

San Joaquin Valley
Air Pollution Control District

APR – 1905

Risk Management Policy for Permitting New and Modified Sources

Approved By: 	Date: <u>May 28, 2015</u>
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I. Background

Public exposure to toxic substances is an issue of prime concern in California and the United States as a whole. There is an ever increasing public demand to control carcinogenic and noncarcinogenic toxic substances. Concern is particularly strong in regard to carcinogens, because exposure to even trace amounts of a carcinogen (even at the sub-parts billion level) carries with it a potential cancer risk to the public.

II. Purpose

The goal of risk management is to reduce public exposure to toxic air contaminants to a level as low as reasonably achievable. This level is determined by weighing all relevant scientific, technological, social, and economic factors.

The purpose of this risk management policy is to minimize the increase that new or modified stationary sources add to the existing toxic load in the public's breathing air. Therefore, the provisions of this policy are only to be used in evaluating permit applications for new and modified stationary sources. This policy is not intended as a means of reducing total public exposure to toxic substances in the air from all sources. A reduction in overall public exposure will require a coordinated effort by Federal, State, and local agencies and is beyond the scope of this Risk Management Policy.

III. Applicability

This policy is intended as a risk management guidance to be used by the District and/or applicants in evaluating permit applications for sources of hazardous air emissions. It applies only to new and modified stationary sources, as defined in District Rule 2201.

IV. Authority

The Air Pollution Control District is given Authority under Health and Safety Code Section 41700 to protect the public from the discharge of air contaminants or other materials which endanger health and safety. Such air contaminants or materials shall hereafter be referred to in these guidelines as hazardous air pollutants.

V. Definitions

- A. **Hazardous Air Pollutant:** is a substance included in lists prepared by the California Air Resources Board (ARB) pursuant to Section 44321 of the California Health and Safety Code (Attachment I) that has an Office of Environmental Health Hazard Assessment (OEHHA) approved health risk value.
- B. **Potential to Emit:** is the maximum capacity of an emissions unit to emit a hazardous air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including pollution control equipment and restrictions in hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design only if the limitation or the effect it would have on emissions is incorporated into the applicable permit as an enforceable permit condition.
- C. **Toxic Best Available Control Technology (T-BACT):** is the most stringent emission limitation or control technique for hazardous air pollutants of the following:
 - 1. Has been achieved in practice for such emissions unit and class of source; or
 - 2. Is contained in any State Implementation Plan approved by the Environmental Protection Agency for such emissions unit category and class of source. A specific limitation or control technique shall not apply if the owner or operator of the proposed emissions unit demonstrates to the satisfaction of the APCO that such limitation or control technique is not presently achievable; or
 - 3. Is contained in any Federal Standard promulgated pursuant to FCAA Section 111 (NAPS) or Section 112 (MACT) for such emissions unit category and class of source; or
 - 4. Is any other emission limitation or control technique, including process and equipment changes of basic or control equipment, found by the APCO to be technologically feasible for such class or category of sources or for a specific source, and cost effective as determined by the District.

VI. Standards for New and Modified Sources of Hazardous Air Pollutants

The District shall deny any application for an Authority to Construct or Permit to Operate for a new or modified stationary source that does not or will not comply with the requirements of Section VII of this policy.

VII. Requirements for New and Modified Sources

- A. In order to control emissions of hazardous air pollutants to the maximum level achievable, applicants must apply Toxic Best Available Control Technology (T-BACT) to each new and modified emissions units with:
1. A greater than *de minimus* increase in cancer risk; or

(A *de minimus* increase in cancer risk is an increase in risk of one (1) per million, as determined in section VIII of this policy.)
 2. A greater than *de minimus* increase in noncancer risk;

(A *de minimus* increase in noncancer risk is an increase in the hazard index of one (1), as determined in Section VIII of this policy.)
- B. New sources or modification projects shall not result in a significant increase in cancer risk, except as provided in Section IX (Discretionary Approval) below. A significant increase in cancer risk is an increase in the Maximum Excess Cancer Risk of at least twenty (20) in one million as determined in section VIII of this policy.
- C. New sources or modification projects shall not result in a significant increase in noncancer risk, except as provided in Section IX (Discretionary Approval) below. A significant increase in noncancer risk is an increase in the hazard index of at least one (1) as determined in Section VIII of this policy.

