3012 Electric arc furnace
 3013 Flux furnace
 3014 Heat treating furnace
 3015 Horizontal muffle furnace
 3016 Induction furnace
 3017 Open hearth furnace
 3018 Open hearth furnace w/ oxygen lance
 3019 Pot furnace
 3020 Retort furnace
 3059 Reverberatory - rotary
 3022 Reverberatory - sweat
 3021 Reverberatory - other
 3023 Rotary furnace - non-reverberatory
 3024 Smelt-crucible furnace
 3025 Smelt-reverberatory furnace
 3026 Sweating furnace
 3027 Other/not specified

MATERIAL HANDLING/MISCELLANEOUS

3062 Abrasives blasting
 3078 Alodyning
 3029 Annealing
 3065 Annealing - continuous
 3063 Anodizing
 3069 Buffing/polishing
 3031 Can making operations
 3046 Casting - miscellaneous
 3033 Chlorination station
 3062 Cleaning - abrasives blasting
 3034 Cleaning - chemical
 3076 Conveying
 3068 Crushing/shredding
 3035 Drawing
 3036 Drilling
 3037 Extruding

3047 Fabricating - miscellaneous
 3039 Finishing - soak pit
 3038 Finishing - other/not specified
 3040 Foil converting
 3041 Foil rolling
 3042 Galvanizing
 3043 Grinding
 3044 Honing
 3045 Lead oxide manufacturing
 3067 Machine shop operations
 3061 Milling/turning
 3046 Miscellaneous casting
 3047 Miscellaneous fabricating
 3048 Mixing
 3064 Non-destructive coating
 3049 Paste mixer (lead batteries)
 3072 Pickling
 3050 Pitch treating (furnace electrode mfg)
 3051 Plating (not chrome)
 3070 Plating dec chrome-hexavalent <=500,000
 amphr
 3080 Plating dec chrome-hexavalent >500,000
 amphr
 3079 Plating dec chrome-trivalent
 3071 Plating hard chrome-hexavalent
 3081 Plasma metal application (thermal spraying)
 3052 Reaming
 3073 Refining
 3053 Rolling
 3054 Sand handling
 3055 Sanding
 3056 Sawing
 3077 Screening
 3060 Sintering
 3075 Soldering
 3057 Storage
 3074 Ventilation
 3066 Welding
 3999 Other/not specified

TABLE G-4

MINERAL PROCESSES

DRYING (Kilns/Dryers/Ovens)

4002 Calcimatic kiln
 4082 Cement calcining kiln
 4003 Coke dryer
 4004 Curing oven
 4005 Fluidized bed kiln
 4006 Rotary dryer
 4070 Rotary kiln
 4007 Vertical kiln
 4008 Other/not specified

FURNACES

4010 Cupola
 4012 Electric furnace
 4011 Electric induction furnace
 4013 Reverberatory furnace - other
 4014 Reverberatory furnace - recupex
 4015 Reverberatory furnace - regenex
 4071 Rotary - non-reverberatory
 4016 Soda lime genl furnace (glass manufacturing)
 4072 Vertical furnace - other
 4017 Other/not specified

MATERIAL HANDLING/MISCELLANEOUS

4073 Abrasives blasting
 4019 Asphalt blowing
 4020 Asphalt dipping
 4077 Asphalt mixing - batch/continuous
 4078 Asphalt mixing - rotary drum
 4021 Asphalt spraying
 4022 Bagging
 4073 Blasting - abrasives cleaning
 4023 Blasting - quarry
 4024 Blow chamber
 4075 Calcining
 4025 Coal cleaning - therm/flash
 4026 Coal cleaning - therm/fluid bed
 4027 Coal cleaning - therm/multi low pd
 4028 Concrete batching - asbestos/cement products
 4029 Concrete batching - other
 4030 Conveying
 4031 Cooling
 4032 Crushing
 4033 Drying (open air)
 4034 Electric arc melting
 4035 Fiberizing

