ATTACHMENT 17a
OB/OD UNIT AIR MODELING

For

Tooele Army Depot-North Area
Tooele, Utah

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1.0 INTRODUCTION

The Tooele Army Depot-North Area (TEAD-N) submitted Attachment 25-OB/OD Unit Air Modeling of the Permit Application to the Utah Department of Environmental Quality (UDEQ) in April 2002. Attachment 25 was submitted to support modification (September 2005) of the Resource, Conservation and Recovery Act (RCRA) Permit to included Module VI for the Open Burning (OB) and Open Detonation (OD) Unit at TEAD-N. The Permit also includes static firing (SF) that is conducted at the OB/OD Unit.

Changes in operational needs for TEAD-N warrant the evaluation of modified OB/OD treatment limits (from those specified in the initial Permit). Also, additional OB/OD emission factor test data are now available. Therefore, the air dispersion modeling included in Attachment 25 of the Permit Application has been updated and documented in the sections that follow and retitled as Attachment 17a. This Attachment 17a supports Permit Modification Module VI (2010) and addresses the dispersion remodeling and the reevaluation of air quality impacts, as well as provides inputs to the human health risk assessment (Attachment 17b) and ecological risk assessment (Attachment 17c).

The revised dispersion modeling and air quality impact assessment are summarized in the sections that follow. These sections provide the complete air pathway assessment information and dispersion data needed to support the TEAD-N Risk Management Plan (RMP).

2.0 REMODELING APPROACH

The same methodology used for the Permit Application (Attachment 25, April 2002) was used to update the air modeling assessment as summarized in the subsections that follow, with the exception of the variances that are identified.

2.1 DISPERSION MODEL

The OBODM – Version 01.3.0017 (July 2000) dispersion model was used for the Permit Application For the updated evaluation the latest OBODM – Version 01.3.0023 April 2006 was used although changes to the model have been minor and are not expected to impact the TEAD-N assessments.

2.2 METEOROLOGICAL DATA

The 1991 – 1995 Salt Lake City (National Weather Service) meteorological data (with hourly wind direction adjusted clockwise by one 22.5 degree sector to better approximate TEAD-N conditions) used for the Permit Application were again used for the reevaluation. This continuous 5-year period is still considered the standard data set for dispersion modeling for the region. The input meteorological data files used for remodeling are presented in the Appendix A of Attachment 17a.

2.3 SOURCE SCENARIOS

The same source configurations and specifications identified in Attachment 25 of the Permit Application (April 2002) were again used as modeling input with the exception of revised treatment quantities and treatment days. Modeling results for each source type (i.e., OB, OD, and SF) were combined to determine if risk threshold are exceeded for the following revised scenarios (only one of which would happen on a given day between 1000 to 1659 hours):

- OB at 6,000 lbs/day based on six burn bans (maximum of 60 days/year)
- SF at 6,040 lbs/day based on eight silos (maximum of 60 days/year)
- OD at 7,500 lbs/day based on ten pits (maximum of 90 days/year)

Additional interpretation of modeling results for these scenarios will be used in the RMP to determine if treatment quantity limits can be increased (or should be decreased) and to identify opportunities to enhance operational flexibility yet still be protective of human health and the environment.

A summary of TEAD-N source scenarios used for dispersion remodeling is presented in Table 2-1.

2.4 EMISSION FACTORS

Emission factors used for the Permit Application included a wide range of munition and energetic items to facilitate operational flexibility. Based on changes in TEAD-N operational needs the potential OB/OD/SF waste streams are expected to be much more limited. Therefore, the revised modeling focused on a more limited set of expected candidate treatment items.

Emission factors resources that were evaluated are as follows:

- BangBox emission factors (see Appendix A of Attachment 17a) as reported by EPA (USEPA, August 1998).
- Additional BangBox emission factors from the U.S. Army Exploding Ordnance Emissions Study (included in Appendix A of Attachment 17a).
- X-Tunnel complex tests data (see Appendix A of Attachment 17a) Nevada Test Site (NTS) (LMES, August 1997, LMES, October 1997).
- Metal emission factors (included in Appendix A of Attachment 17a) from munition casings and coatings based on tests conducted at China Lake (U.S. Navy, October 2004).
- OD ejecta particulates emission factors (based on field tests conducted at Dugway Proving Ground (DPG) and an updated evaluation of Grantsville/Tooele particulate monitoring data)

The Department of Defense (DoD), has been collaborating with EPA concerning the establishment of a standard set of OB/OD emission factors for inclusion in the EPA emission factor database referred to as AP-42, (that also includes data for a wide range of other source types). The available data base compiled by DoD is presented in the Appendix A of Attachment 17a. This "master OB/OD data base" compiled by DoD includes initial test results from the BangBox previously used in Attachment 25 and as reported by EPA (USEPA, August 1998). The DoD data base also includes results from munition detonation tests and rocket motor burn tests conducted at the X-tunnel complex at the Nevada Test Site (LMES, August 1997 and LMES, October 1997). The AP-42 data base for OB and OD sources is expected to be revised in the future as additional studies, test data, and evaluations become available and accepted by the Environmental Protection Agency.

The DoD data base was supplemented by available BangBox emission data from the Exploding Ordnance Emission Study. The U.S. Army Environmental Command has sponsored a series of tests of Exploding Ordnance Emissions in conjunction with the Aberdeen Test Center. These tests have generated emission factors for a larger standard target analyte list, especially for metals, other inorganics and dioxins/furans, compared to the initial BangBox database, Test results for several munitions items (projectiles, grenades, demolition charges) are included in the draft of AP-42 (USEPA, September 2005). Test results for additional munitions items (mainly high explosives) have not yet been published in AP-42 but were available for application to TEAD-N. Therefore, OD emission factors for these additional munitions items were included in the database for the TEAD-N remodeling

Particulate (PM10 and PNM2.5) emission factors based on OD field tests conducted at DPG were also applied to OD sources at TEAD-N (U.S. Army, January 1992, as included in the DoD database. These OD test results indicate the potential for large emission factors for particulates attributed to crater ejecta.