VIII. Evaluation of Risk

All projects resulting in increases in hourly, daily, or annual potential to emit hazardous air pollutants, except projects specifically exempted from risk review in approved District permitting policies, shall undergo public health risk evaluation as a part of the permit review process prior any final decision on Authority to Construct or Permits to Operate. Additionally, any project that may result in an increase in health risk due to a change in mode or time of operation (e.g., a proposal to allow an emergency engine to operate for non-emergency purposes in conjunction with a voluntary utility demand reduction program aimed at reducing demand during peak afternoon periods) shall also undergo a public health risk evaluation as a part of the permit review process prior to a final decision.

A. Prioritization

The health risk evaluation process should begin with prioritization. Projects shall be prioritized using the procedures in the *CAPCOA Facility Prioritization Guidelines*. For determining whether a project is approvable, the cumulative prioritization score must be calculated.

The cumulative prioritization score shall be calculated to include:

1. Prioritization scores for new units proposed in the application that is under review,
2. Prioritization scores for emissions increases from modifications proposed in the application that is under review, and
3. Prioritization scores from previously approved projects for which the District performed or required prioritization or Health Risk Assessment analysis as part of an evaluation for project approval.

If the facility cumulative increase in prioritization score for the project is equal to or less than one (1), the project is approvable with no further assessment, and T-BACT is not required.

B. Health Risk Assessment

Projects with cumulative increases in prioritization score of greater than one (1) require Health Risk Assessments performed in accordance with *OEHHA Risk Assessment Guidelines* or other guidelines issued by the District or OEHHA. A Health Risk Assessment consists of a comprehensive analysis of the dispersion of hazardous substances in the environment, and a quantitative assessment of health risks resulting from exposure to these substances. For determining the applicability of T-BACT requirements, the increase in health risk for the new or modified emissions unit is determined. For determining whether a project is approvable, the cumulative increase in health risk must be considered.

In determining the cumulative increase in health risk, the following risks shall be considered:

1. Risk for new units proposed in the application that is under review,
2. Changes in risk from modifications proposed in the application that is under review, and
3. Risk changes from previously approved projects for which the District performed a health risk assessment as part of the application review process.

C. Calculation of Increase in Permitted Emissions

For the purpose of determining compliance with section VII.A of this policy, the Increase in Permitted Emissions of a hazardous air pollutant is to be determined as the difference between the baseline and proposed Potential to Emit for the pollutant. The District policy defining certain small increases of criteria pollutant emissions as zero does not apply to Hazardous Air Pollutants.

IX. Discretionary Approval of Projects

A. Criteria for Discretionary Approval of Projects

After considering public comments, the Air Pollution Control Officer (APCO) may, based on the analysis included in a specific findings report, approve or conditionally approve a new source or modification project that results in an increase in cancer or noncancer risk above the thresholds specified in Section VII of this policy, providing the APCO determines that:

1. The project will comply the requirements of District Rule 2070 (Standards for Granting Applications);
2. The applicant is proposing Toxic Best Available Control Technology (T-BACT) as required in Section VII.A. of this policy;
3. All technological and economically feasible alternatives have been considered; and
4. The project is either required to meet the mandates of state or federal law, is necessary for the delivery of an essential public service, or will otherwise provide benefits to the community that outweigh any increased risk of adverse health impacts.

B. Specific Findings Report for Discretionary Approval

Each specific findings report prepared in response to a request for discretionary approval shall include:

1. An evaluation of the technical and economic feasibility of using an alternative fuel or process;
2. A site-specific Health Risk Assessment;
3. An evaluation of the design conditions that would be employed to minimize the public's exposure to hazardous emissions;

4. An evaluation of the technical and economic feasibility of emission reduction options that would reduce emissions beyond the minimum technology requirements;
5. A discussion of the uncertainty associated with risk estimates;
6. A discussion of the benefits to the community associated with the proposed project;
7. A discussion of any federal, state, or local mandates that require the proposed project;
8. A discussion of the increase in risk relative to ambient levels; and
9. A discussion of any impacts of the proposed project on media other than air.

C. Public Notice Requirements for Discretionary Approval

The District shall provide 30 days public notice of any proposal for discretionary approval of a project. The written notice shall be provided to interested parties and be published in a newspaper of general circulation. The notice shall describe the preliminary decision of the APCO, note how pertinent information can be obtained, and invite written public comment for a period of 30 days following the publication. During the comment period documents related to the proposal shall be made available for public inspection in accordance with public records and confidentiality requirements of District Regulations and State Law.

The District shall also provide notification of Final Action on any proposals for discretionary approval. The written notice shall be provided to interested parties and be published in a newspaper of general circulation.