4036 Forming line (fiberglass manufacturing)
 4037 Furnace room venting
 4074 Glass enamel spraying
 4038 Glass manufacturing - batching
 4039 Glass manufacturing - material receiving
 4040 Glass manufacturing - material storage
 4041 Glass manufacturing - mixing
 4042 Glass manufacturing - molten holding tanks
 4043 Glass manufacturing - other/not specified
 4044 Grinding
 4045 Hold/shakeout
 4046 Hydrator
 4079 Loading - feed/surge/weigh bins
 4080 Loading/unloading (non-mining/quarry)
 4047 Milling
 4048 Mining/quarry - cobbing
 4053 Mining/quarry - crushing (primary)
 4054 Mining/quarry - crushing (secondary)
 4069 Mining/quarry - crushing (tertiary)
 4061 Mining/quarry - loading/unloading
 4049 Mining/quarry - open pit blasting
 4050 Mining/quarry - open pit cobbing
 4051 Mining/quarry - open pit drilling
 4052 Mining/quarry - ore concentrating
 4055 Mining/quarry - stockpiling
 4056 Mining/quarry - stripping
 4057 Mining/quarry - surface blasting
 4058 Mining/quarry - surface drilling
 4059 Mining/quarry - tailing piles
 4060 Mining/quarry - tailings
 4062 Mining/quarry - ventilating
 4068 Mining/quarry - other
 4081 Mixing operations
 4063 Road surfacing
 4073 Sand blasting
 4064 Screening
 4065 Sintering
 4066 Stone cutting
 4067 Storage - contained
 4076 Storage - open
 4037 Venting - furnace room
 4099 Other/not specified

TABLE G-5
PETROLEUM REFINING PROCESSES

<u>CODE</u>	<u>PROCESS</u>	<u>CODE</u>	<u>MATERIAL</u>	<u>USAGE UNITS</u>
5040	Air Stripping/DAF processing	300	Waste Water	1000 barrels
5030	Alkylation	195	Hydrocarbons - olefinic	1000 barrels feed
5001	Asphalt oxidizer	30	Asphalt	tons processed
5002	Blow-down system - w/ controls	340	Crude oil *	1000 bbl/day ref cap
5003	Blow-down system - w/o controls	340	Crude oil *	1000 bbl/day ref cap
5004	Catalytic reforming	342	Cat reformer fresh feed	1000 barrels fresh feed
5023	Chemical treating - other	239	Feedstock	1000 barrels
5038	Coke storage piles (open)	80	Coke	tons
5025	Converting - other/not specified	239	Feedstock	1000 barrels
5005	Cooling tower	428	Water - brackish/sea	1000 gallons
5005	Cooling tower	415	Water - fresh	1000 gallons
5005	Cooling tower	300	Waste Water	1000 barrels
5018	Delayed coking	343	Delayed coke product	tons produced
5027	Distillation - crude	89	Crude oil	1000 barrels
5032	Distillation - vacuum	339	Vacuum distillation feed	1000 barrels
5028	Distillation - other	239	Feedstock	1000 barrels
5034	Flexicoking	346	Coker fresh feed	1000 barrels fresh feed
5007	Fluid cat cracker	344	FCC fresh feed	1000 barrels fresh feed
5008	Fluid coking - cooling	345	Fluid coke product	tons produced
5009	Fluid coking - general	346	Coker fresh feed	1000 barrels fresh feed
5010	Fluid coking - storage	345	Fluid coke product	tons produced
5011	Fluid coking - transportation	345	Fluid coke product	tons produced
5021	Hydrocracking	239	Feedstock	1000 barrels
5026	Hydrogen manufacturing	50	C1-C2 paraffins	million cubic feet
5026	Hydrogen manufacturing	52	C3+ paraffins	1000 barrels feed
5026	Hydrogen manufacturing	188	Naphtha	1000 barrels feed
5022	Hydrotreating/hydrofining	239	Feedstock	1000 barrels
5031	Isomerization	52	C3+ paraffins	1000 barrels feed
5039	Marine loading/unloading berths	80	Coke	tons
5017	Oil-water separator	300	Waste water	1000 barrels
5017	Oil-water separator	427	Process water	1000 gallons
5024	Polymerization	195	Hydrocarbons - olefinic	1000 barrels feed
5012	Process drain - w/controls	442	Waste water - sour	1000 barrels
5012	Process drain - w/controls	300	Waste water	1000 barrels
5013	Process drain - w/o controls	442	Waste water - sour	1000 barrels
5013	Process drain - w/o controls	300	Waste water	1000 barrels
5017	Separator - oil/water	300	Waste water	1000 barrels
5017	Separator - oil/water	427	Process water	1000 gallons
5014	Sludge converter	347	Sludge	tons produced
5029	Solvent extraction	***	(use specific Materials Code)	
5037	Sour water stripping	442	Waste water - sour	1000 barrels
5035	Sulfur removal - other/caustic	238	Refinery fuel gas	million cubic feet
5019	Thermal cracking	446	Thermal cracker fresh feed	1000 barrels feed
5020	Thermal processing - other	446	Thermal cracker fresh feed	1000 barrels feed
5032	Vacuum distillation	339	Vacuum distillation feed	1000 barrels
5015	Vacuum jet - w/ controls	339	Vacuum distillation feed	1000 barrels
5016	Vacuum jet - w/o controls	339	Vacuum distillation feed	1000 barrels
5033	Wastewater storage - ponds	300	Waste water	1000 gallons
5036	Wastewater storage - tanks	300	Waste water	1000 gallons
5993	Other/not specified	80	Coke	tons
5994	Other/not specified	89	Crude oil	1000 barrels
5995	Other/not specified	239	Feedstock	1000 barrels feed
5997	Other/not specified	339	Vacuum distillation feed	1000 barrels
5998	Other/not specified	338	Waste gases	million cubic feet
5999	Other/not specified	321	Other petroleum products	1000 gallons