Tests have been conducted at China Lake by the U.S. Navy to determine OD emission factors for metals (i.e., environmental fate factors) attributed to the metal casings, paints, coating and plating of munitions items (U.S. Navy, October 2004). These environmental fate factors for metals were used to supplement the DoD database. Emission factors presented in Tables EF-1 thru 4 (see Appendix A of Attachment 17a) are based on the mass of emission product divided by the mass of NEW treated. However, emission factors were converted to emission rates (grams per second) for human health and ecological risk assessments modeling.

The DoD database, Exploding Ordnance Emission Study data and China Lake environmental fate factors (based on munition-specific test results that generally represent the average of positive detection tests conducted) were compiled into an expanded OB/OD database for the TEAD-N remodeling. A subset of OB emission factors (associated with propellant burns) was identified to represent SF sources and OD emission factors were modified to account for donor charges (i.e., typically a donor charge such as C-4 explosive is used at a ratio of 1:1 although this varies based on treatment needs relative to waste munitions treated). The next step was to exclude from this database those munitions items identified by TEAD-N as unrepresentative of candidate OB/OD/SF waste streams (see Appendix A of Attachment 17a). This OB/OD/SF database was then statistically summarized to determine the mean and extreme emission factors for each chemical considering all candidate munitions items for each source category. See Table EF-1 thru 4 of Appendix A of Attachment 17a for a summary of the emission factors used for TEAD-N remodeling. These tables also include the ratios of the standard deviation to the mean to characterize the variability of munition-specific emission factors.

Based on the above approach, therefore, the “Primary risk” emission factors can be represented by the “average risk” emission factors. The average emission factors from Table EF-1 through EF-4 represent “average risk” and were used for the RMP to evaluate potential long-term (i.e., chronic) air quality, human health and ecological exposure scenarios. These emission factor averages were also used to evaluate short-term (i.e., acute) inhalation exposures (i.e. a reasonable maximum exposure scenario since worst-case meteorology was used and assumption of concurrent maximum emission factors would be unreasonable).

The “uncertainty risk” emission factors used in the Permit Application (April 2002) were based on using only the minimum quantitation limits (MQLs) for nondetection air emission test results. This approach is considered overly conservative because many of the nondetection chemicals are not expected for OB/OD/SF emissions. Therefore, commensurate with the Action Plan, the RMP includes human health risk assessment results based on positive detection soil sampling data and a separate “uncertainty risk” based on using minimum quantitation (MQL) values for nondetection results (see attachments 17b and 17c).

The OBODM dispersion model was used to model air concentrations for the list of chemicals with emission factors (i.e., positive detect test results) identified in Table EF 1 thru 4. These air

concentration modeling outputs are based on the "GASEOUS" run mode for OBODM (used to evaluate the inhalation pathway). Emission factor (and associated risk) uncertainties associated with chemicals that had nondetect emission test results have been previously characterized in the evaluation of risk remodeling by a sensitivity study presented in the Permit Application instead of remodeling.

At the request of UDEQ the application of 95th percentile upper confidence limit (UCL) emission factors was also evaluated (see Appendix B of Attachment 17a). The results of this evaluation indicated the non-applicability of the 95 percentile UCL emission factors based on the following factors:

- The USEPA preferred approach to derive air emission factors is based on the arithmetic mean of test results (not the 95 percentile UCL mean).
- The uncertainty of UCL calculations because of the insufficient number of emission test results.
- The conservative approach used to calculate mean emission factors based on positive detection data only.

2.5 RECEPTORS

The dispersion modeling conducted for the Permit Application established that the maximum onsite concentration locations are at the OB/OD Unit boundary and the maximum offsite locations occur at the TEAD-N boundary (especially the southwest TEAD-N corner that also coincides with the south and west OB/OD boundary). This conclusion is also supported by the application of the modeling option for plume/cloud rise as a function of downwind distance (i.e., maximum ground-level concentrations occur at/near the source). Therefore, remodeling was limited to the TEAD-N boundary (at 500m increments along the boundary) and OB/OD Unit boundary (at 50m increments along the entire boundary) to identify the maximum onsite and offsite inhalation exposure locations. In addition the following special receptor locations were remodeled:

- Grantsville
- Grantsville Reservoir drainage basin (surface water supply for all receptors and location for recreational fishing)
- Tooele
- Stockton
- Rush Lake drainage basin (location for recreational fishing and boating)
- Detonation firing bunker (onsite OB/OD worker)
- OB/OD Unit entry gate (onsite OB/OD worker)

Flat terrain was used for all dispersion modeling runs since terrain heights for the above receptors are all within 50ft of the OB/OD Unit elevation. Also, the OBODM model assumes that the final cloud height for complex terrain occurs at the source while downwind distance-dependent cloud height (resulting in higher calculated concentrations near the OB/OD Unit and southwest TEAD-N boundaries) is assumed for flat terrain. Therefore, the complex terrain option of OBODM could under predict concentrations in the vicinity of the OB/OD Unit.

2.6 DEPOSITION MODELING

The OBODM dispersion model was also used to provide deposition estimates (i.e., the air to ground pathway). Deposition mechanisms for air releases can include the following:

- Gravitational settling of particulates
- Nongravitational dry deposition of particulates and gases
- Wet deposition of particulates and gases

Total deposition is the sum of the above mechanisms and represents the "PARTICULATE" input to the risk models.