ATTACHMENT I – TOXIC AIR CONTAMINANTS WITH OEHHA RISK VALUES

The list of substances with OEHHA risk values presented below is from ARB's *Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values* dated July 3, 2014. The latest version can be obtained from ARB at <http://www.arb.ca.gov/toxics/healthval/healthval.htm>.

Substance	Chemical Abstract Number
ACETALDEHYDE	75-07-0
ACETAMIDE	60-35-5
ACROLEIN	107-02-8
ACRYLAMIDE	79-06-1
ACRYLIC ACID	79-10-7
ACRYLONITRILE	107-13-1
ALLYL CHLORIDE	107-05-1
2-AMINOANTHRAQUINONE	117-79-3
AMMONIA	7664-41-7
ANILINE	62-53-3
ARSENIC AND COMPOUNDS (INORGANIC) ^{TAC}	7440-38-2 1016 [1015]
ARSINE	7784-42-1
ASBESTOS ^{IAC}	1332-21-4
BENZENE ^{IAC}	71-43-2
BENZIDINE (AND ITS SALTS) <i>values also apply to:</i>	92-87-5
<i>Benzidine based dyes</i>	1020
<i>Direct Black 38</i>	1937-37-7
<i>Direct Blue 6</i>	2602-46-2
<i>Direct Brown 95 (technical grade)</i>	16071-86-6
BENZYL CHLORIDE	100-44-7
BERYLLIUM AND COMPOUNDS	7440-41-7 [1021]
BIS(2-CHLOROETHYL) ETHER (Dichloroethyl ether)	111-44-4
BIS(CHLOROMETHYL) ETHER	542-88-1
BROMINE AND COMPOUNDS	7726-95-6 [1040]
POTASSIUM BROMATE	7758-01-2
1,3-BUTADIENE ^{IAC}	106-99-0
CADMIUM AND COMPOUNDS ^{TAC}	7440-43-9 [1045]
CAPROLACTAM	105-60-2
CARBON DISULFIDE	75-15-0
CARBON MONOXIDE	630-08-0
CARBON TETRACHLORIDE ^{IAC} (Tetrachloromethane)	56-23-5

Substance	Chemical Abstract Number
CHLORINATED PARAFFINS	108171-26-2
CHLORINE	7782-50-5
CHLORINE DIOXIDE	10049-04-4
4-CHLORO-O-PHENYLENEDIAMINE	95-83-0
CHLOROBENZENE	108-90-7
CHLOROFORM ^{1AC}	67-66-3
<i>Chlorophenols</i>	<i>1060</i>
PENTACHLOROPHENOL	87-86-5
2,4,6-TRICHLOROPHENOL	88-06-2
CHLOROPICRIN	76-06-2
p-CHLORO-o-TOLUIDINE	95-69-2
CHROMIUM 6+ ^{1AC} <i>values also apply to</i>	<i>18540-29-9</i>
<i>Barium chromate</i>	<i>10294-40-3</i>
<i>Calcium chromate</i>	<i>13765-19-0</i>
<i>Lead chromate</i>	<i>7758-97-6</i>
<i>Sodium dichromate</i>	<i>10588-01-9</i>
<i>Strontium chromate</i>	<i>7789-06-2</i>
CHROMIUM TRIOXIDE (as chromic acid mist)	1333-82-0
COPPER AND COMPOUNDS	7440-50-8 [1067]
p-CRESIDINE	120-71-8
CRESOLS (mixtures of)	1319-77-3
m-CRESOL	108-39-4
o-CRESOL	95-48-7
p-CRESOL	106-44-5
CUPFERRON	135-20-6
<i>Cyanide Compounds (inorganic)</i>	<i>57-12-5</i> <i>1073</i>
HYDROGEN CYANIDE (Hydrocyanic acid)	74-90-8
2,4-DIAMINOANISOLE	615-05-4
2,4-DIAMINOTOLUENE	95-80-7
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8
p-DICHLOROBENZENE	106-46-7
3,3-DICHLOROBENZIDINE	91-94-1
1,1,-DICHLOROETHANE (Ethylidene dichloride)	75-34-3
1,1-DICHLOROETHYLENE ... (see Vinylidene Chloride)	
DI(2-ETHYLHEXYL)PHTHALATE (DEHP)	117-81-7
DIESEL EXHAUST (see Particulate Emissions from Diesel-Fueled Engines)	
DIETHANOLAMINE	111-42-2
p-DIMETHYLAMINOAZOBENZENE	60-11-7