NOTE: Each process listed in Table G-5 has a specific material associated with it for use on the G-Form.
*Code 340 for crude oil for these processes must be used; emissions are dependent on total refinery capacity rather than on throughput. Use code 89 for crude oil in any other process.

TABLE G-7

CHEMICAL PROCESSES

7019	Air blow ml brine	7065	Phosphoric acid manufacturing - thermal
7020	Ammoniating	7066	Phosphoric acid manufacturing - wet process
7016	Ammonium sulfate mfg - NH ₃ /H ₂ SO ₄ proc	7147	Phosphoric acid manufacturing - other
7018	Ammonium sulfate mfg - coke oven byprdcnts	7154	Photographic equipment
7131	Biological oxidation	7067	Pressure treating - other
7021	Bodying oil	7068	Prilling
7022	Boiling tub	7153	Process tank
7023	Brine evaporation	7071	Pulpboard manufacturing
7096	Calcining - rotary kiln	7072	Pyrolysis
7024	Calcining - other	7073	Reactor - other/not specified
7030	Carbon black manufacturing - other process	7074	Regenerator
7132	Carbon dioxide liquifaction plant	7075	Rubberized fabric mfg - hot melt coating
7031	Carpet operation	7076	Rubberized fabric mfg - impregnation
7032	Caulking	7077	Rubberized fabric mfg - wet coating
7998	Chemical reaction - other/not specified	7078	Rubberized fabric mfg - other/not spec
7173	Chemical reactor – greater than 1000 gallons	7080	Scrubber
7073	Chemical reactor - other/not specified	7081	Seelite exhaust
7055	Claus - modified 2 stage	7160	Separating – DAF processing
7056	Claus - modified 3 stage	7103	Separating - oil/water
7057	Claus - modified 4 stage	7098	Separating - other
7033	Condensing	7290	Sewage - Digesters
7155	Contaminated ground water stripping	7270	Sewage - Disinfection
7156	Contaminated soil remediation	7230	Sewage - Flow equalization
7034	Cooking	7210	Sewage - Preliminary treatment
7035	Creosote pressure treating	7220	Sewage - Primary treatment
7114	Crystallizing	7300	Sewage - Reclamation
7036	Cyclohex - general	7250	Sewage - Secondary clarifiers
7151	Dipping/cleaning tank	7240	Sewage - Secondary treatment
7037	Distillation	7280	Sewage - Sludge handling processes
7133	Etching	7260	Sewage - Tertiary treatment
7038	Ethylene dichloride mfg - direct chlorination	7200	Sewage - Wastewater treatment plant
7039	Ethylene dichloride mfg - oxychlorination	7058	Sodium carbonate Solvay - NH ₃ recovery
7023	Evaporation - brine	7059	Sodium carbonate Solvay - handling
7110	Evaporation - other	7060	Sodium carbonate Trona - calcining
7040	Fabrics manufacturing - bleaching	7061	Sodium carbonate Trona - dryer
7041	Fabrics manufacturing - yarn prep	7146	Sterilization - medical equipment
7042	Fabrics manufacturing - other/not specified	7089	Sulfate pulping - other/not specified
7152	Feed/holding tank	7082	Sulfate pulping - blow tank accumulator
7158	Gas collection system	7083	Sulfate pulping - fluidbed calciner
7044	Gas purging	7084	Sulfate pulping - liquor oxidation tower
7046	Gypsum pond	7085	Sulfate pulping - mult-effect evaporation
7130	Hydrochloric acid manufacturing	7086	Sulfate pulping - smelt dissolv tank
7148	Hydrochloric acid regeneration	7087	Sulfate pulping - turpentine condenser
7043	Injection – NO _x control system	7088	Sulfate pulping - washer/screen
7144	Laboratory	7090	Sulfite pulping - digester
7145	Landfill with gas collection system	7091	Sulfite pulping - evaporator
7159	Landfill without gas collection system	7092	Sulfite pulping - liquor recovery
7132	Liquifaction - CO ₂ plant	7093	Sulfite pulping - pulp digester
7053	Liquifaction - diaphragm	7094	Sulfite pulping - smelt tank
7054	Liquifaction - merc cell	7095	Sulfite pulping - other/not specified
7055	Mod-Claus 2 stage	7047	Sulfuric acid mfg - chamber process
7056	Mod-Claus 3 stage	7048	Sulfuric acid mfg - contact process
7057	Mod-Claus 4 stage	7050	Sulfuric acid mfg - other/not specified
7097	Neutralizing	7049	Sulfuric acid regenerators
7062	Nitration reactors	7157	Tank/drum/container cleaning
7051	Nitric acid - paraxylen gen	7073	Other chemical - reactor
7052	Nitric acid concentrators	7998	Other chemical reaction - other/not spec
7063	Nitric acid mfg - ammonia oxid new	7999	Other process/not specified
7064	Nitric acid mfg - ammonia oxid old	7353	Sub Slab Depressurization
7131	Oxidation, biological		