Gravitational Settling

The OBODM has the capability to calculate gravitational settling when run in the particulate phase mode (i.e., all emissions are assumed to be particulates). For the TEAD-N remodeling gravitational settling was evaluated for a subset of the chemicals used for the "GASEOUS" mode modeling as follows:

- Include metals
- Include perchlorates
- Include dioxins/furans
- Include energetics
- Include other semivolatile compounds
- Include any chemicals identified from soil sampling results
- Delete any other chemicals

The OBODM model needs, as input, particle size distribution information, median particle size, and specific gravity for the calculation of gravitational settling velocity. However, this OB/OD source-specific information was not available for the TEAD-N modeling; therefore the following assumptions were used (commensurate with the approach previously used for Attachment 25) as OBODM input for gravitational settling modeling:

- Particle density: 2 g/cc

- Mean diameter: 10 µm

- Diameter standard deviation: 2 (to account for a reasonable measure of particle size variability)

- Size distribution categories (used for model calculation of particle size distribution): 10 (OBODM model default value)

Because OB/OD-specific data are not available for the above parameters, other technical information was considered. The typical particle density for minerals is 2-3 g/cc. A typical particle density for energetics is approximately 2 g/cc. The particle density of lead is 11 g/cc. But natural

coagulation (contact of two or more suspended particles while airborne) will produce an aggregate particle containing substantial void space, reducing the effective density to about 0.1 or less of the true particle density (U.S. DOE, 1984). Considering coagulation, however, the potential effective density for OB/OD emission particles (including metal) would be in the 0.2 - 1.1 g/cc range. A conservative particle density of 2 g/cc was selected for the TEAD-N gravitational settling modeling (commensurate with the approach previously used for Attachment 25).

The mean particle size diameter selected for gravitational settling modeling was 10µm (considered a large particle). This value was selected because typically only PM10 and PM2.5 emission factors are available for OB/OD sources. Larger particles are expected to settle out in the immediate vicinity of the OB/OD sources and therefore have been accounted for in soil sampling data for these sources.

Gravitational settling of chemicals were evaluated in the human health risk assessment according to USEPA's Human Health Risk Assessment Protocol for Hazardous Waste facilities (2005) and in the ecological risk assessment according to USEPA's Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities (1999). The models used a file that includes the parameter called fraction of chemical in the vapor phase Fv, to determine whether a chemical is in the particle phase or vapor phase. Gravitational settling is only evaluated for chemicals in the particle phase. Chemicals with a Fv of less than 0.05 are considered to occur only in the particle phase. RDX has an Fv value of 0.0028. Fvs for the other energetic are 0.966. In accordance with this guidance the chemicals which were assumed to settle gravitationally include dioxins/furans, RDX, and inorganics. A list of chemicals (particulate mode) assumed to settle gravitationally is included in Table 2-2.

Dry Deposition

Dry deposition (nongravitational) for particulates and gas emission is not calculated by OBODM. However, OBODM modeling results for the "GASEOUS" phase (e.g., assuming all of the emissions are in the gas phase) were used to determine deposition rates (e.g., micrograms of deposition per square meter of soil surface area). This was accomplished as follows:

$$\text{Nongravitational Dry Deposition } (\mu g/m^3) = \text{Air Concentration } (\mu g/m^3) \times \text{Deposition Velocity } (m/s)$$

This approach is consistent with OBODM guidance (page 17 of U.S. Army, April 1998). However, this approach is conservative because the air concentrations calculated are nondepleted (e.g., removal of mass from the cloud as a function of downwind distance is not accounted for). A conservative deposition velocity of 0.03 meters/seconds (m/s) was used for Attachment 25 as well as for this Addendum. This OBODM post-processing step is also addressed in Section 2.7. As a comparison, the gravitational settling velocity for particles of 2 g/cm^3 and 10 µm diameters is reported as approximately 0.01 m/s (DOE 1984, page 755).

Wet Deposition

The OBODM model also does not have the capability to calculate wet deposition. However, this deposition mechanism is not applicable to the OB/OD releases at TEAD-N because treatment operations do not occur during precipitation conditions.

2.7 POST-PROCESSING FOR RISK REMODELING

The OBODM modeling output was post-processed to determine maximum "relative" concentrations for each receptor and averaging period evaluated. These maximum results are presented in the Appendix A of Attachment 17a.

The OBODM output was post-processed to accomplish the following:

- Transform the results based on one treatment event per hour (based on maximum treatment quantities) for hours between 1000 to 1659 (i.e., seven treatment events per day) each and every day and an emission factor of 1.0 to represent the following maximum treatment quantities (and associated number of treatment hours) for averaging times of interest.

  - OB
    1 hr = 6,000 lb NEW
    24 hr = 6,000 lb NEW
    Quarterly = 360,000 lb NEW
    Annual = 360,000 lb NEW

  - OD (including donor)
    1 hr = 7,500 lb NEW
    24 hr = 7,500 lb NEW
    Quarterly = 675,000 lb NEW
    Annual = 675,000 lb NEW

  - SF
    1 hr = 6,040 lb NEW
    24 hr = 6,040 lb NEW
    Quarterly = 362,400 lb NEW
    Annual = 362,400 lb NEW

- Account for chemical and source-specific emission factors.

- Calculate air concentrations (lead, PM2.5 and PM10) for the air quality assessment.

- Calculate total deposition for the air to ground pathway input to risk modeling.

- Convert units to those needed for input to the risk software

Post-processing specifications and the resulting data are documented in the Appendix A of Attachment 17a.

Table 2-1. Summary of TEAD-N Source Scenarios Used for Dispersion Remodeling

Parameters	OB	OD	SF
No. sources modeled[a]	1 burn pan	3 pits[f]	1 silo[b]
Locations of source(s) modeled	Center of OB operations area	Centered in each section representing 1/3 of OD operations area	Center of SF operations area
Release configuration	Line (burn pan length = 2.4m)	Line[c] (pit diameter = 9m)	Point
Release duration	Quasi-continuous	Instantaneous	Quasi-continuous[a]
Effective release height	0.25m (pan height)	Model-calculated for subsurface detonations	0.6m (nozzle height)
Fuel properties ● Name ● Heat content	 Double Base 1,020 cal/g[d]	 Composition B 127 cal/g[e]	 Double Base 1,020 cal/g[d]
Treatment quantity per source per treatment event (NEW, lb)	1,000 lb	750 lb	755 lb
Modeled emission factors (lb/lb)	1.0 (CO_2)	1.0 (CO_2)	1.0 (CO_2)
Treatment days **(Jan – Dec)[g]**	**Every day (365)[g]**	**Every day (365)[g]**	**Everyday (365)[g]**
Treatment Times	**1000-1659[g]**	**1000-1659[g]**	**1000-1659[g]**

[a] Number of sources modeled was less than actual number of sources in order to streamline dispersion modeling. Emission factor scaling factors were applied to the emission factors for each source modeled to account for multiple treatment devices.