Substance	Chemical Abstract Number
N,N-DIMETHYL FORMAMIDE	68-12-2
2,4-DINITROTOLUENE	121-14-2
1,4-DIOXANE (1,4-Diethylene dioxide)	123-91-1
EPICHLOROHYDRIN (1-Chloro-2,3-epoxypropane)	106-89-8
1,2-EPOXYBUTANE	106-88-7
ETHYL BENZENE	100-41-4
ETHYL CHLORIDE (Chloroethane)	75-00-3
ETHYLENE DIBROMIDE ^{IAC} (1,2-Dibromoethane)	106-93-4
ETHYLENE DICHLORIDE ^{IAC} (1,2-Dichloroethane)	107-06-2
ETHYLENE GLYCOL	107-21-1
ETHYLENE GLYCOL BUTYL ETHER ... (see Glycol ethers)	
ETHYLENE OXIDE ^{IAC} (1,2-Epoxyethane)	75-21-8
ETHYLENE THIOUREA	96-45-7
Fluorides	1101
HYDROGEN FLUORIDE (Hydrofluoric acid)	7664-39-3
FORMALDEHYDE ^{IAC}	50-00-0
GLUTARALDEHYDE	111-30-8
GLYCOL ETHERS	1115
ETHYLENE GLYCOL BUTYL ETHER - EGBE	111-76-2
ETHYLENE GLYCOL ETHYL ETHER - EGEE	110-80-5
ETHYLENE GLYCOL ETHYL ETHER ACETATE - EGEEA	111-15-9
ETHYLENE GLYCOL METHYL ETHER - EGME	109-86-4
ETHYLENE GLYCOL METHYL ETHER ACETATE - EGMEA	110-49-6
HEXACHLOROBENZENE	118-74-1
HEXACHLOROCYCLOHEXANES (mixed or technical grade)	608-73-1
alpha-HEXACHLOROCYCLOHEXANE	319-84-6
beta-HEXACHLOROCYCLOHEXANE	319-85-7
gamma-HEXACHLOROCYCLOHEXANE (Lindane)	58-89-9
n-HEXANE	110-54-3
HYDRAZINE	302-01-2
HYDROCHLORIC ACID (Hydrogen chloride)	7647-01-0
HYDROGEN BROMIDE ... (see Bromine & Compounds)	
HYDROGEN CYANIDE ... (see Cyanide & Compounds)	
HYDROGEN FLUORIDE ... (see Fluorides & Compounds)	

Substance	Chemical Abstract Number
HYDROGEN SELENIDE ... (see Selenium & Compounds)	
HYDROGEN SULFIDE	7783-06-4
ISOPHORONE	78-59-1
ISOPROPYL ALCOHOL (Isopropanol)	67-63-0
LEAD AND COMPOUNDS ^{IAC} (inorganic) <i>values also apply to:</i>	7439-92-1 1128 [1130]
<i>Lead acetate</i>	301-04-2
<i>Lead phosphate</i>	7446-27-7
<i>Lead subacetate</i>	1335-32-6
LINDANE ... (see gamma-Hexachlorocyclohexane)	
MALEIC ANHYDRIDE	108-31-6
MANGANESE AND COMPOUNDS	7439-96-5 [1132]
MERCURY AND COMPOUNDS (INORGANIC)	7439-97-6 [1133]
<i>Mercuric chloride</i>	7487-94-7
METHANOL	67-56-1
METHYL BROMIDE (Bromomethane)	74-83-9
METHYL tertiary-BUTYL ETHER	1634-04-4
METHYL CHLOROFORM (1,1,1-Trichloroethane)	71-55-6
METHYL ETHYL KETONE (2-Butanone)	78-93-3
METHYL ISOCYANATE	624-83-9
4,4'-METHYLENE BIS (2-CHLOROANILINE) (MOCA)	101-14-4
METHYLENE CHLORIDE ^{IAC} (Dichloromethane)	75-09-2
4,4'-METHYLENE DIANILINE (AND ITS DICHLORIDE)	101-77-9
METHYLENE DIPHENYL ISOCYANATE	101-68-8
MICHLER'S KETONE (4,4'-Bis(dimethylamino)benzophenone)	90-94-8
N-NITROSODI-n-BUTYLAMINE	924-16-3
N-NITROSODI-n-PROPYLAMINE	621-64-7
N-NITROSODIETHYLAMINE	55-18-5
N-NITROSODIMETHYLAMINE	62-75-9
N-NITROSODIPHENYLAMINE	86-30-6
N-NITROSO-N-METHYLETHYLAMINE	10595-95-6
N-NITROSOMORPHOLINE	59-89-2
N-NITROSOPIPERIDINE	100-75-4
N-NITROSOPYRROLIDINE	930-55-2