**TABLE G-8
MISCELLANEOUS PROCESSES**

DRYING (Dehydration/Kilns/Dryers/Ovens)		7164	Composting - windows
7006	Natural gas dehydrating	7165	Composting - aerated static piles
7002	Pigment drying	7166	Composting - in-vessel
7003	Spray drying	7105	Cooling - pond
7004	Veneer drying	7104	Cooling - tower
7005	Drying - other/not specified	7106	Cooling - other
MATERIAL HANDLING		8011	Crematory retort
7116	Bagging/packaging	8003	Expanders - plastics, other
8007	Coke storage pile	8004	Extruders - plastics, other
7007	Drying	7045	Granulating
7045	Granulating	7143	Insulation stripping - wire
7008	Grinding	7143	Laser-stripping - wire insulation
7009	Loading - storage tank	7170	Latex dipping
7010	Loading - tank car	8005	Material working equipment - plastics, other
7108	Milling	7111	Molding/curing - plastics
7011	Mixing	7112	Molding/curing - rubber
7115	Pelletizing	7113	Molding/curing - other/not specified
7017	Pumping facility - organic liquids	8002	Oven
7012	Sanding	8006	Paper/paperboard handling equipment
7014	Storage	7109	Sand blasting
7013	Material handling - other/not spec	7079	Sawmill operation
MISCELLANEOUS		8008	Screening/Separating
7109	Abrasives blasting	8009	Shredding/Mangling/Cutting
7109	Cleaning - abrasives blasting	8012	Waste material grinding
8001	Coating operation - powder, other non-solvent	7161	Wastewater – industrial storage ponds
8010	Conveying	7143	Wire insulation stripping - laser
		7107	Woodworking - other/not specified
		8999	Other process - not specified

**TABLE G-9
FUGITIVE EMISSION SOURCES**

FUGITIVE EMISSIONS	
9000	Combined fugitive emission sources
9010	Refinery flaring/blowdown
9070	Refinery pressure relief valves
9080	Refinery process drains
9040	Refinery process vessels
9060	Refinery pumps/compressors
9030	Refinery vacuum products
9050	Refinery valves/flanges