[b] Previous SF screening modeling results indicated that modeling results for a single SF versus two SF time periods (to account for varying emission rates) were similar.

[c] Commensurate with OBODM User's Guide - Vol. I, p. 37 for subsurface detonations.

[d] Heat content based on OBODM model data base.

[e] Based on POLU 13M modeling results for residual heat for subsurface detonations. (For surface detonations the heat content is 1,319 cal/g based on the OBODM model data bases).

[f] The dispersion modeling results provide a combined impact from the three pit locations modeled.

[g] Revisions from previous modeling for Attachment 25.

TABLE 2-2 Particulate Mode Chemicals Used for Gravitational setting Pathway For Human Health and Ecological Risk Assessments Modeling

CAS Number	Chemical	Fraction of Contaminant Air Concentration in Vapor Phase
7440-38-2	Arsenic	0.006
7440-39-3	Barium	0.009
7440-43-9	Cadmium	0.009
7440-47-3	Chromium	0.009
16065-83-1	Chromium III	0
7440-48-4	Cobalt	0
7440-50-8	Copper	0
35822-46-9	HeptaCDD, 1,2,3,4,6,7,8-	0.003
67562-39-4	HeptaCDF, 1,2,3,4,6,7,8-	0.01
39227-28-6	HexaCDD, 1,2,3,4,7,8-	0.024
57653-85-7	HexaCDD, 1,2,3,6,7,8-	0.029
19408-74-3	HexaCDD, 1,2,3,7,8,9-	0.016
70648-26-9	HexaCDF, 1,2,3,4,7,8-	0.049
18540-29-9	Hexavalent Chromium	0
193-39-5	Indeno(1,2,3-cd)pyrene	0.005
7439-89-6	Iron	0
7439-92-1	Lead	0.007
7439-96-5	Manganese	0
7440-02-0	Nickel	0.009
3268-87-9	OctaCDD, 1,2,3,4,6,7,8,9-	0.002
39001-02-0	OctaCDF, 1,2,3,4,6,7,8,9-	0.002
121-82-4	RDX	0.00287
7782-49-2	Selenium	0
7440-22-4	Silver	0.009
7440-24-6	Strontium	0
7440-28-0	Thallium	0.009
7440-32-6	Titanium	0
7440-62-2	Vanadium	0
7440-66-6	Zinc	0.008

3.0 AIR QUALITY IMPACT REASSESSMENT

Dispersion modeling results and emission factor files were used as input to the human health and ecological risk assessments. The detailed human health risk assessment process (that includes the inhalation pathway) takes precedence over the Utah Toxic Screening Levels. Table 3-1 (based on the air quality assessment in the Permit Application–Attachment 25, April 2002) demonstrates that criteria pollutant emissions are expected to result in ambient concentrations far below National Ambient Air Quality Standards (NAAQS) adopted by Utah, with the exceptions of particulate matter and lead. Therefore, the revised air quality assessment will be limited to evaluation of NAAQS compliance for PM10, PM2.5 and lead. Fine (PM2.5) particulates were not addressed in the Permit Application but are now included in the NAAQS. Thus, PM2.5 has been in addressed in the revised evaluation. A summary of NAAQSs for PM10 (24 hrs), PM2.5 (annual and 24 hr) and lead (quarterly) is provided in Table 3-2. The EPA has revoked the PM10 annual NAAQS (previously evaluated in Attachment 25).

3.1 AIR QUALITY REMODELING

3.1.1 Post-Processing for Air Quality Reassessment

The OBODM maximum concentrations output for the 24-hr, quarterly and annual averaging periods (see Table 3-3) were post-processed to obtain modeled air concentrations for PM10, PM2.5 and lead for comparison to the NAAQS.

Following is the approach used for post-processing (similar to the general approach discussed in Sect. 2.7):

$$C_T = C_M EF \left(\frac{Q_T}{Q_M} \right) \qquad \text{Eq 3-1}$$

Where:

C_T = Maximum air concentration for receptor and averaging period of interest for the maximum treatment quantity, $\mu g/m^3$

C_M = Maximum modeled air concentration (from OBODM output) for receptor and averaging period of interest, $\mu g/m_3$

EF = Emission factor (see Table 3-4), lb/lb NEW.

Q_T = Maximum proposed treatment quantity, lbs NEW (see Section 2.7).

Q_M = Modeled treatment quantity, lbs NEW (see Table 2-1).

The post-processing results based on application of Eq. 3-1 are presented in Tables 3-5 thru 3-8 for receptor location of interest. These results are discussed in Sects. 3.1.2 and 3.

3.1.2 Lead Remodeling Results

Maximum remodeled quarterly lead concentrations presented in Table 3-5 are all significantly less than the NAAQS of 1.5 µg/m^3 for the quarterly average. These results are more favorable than those previously presented in Attachment 25. This is attributed to reduced treatment quantities and lead content of the more limited candidate waste stream for the reanalysis. However, there are potential exceedances of the rolling quarterly average of 0.15 µg/m^3 at the Southwest TEAD-N boundary. Therefore, risk management measures are warranted for lead emissions.

3.1.3 PM10 and PM2.5 Remodeling Results

The PM10 and PM2.5 remodeling results presented in Table 3-6 thru 3-8 indicate the potential for exceeding PM10 and PM2.5 NAAQSs. Open detonation is the primary source associated with these potential exceedances. Modeling results indicate the potential to exceed annual PM2.5 standards in the vicinity of the south/west OB/OD Unit and south/west TEAD-N boundaries. Also, modeling results indicate the potential to exceed PM2.5 and PM10 24-hr standards at Grantsville, Tooele, and Stockton in addition to the south/west unit and installation boundaries.