Substance	Chemical Abstract Number
NAPHTHALENE ... (see Polycyclic aromatic hydrocarbons)	
NICKEL AND COMPOUNDS ^{IAC} <i>values also apply to:</i>	7440-02-0 [1145]
<i>Nickel acetate</i>	373-02-4
<i>Nickel carbonate</i>	3333-67-3
<i>Nickel carbonyl</i>	13463-39-3
<i>Nickel hydroxide</i>	12054-48-7
<i>Nickelocene</i>	1271-28-9
NICKEL OXIDE	1313-99-1
<i>Nickel refinery dust from the pyrometallurgical process</i>	1146
<i>Nickel subsulfide</i>	12035-72-2
NITRIC ACID	7697-37-2
NITROGEN DIOXIDE	10102-44-0
p-NITROSODIPHENYLAMINE	156-10-5
OZONE	10028-15-6
PARTICULATE EMISSIONS FROM DIESEL-FUELED ENGINES ^{TAC}	9901
PENTACHLOROPHENOL ... (see Chlorophenols)	
PERCHLOROETHYLENE (Tetrachloroethylene)	127-18-4
PHENOL	108-95-2
PHOSGENE	75-44-5
PHOSPHINE	7803-51-2
PHOSPHORIC ACID	7664-38-2
PHTHALIC ANHYDRIDE	85-44-9
PCB (POLYCHLORINATED BIPHENYLS) (unspeciated mixture)	1336-36-3
PCB (POLYCHLORINATED BIPHENYLS) (speciated)	
3,3',4,4'-TETRACHLOROBIPHENYL (PCB 77)	32598-13-3
3,4,4',5'-TETRACHLOROBIPHENYL (PCB 81)	70362-50-4
2,3,3',4,4'-PENTACHLOROBIPHENYL (PCB 105)	32598-14-4
2,3,4,4',5'-PENTACHLOROBIPHENYL (PCB 114)	74472-37-0
2,3',4,4',5'-PENTACHLOROBIPHENYL (PCB 118)	31508-00-6
2,3',4,4',5'-PENTACHLOROBIPHENYL (PCB 123)	65510-44-3
3,3',4,4',5'-PENTACHLOROBIPHENYL (PCB 126)	57465-28-8
2,3,3',4,4',5'-HEXACHLOROBIPHENYL (PCB 156)	38380-08-4
2,3,3',4,4',5'-HEXACHLOROBIPHENYL	69782-90-7

Substance	Chemical Abstract Number
(PCB 157)	
2,3',4,4',5,5'- HEXACHLOROBIPHENYL (PCB 167)	52663-72-6
3,3',4,4',5,5'-HEXACHLOROBIPHENYL (PCB 169)	32774-16-6
2,3,3',4,4',5,5'-HEPTACHLOROBIPHENYL (PCB 189)	39635-31-9
POLYCHLORINATED DIBENZO- <i>P</i> -DIOXINS (PCDD) (Treated as 2,3,7,8-TCDD for HRA) ^{TAC}	1085 1086
2,3,7,8-TETRACHLORODIBENZO- <i>P</i> -DIOXIN ^{IAC}	1746-01-6
1,2,3,7,8-PENTACHLORODIBENZO- <i>P</i> -DIOXIN	40321-76-4
1,2,3,4,7,8- HEXACHLORODIBENZO- <i>P</i> -DIOXIN	39227-28-6
1,2,3,6,7,8- HEXACHLORODIBENZO- <i>P</i> -DIOXIN	57653-85-7
1,2,3,7,8,9-HEXACHLORODIBENZO- <i>P</i> -DIOXIN	19408-74-3
1,2,3,4,6,7,8-HEPTACHLORODIBENZO- <i>P</i> - DIOXIN	35822-46-9
1,2,3,4,6,7,8,9-OCTACHLORODIBENZO- <i>P</i> -DIOXIN	3268-87-9
POLYCHLORINATED DIBENZOFURANS (PCDF) ^{IAC} (Treated as 2,3,7,8-TCDD for HRA)	1080
2,3,7,8-TETRACHLORODIBENZOFURAN	5120-73-19
1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6
2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4
1,2,3,4,7,8- HEXACHLORODIBENZOFURAN	70648-26-9
1,2,3,6,7,8- HEXACHLORODIBENZOFURAN	57117-44-9
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9
2,3,4,6,7,8- HEXACHLORODIBENZOFURAN	60851-34-5
1,2,3,4,6,7,8- HEPTACHLORODIBENZOFURAN	67562-39-4
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7
1,2,3,4,6,7,8,9-OCTACHLORODIBENZOFURAN	39001-02-0
POLYCYCLIC AROMATIC HYDROCARBON (PAH) [Treated as B(a)P for HRA]	1150 1151
BENZ(A)ANTHRACENE	56-55-3
BENZO(A)PYRENE	50-32-8
BENZO(B)FLUORANTHENE	205-99-2
BENZO(J)FLUORANTHENE	205-82-3
BENZO(K)FLUORANTHENE	207-08-9
CHRYSENE	218-01-9
DIBENZ(A,H)AC	226-36-8
DIBENZ(A,H)AN	53-70-3
DIBENZ(A,J)ACRIDINE	224-42-0
DIBENZO(A,E)PYRENE	192-65-4
DIBENZO(A,H)PYR	189-64-0
DIBENZO(A,I)PYRENE	189-55-9
DIBENZO(A,L)PYR	191-30-0
7H-DIBENZO(C,G)CARBAZOLE	194-59-2
7,12- DIMETHYLBENZ(A)ANTHRACENE	57-97-6

Substance	Chemical Abstract Number
1,6-DINITROPYRENE	42397-64-8
1,8-DINITROPYRENE	42397-65-9
INDENO(1,2,3-C,D)PYRENE	193-39-5
3-METHYLCHOLANTHRENE	56-49-5
5-METHYLCHRYSENE	3697-24-3
NAPHTHALENE	91-20-3
5-NITROACENAPHTHENE	602-87-9
6-NITROCHRYSENE	7496-02-8
2-NITROFLUORENE	607-57-8
1-NITROPYRENE	5522-43-0
4-NITROPYRENE	57835-92-4
POTASSIUM BROMATE.... ... (see Bromine & Compounds)	
1,3-PROPANE SULTONE	1120-71-4
PROPYLENE (PROPENE)	115-07-1
PROPYLENE GLYCOL MONOMETHYL ETHER	107-98-2
PROPYLENE OXIDE	75-56-9
SELENIUM AND COMPOUNDS	7782-49-2 [1170]
HYDROGEN SELENIDE	7783-07-5
<i>Selenium sulfide</i>	7446-34-6
SILICA [CRYSTALLINE, RESPIRABLE]	1175
SODIUM HYDROXIDE	1310-73-2
STYRENE	100-42-5
SULFATES	9960
SULFUR DIOXIDE	7446-09-5
SULFURIC ACID	7664-93-9
<i>SULFUR TRIOXIDE</i>	7446-71-9
OLEUM	8014-95-7
1,1,2,2-TETRACHLOROETHANE	79-34-5
TETRACHLOROPHENOLS ... (see Chlorophenols)	
2,4,5-TRICHLOROPHENOL ... (see Chlorophenols)	
2,4,6-TRICHLOROPHENOL ... (see Chlorophenols)	
THIOACETAMIDE	62-55-5
TOLUENE	108-88-3
<i>Toluene diisocyanates</i>	26471-62-5
TOLUENE-2,4-DIISOCYANATE	584-84-9
TOLUENE-2,6-DIISOCYANATE	91-08-7
1,1,2-TRICHLOROETHANE (Vinyl trichloride)	79-00-5
TRICHLOROETHYLENE ^{1AC}	79-01-6
TRIETHYLAMINE	121-44-8
URETHANE	51-79-6

Substance	Chemical Abstract Number
(Ethyl carbamate)	
<i>Vanadium Compounds</i>	N/A
<i>Vanadium (fume or dust)</i>	7440-62-2
VANADIUM PENTOXIDE	1314-62-1
VINYL ACETATE	108-05-4
VINYL CHLORIDE ^{1AC} (Chloroethylene)	75-01-4
VINYLDENE CHLORIDE (1,1-Dichloroethylene)	75-35-4
XYLENES (mixed isomers)	1330-20-7
m-XYLENE	108-38-3
o-XYLENE	95-47-6
p-XYLENE	106-42-3

Note: Four digit chemical codes enclosed in brackets [] are codes that have been phased out.

Note: TAC indicates that the substance has been identified by OEHHA / ARB as a Toxic Air Contaminant.