Tables 3-9 and 3-10 demonstrate that particulate emissions for OD pretreatment and post-treatment operations are minimal relative to crater ejecta emissions. The PM10 emission factors for OD were based on detonation field tests (accounting for soil ejecta) conducted at DPG (U.S. Army, January 1992 and Table C.10 of U.S. Navy, October 2004). However, PM2.5 emission factors were not available for these field tests. Therefore, the PM10 emission factors were multiplied by a factor of 1:2 to estimate PM2.5 emissions. This scaling factor was based on consideration of particle mass distribution information as reported for an actual OD field test (SERDP, April 2004). Data from this OD field test indicated a mass concentration ratio of approximately 1:3 for small mode particles (1µm geometric mean diameter) compared to large mode particles (45µm). A ratio of 1:2 was also conservatively assumed to represent PM2.5 versus PM10 air concentrations for OD clouds. However, available air monitoring suggests that these emission factors may overestimate PM10 and PM2.5 air concentrations in the vicinity of Tooele.

3.2 AIR MONITORING DATA

3.2.1 PM10 Air Monitoring Data

Available (1993-1997) PM10 24-hr air monitoring data for Grantsville (operated by UDEQ) are presented in Table 3-11. There were no exceedances of the PM10 24-hr NAAQS (that is based on the second-highest concentration). Only one time (i.e., in 1993) was the maximum 24-hr concentration (although not a NAAQS criterion) greater than 150 µg/m^3. However, the monitoring data for that exception is not considered representative due to the influence of nearby road repair operations. These air monitoring data support the conclusion that available PM10 emission factors (as used in Attachment 17a) are very conservative and significantly over-estimate emissions from the combination of OB/OD/SF sources (especially OD as associated with the greatest emission factor) at TEAD-N. The UDEQ has discontinued PM10 monitoring at Grantsville (as well as other locations in Tooele County).

3.2.2 PM2.5 Air Monitoring Data

Available (2000-2009) PM2.5 air monitoring data in the vicinity of TEAD-N has been reviewed to update the air quality reassessment. Table 3-12 presents a summary of PM2.5 monitoring data. Grantsville data are available for 2000-2003 and Tooele data for 2005-2009. PM2.5 air monitoring at Tooele is expected to continue. However, PM10 air monitoring at Grantsville has been discontinued.

During the period 2000-2009 there were no exceedances of the PM2.5 annual NAAQS (see Table 3-12). The annual averages of PM2.5 at Grantsville and Tooele have been among the lowest in Utah and represent the best air quality. Therefore, it can be concluded that emissions from OB/OD/SF sources at TEAD-N have not had any discernable impact on annual average PM2.5 conditions at Grantsville and Tooele. However, as indicated in Table 3-13, the actual OB/OD/SF treatment quantities during 2000-2009 were generally lower than proposed (modeled) maximum annual treatment quantities.

Air monitoring data, Table 3-12, indicate exceedances of the PM2.5 24-hr (98th percentile) NAAQS in 2002 (Grantsville) and 2005 (Tooele). Therefore, monitoring data were further evaluated to determine 24-hour monitoring associated with high PM2.5 concentrations. Table 3-14 lists the dates with 24-hr PM2.5 maximum concentrations (although not a NAAQS criterion for PM2.5) greater than 35 $\mu g/m^3$. As apparent from this table, there is no correlation with these high PM2.5 24-hr concentration events and OB/OD/SF treatment operations at Tooele.

In summary, available local PM2.5 monitoring data do not demonstrate any significant contributions or impacts from OB/OD/SF sources at TEAD-N. However, periodic review of UDEQ data from continuing PM2.5 monitoring at Tooele should be considered in the Risk Management Plan.

Table 3-1 Summary of Compliance with Ambient Air Quality Standards (µg/m³) Based on Attachment 25 (April 2002) Modeling

Pollutant	Averaging time	NAAQS/UAAQS Primary	NAAQS/UAAQS Secondary	OB	OD	SF
Carbon Monoxide						
	8-hr	10,000	-	3.0E+2	2.8E+2	1.2E+2
	1-hr	40,000	-	2.0E+3	2.2E+3	9.4E+2
Nitrogen Dioxide						
	Annual	100	100	7.3E-2	1.2E-2	7.0E-2
Ozone						
	1-hr	235	235	NA	NA	NA
	8-hr	157	157	NA	NA	NA
Lead						
	Quarterly	1.5	1.5	**1.1E+1**	8.8E-2	8.2E-1
PM10						
	Annual	50	50	8.3E0	2.4E-0	1.0E+1
	24-hr	150	150	**1.2E+3**	**2.3E+2**	**7.9E+2**
Sulfur Dioxide						
	Annual	80	-	8.3E-2	6.7E-3	8.0E-2
	24-hr	365	-	4.2E0	3.9E0	2.3E0
	3-hr	-	1,300	2.9E+1	3.E=1	1.3E+1

Note: Values above UAAQS/NAAQS appear in bold.

[a]Annual modeling results based on the year (within 1991-1995) with the maximum annual average.

[b]At the south OB/OD Unit/TEAD-N boundary.

NA: Not available (requires photochemical modeling and OB/OD/SF are not significant sources for volatile organic compounds or nitrogen oxides

Table 3-2 Current National Ambient Air Quality Standards PM10, PM2.5 and Lead, µg/m^3

Pollutant	Averaging Time	Primary Standard	Secondary Standard
PM 10	24-hr[a]	150µg/m^3	150 µg/m^3
PM2.5	24-hr[b]	35 µg/m^3	35 µg/m^3
PM2.5	Annual/(Arithmetic mean)[c]	15µg/m^3	15 µg/m^3
Lead	Quarterly Average	1.5µg/m^3	1.5 µg/m^3
Lead	Rolling 3-month Average	(0.15µg/m^3)	(0.15 µg/m^3)

[a] Not to be exceeded more than one per year on average over three years.

[b] To attain this standard, the 3-year average of the 98th percentile of 24-hr concentrations at each Population-oriented monitor within an area must not exceed 35 ug/m3 (effective December 17, 2006).

[c] To attain this standard, the 3-year average of the weighted annual mean PM2.5 concentrations from single or multiple community-orientated monitors must not exceed 15.0 µg/m^3.

Table 3-3 Maximum Air Concentrations OBODM Untransformed Output, µg/m^3

Location	24-hr	OB Quarterly	Annual	24-hr	OD Quarterly	Annual	24-hr	SF Quarterly	Annual
Maximum Offsite[a] South/West OB/OD Unit and TEAD-N boundaries	274.	36.5	26.2	314	39.9	34.2	202.	29.9	21.3
Grantsville	31.3	1.45	0.907	63.7	3.24	2.21	23.1	1.17	0.716
Tooele	12.7	0.289	0.145	29.2	0.592	0.321	10.6	0.227	0.116
Stockton	19.2	1.10	0.411	40.7	2.49	1.02	15.3	0.923	0.362

[a]South/west OB/OD Unit and TEAD-N boundaries

Table 3-4 Mean PM10, PM2.5 and Lead Emission Factors, lb/lb NEW

Pollutant	OB[a]	OD	SF
PM10	2.14 E-01	1.84E+01[c]	1.06E-01[d]
PM2.5	1.26E-02	9.2E+00[b]	5.3E-02[e]
Lead	9.30E-03[f]	3.84E-04[g]	9.3E-03[h]

[a]Based on Table EF-1 in the Appendix A of Attachment 17a.

[b]Based on DPG OD-PM2.5 field tests (Table C.10 of U.S. Navy, October 2004).

[C]Based on twice the DPG OD PM2.5 emission factor to represent PM10.

[d]Based on SF treatment emission factor of 1.90E-02 from Table EF-4 in the Appendix A plus the fugitive dust emission factor of 8.65E-02 from Table 1.3.4-1 of Attachment 25 (April 2002)

[e]Based on half the SF PM10 emission factor to represent PM2.5.

[f]Based on Table EF-1 in the Appendix A of Attachment 17a.

[g]Based on Table EF-3 for OD + donor in the Appendix A of Attachment 17a.

[h]Based on Table EF-4 in the Appendix A of Attachment 17a.

Table 3-5 Modeled Lead Maximum Quarterly Air Concentrations, µg/m^3

Location	OB	OD[b]	SF	Total
Maximum Offsite [a]	0.2	<0.1	0.2	0.4
Grantsville	<0.1	<0.1	<0.1	<0.1
Tooele	<0.1	<0.1	<1	<0.1
Stockton	<0.1	<0.1	<1	<0.1

[a] South/West OB/OD Unit and TEAD-N boundaries
[b] OD + donor

Note: NAAQs is 1.5 µg/m^3 for the quarterly average and 0.15µg/m^s for the rolling quarterly average

Table 3-6 Modeled Maximum PM10-24 hrs Air Concentrations, µg/m^3

Location	OB	OD[b]	SF
Maximum Offsite[a]	50	**2,750**[c]	24
Grantsville	6	**558**[c]	3
Tooele	2	**256**[c]	1
Stockton	4	**356**[c]	2

[a] South/west OB/OD Unit and TEAD-N boundaries
[b] OD + donor
[c] Greater then NAAQS of 150 µg/m^3

Table 3-7 Modeled Maximum PM2.5-24 hrs Air Concentrations, µg/m^3

Location	OB	OD[b]	SF
Maximum Offsite[a]	3	**1,376**[c]	12
Grantsville	<1	**279**[c]	1
Tooele	<1	**128**[c]	1
Stockton	<1	**178**[c]	1

[a] South/west OB/OD Unit and TEAD-N boundaries
[b] OD + donor
[c] Maximum greater then NAAQS of 35 µg/m^3 applicable to the 98th percentile 24 hrs concentration for a three-year period.

Table 3-8 Modeled Maximum PM2.5 - Annual Air Concentrations, µg/m^3

Location	OB	OD[b]	SF	Total
Maximum Offsite[a]	<1	**37**[c]	<1	**37** [c]
Grantsville	<1	2	<1	2
Tooele	<1	<1	<1	<1
Stockton	<1	1	<1	1

[a] South/west OB/OD Unit and TEAD-N boundaries
[b] OD + donor
[c] Maximum greater then NAAQS of 15 µg/m^3

Table 3-9. Summary of PM10 Emission Quantities and Emission Factors

	Emission quantities (lb) per treatment event							
	Treatment		Pretreatment/post-treatment					
Treatment Type	OB/OD/SF release	Soil Ejecta	Dozer Operations	Batch drop	Unpaved road[e]	Wind erosion	Total PM10	Total emission factor[a,b] (lb/lb)
OB	2,760[c]	-	-	-	19	-	2,779	2.3E-1
SF	1,042[c]	-	-	-	18	374	1,434	3.2E-1
OD	3,375[d]	968	20	99	16	-	4,478	4.0E-1

[a]Total emission factor = total emission quantity (lb) ÷ total treatment quantity (lb net explosive weight [NEW])

[b]Total treatment quantities per treatment event (lb NEW)

OB = 12,000 lb
OD = 11,250 lb
SF = 4,530 lb

[c]BangBox emission factor of 2.3E-1 for PM10 for double-based propellants (see Table 7.1 of USEPA, 1998).

[d]BangBox emission factor 3.0E-1 based on water-suppressed tritanol test to account for subsurface (oxygen deficient) detonations (versus emission factor of 1.2E-2 based on unsuppressed Composition B emission factors for PM10) (see Table 5.1 of USEPA, August 1998).

[e]See Table 3-10 for travel distance assumptions

Table 3-10 Summary of Vehicular Traffic at TEAD-N OB/OD/SF Unit Based on Attachment 25 (April 2002) (unpaved roads fugitive dust emission)[a]

Treatment operation	Type of vehicle	No. vehicles per treatment event	Mean vehicle weight (tons)	Mean vehicle speed (mph)	Mean no. wheels	Distance traveled in OB/OD/SF unit per vehicle per treatment event (miles)
OB	Truck/Trailer	2	20.5	5	10	1
	Truck	1	3.5	5	6	3.6
	Pickup	2	4.25	5	8	1.8
	Pickup	1	3.2	5	4	1.8
	Forklift	2	3.5	5	8	2
OD	Truck/Trailer	2	20.5	5	10	1
	CAT	1	27.5	5	2 tracks	1.7
	Forklift	2	3.5	5	8	1.7
	Pickup	2	4.25	5	8	1
	Truck	1	3.5	5	6	1
SF	Truck/Trailer	2	20.5	5	10	2
	Crane	1	45	5	4	.5
	Forklift	1	3.5	5	4	.5
	Pickup	2	3.2	5	8	2
	Truck	1	3.5	5	6	2

[a]Silt content = 10 percent and moisture content = 2.5 percent based on TEAD-N OB/OD Unit measurements.

Table 3-11 PM10 monitoring data, Grantsville, UT, µg/m^3

Year	24-Hours NAAQS Standard[a]	Measured highest	Measured second Highest
1997	150	45	32
1996	150	72	50
1995	150	55	49
1994	150	133	98
1993	150	186[b]	75

[a]NAAQS for PM10 based n second highest 24-hr concentration
[b]Not considered representative due to the influence of nearby road repair operations.

Table 3-12 PM2.5 Air Monitoring Data, µg/m^3

Year	24 hr Max		24 hr 98th Percentile		Annual[b]	
	Grantsville	Tooele	Grantsville	Tooele	Grantsville	Tooele
2009	--	67.1	--	NA	--	7.0
2008	--	37.7	--	19.4	--	6.4
2007	--	39.4	--	23.3	--	7.2
2006	--	32.1	--	22.8	--	6.60
2005	--	67.0	--	**45.5**[a]	--	9.00
2004	--	--	--	--	--	--
2003	43.9	--	24.3	--	6.74	--
2002	62.3	--	**39.9**[a]	--	9.39	--
2001	52.2	--	32.5	--	7.94	--
2000	34.2	--	29.6	--	7.09	--

[a] Greater than NAAQS 24 hr 98th percentile of 35 ug/m3
[b] Annual NAAQS is 15 ug/m^3
-- No monitoring data collected
NA Not available

Table 3-13 TEAD-N NEW Treatment Quantities, Tons

	OB		OD[a]		SF		Total	
Year	**Actual**	**Modeled[b]**	**Actual**	**Modeled[b]**	**Actual**	**Modeled[b]**	**Actual**	**Modeled[b]**
2009[c]	103	180	175	338	20	181	298	699
2008	104	180	125	338	72	181	301	699
2007	99	180	117	338	8	181	224	699
2006	50	180	38	338	0	181	56	699
2005	50	180	66	338	62	181	179	699
2004	33	180	56	338	139	181	229	699
2003	3	180	187	338	43	181	232	699
2002	20	180	143	338	8	181	172	699
2001	47	180	20	338	15	181	82	699
2000	<1	180	102	338	412	181	514	699

[a] OD + donor
[b] Based on 1991 – 1995 meteorology
[c] Based on Jan-Nov 2009 data

Table 3-14 PM2.5 – 24 hr Monitoring Events (2000 – 2006) Greater than 35 µg/m^3

Date	Monitoring Location	TEAD-N OB/OD/SF Treatment Quantity, NEW
January 22, 2009	Tooele	0lb
January 25, 2008	Tooele	0lb
February 21, 2008	Tooele	0lb
January 27, 2007	Tooele	0lb
December 18, 2005	Tooele	0 lb
November 24, 2005	Tooele	0 lb
December 7, 2002	Grantsville	0 lb
February 7, 2002	Grantsville	1 lb
January 6, 2002	Grantsville	0 lb
December 31, 2001	Grantsville	0lb
December 27, 2001	Grantsville	0lb

4.0 REFERENCES

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U.S. EPA, 2005. Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities. EPA530-R-05-006. Office of Emergency and Remedial Response, Washington, D.C., September.

U.S. Navy, October 2004. Metal Emissions from the Open Detonation Treatment of Energetic Waste. Naval Air Warfare Center, Weapons Division. China Lake, CA.

APPENDIX A of ATTACHMENT 17a

INPUT METEOROLOGICAL DATA FILES USED FOR REMODELING

Appendix A appears on CD only.

(emission factors are presented mass of emission products/mass of NEW treated but were converted to emission rates of grams per second for human health and ecological risk assessments modeling

APPENDIX B OF ATTACHMENT 17a

APPLICATION OF THE 95 PERCENTILE UCL MEAN EMISSION FACTORS

- **Appendix B.1** **Summary of Application of the 95 Percentile UCL MEAN Emission Factors**
- **Appendix B.2** **Emission Factors (Based on 95 Percentile UCLs of the MEAN)**
- **Appendix B.3** **Comparison of Emission Rates (Based on UCLs versus RMP Values)**
- **Appendix B.4** **Inclusion of Non-Detects for COCs 95 Percentile UCL Emission Factor**

Emission factors based on the above approach for UCL are included in Appendix B.2. These emission factors (mass/mass units) were converted to emission rates (mass/time units) for input to the risk models. A comparison of UCL emission rates to those previously used in the RMP is provided in Appendix B.3 (based on HHRA contaminants-of-potential concern as an example). This comparison indicates that the UCL-based values are generally greater than previously used for the RMP based on the arithmetic mean. However, the Environmental Protection Agency states the following in the Procedures for Preparing Emission Factor Documents (USEPA, 1997):

"The arithmetic mean is usually used for emission factor development and is the preferred method unless there are strong reasons to use an alternate method."

Additional UCL calculations were conducted using ProUCL (version 4.0) for HHRA contaminants-of-concern (COCs) associated with open detonation (OD). This involved the inclusion of non-detect (i.e., "0.0") values. But the equivalent emission factors that correspond to 0.5 of the method minimum quantitation limit (MQL) were used (see Appendix B.4) to calculate UCLs as a substitute for the "0.0" non-detects. The equivalent MQL emission factors (see Appendix B.4, Table B.4-1) were based on Bang Box emission tests (USEPA, 1998). Potential UCLs identified by ProUCL based on this approach are included in Enclosure IV and are characterized as statistically "weak". Therefore, these results were not used as input for risk modeling.

B.1.2 NAAQS RESULTS

Dispersion modeling results, previously used for the RMP, were used with 95 percentile UCL emission factors to re-evaluate predicted air concentrations versus NAAQS criteria. Similar to prior results PM2.5 and PM10 are pollutants of concern. However, for this re-evaluation lead is also a pollutant of concern attributed to the revised NAAQS (more restrictive by an order of magnitude) and the higher emission factor (based on the 95 percentile UCL versus the mean).

Revised modeling results for maximum quarterly modeling results for lead (see Table B.1-1) indicate the potential for offsite exceedances of the NAAQS is limited to the south/west OB/OD Unit and TEAD boundaries (associated with OB and SF sources). However, this is mitigated based on the risk management approach previously identified in the RMP (i.e., OB/OD/SF treatment operations are not conducted when winds are from the southeast [SE] counter-clockwise thru west-northwest [WNW]). This approach essentially eliminated impacts for the downwind sectors to the northwest (NW) counter-clockwise through the east-southeast (ESE) of the OB/OD Unit.

Modeled maximum PM10 and PM2.5 air concentrations are presented in Tables B.1-2 thru B.1-4. Predicted concentration based on 95 percentile UCL emission factors are greater than those based on the mean ,as previously used in the RMP, and the annual PM2.5 NAAQS has been lowered (more restrictive) from 35 μg/m3 to 15 μg/m3. Exclusion of OB/OD/SF operations during winds from the SE counter-clockwise thru WNW is expected to mitigate potential exceedances with the following exceptions (attributed to OD soil ejects):

- PM10 – 24 hr NAAQS
  + TEAD boundary
  + Grantsvile
  + Tooele

- PM2.5 0 – 24 hr NAAQS
  + TEAD boundary
  + Grantsville
  + Tooele

- PM2.5 – annual NAAQS
  + TEAD boundary

However, there is great uncertainty associated with the emission factors for OD soil ejecta and available air monitoring data (as previously presented in the RMP as well as updates through

2008) do not indicate any impacts attributed to TEAD. Therefore, additional OB/OD/SF mitigation measures for particulates are not warranted at this time.

B.1.3 RISK MANAGEMENT STRATEGY REEVALUATION

The risk management strategy previously specified in the RMP has been based on exclusion of winds from the SE thru WNW for OB/OD/SF treatment operations. This approach adequately mitigates risks based on the use of arithmetic mean emission factors. However, target risk goals are not met for some locations (primarily for OD) based on the application of 95 percentile emission factors. Potential exceedances for air quality were summarized in Appendix B.1.2 and human health-risk assessment and ecological assessments are presented in Attachments 17b and 17c, respectively based on 95 percentile UCL EFs.

Potential alternate or additional risk management mitigation measures for OD includes the following:

- Waste stream composition limitations.
- Treatment operations only conducted during favorable dispersion conditions.

Such an approach would necessitate the conduct of "go/no-go" decision making evaluations prior to each OD treatment event based on planned, waste stream composition, onsite meteorological data and dispersion modeling (or dispersion aides such as tables or graphs).

However, these additional risk management measures may not be warranted considering the following:

- The USEPA preferred approach to derive air emission factors is based on the arithmetic mean of test results (not the 95 percentile UCL mean).
- The uncertainty of UCL calculations because of the insufficient number of emission test results.

- The conservative approach used to calculate mean emission factors based on positive detection data only.

The Department of Defense (DoD) has recognized the limitations and data gaps for OB/OD emission factors. Therefore DoD has recently initiated the following actions:

- Submittal of a re-evaluation of Bang Box and Dugway field tests for OB/OD sources to USEPA for inclusion (after USEPA and public reviews) in AP-42 Compilation of Air Emission.

- Preparation of a DoD Emission Data Base – Plan Development protocol to address a prioritization strategy for OB/OD emission tests as well as DoD-wide standards for data collection methods and data quality requirements.

- Conduct of additional OB/OD field tests, chamber tests and studies to address OB/OD emission factor data gaps and technical issues (e.g., studies being initiated by the Strategic Environmental Research and Development Program (SERDP) and the U.S. Army – Defense Acquisition Command.

Therefore, the implementation of additional OB/OD/SF risk management measures is not warranted at this time. Instead, a reevaluation of TEAD OB/OD/SF emission factors (and associated risks) should be conducted when additional and refined test data as well as statistical summaries are available to reduce OB/OD emission factor uncertainties.

Table B.1-1 Modeled Lead Maximum Quarterly Air Concentrations, μg/m^3

Location	OB	OD[b]	SF	Total
Maximum Offsite[a]	**0.3** (<0.1)	<0.1 (<0.1)	**0.3** (<0.1)	**0.6** (<0.1)
Grantsville	<0.1 (<0.1)	<0.1 (<0.1)	<0.1 (<0.1)	<0.1 (<0.1)
Tooele	<0.1 (<0.1)	<0.1 (<0.1)	<1 (<0.1)	<0.1 (<0.1)
Stockton	<0.1 (<0.1)	<0.1 (<0.1)	<0.1 (<0.1)	<0.1 (<0.1)

[a] South/west OB/OD Unit and TEAD boundaries

[b] OD + donor

Note: Values in parentheses are based on excluding winds from the SE counter-clockwise thru WNW (equivalent to winds going towards the NW counter-clockwise thru ESE sectors).

Bold print values are greater than the NAAQS of 0.15 μg/m^3 for lead.

Table B.1-2 Modeled Maximum PM10-24 hr Air Concentrations, μg/m^3

Location	OB	OD[b]	SF
Maximum Offsite[a]	**258** (103)	**3,888** **(1,944)**	25 (15)
Grantsville	29 (29)	**789** **(789)**	3 (3)
Tooele	12 (12)	**362** **(362)**	1 (1)
Stockton	18 (<18)	**504** (<150)	2 (<2)

[a] South/west OB/OD Unit and TEAD boundaries

[b] OD + donor

Note: Values in parentheses are based on exclusion of winds from the SE counter-clockwise thru WNW.

Bold print values are greater than the NAAQS of 150 μg/m^3 for PM10-24 hr.

Table B.1-3 Modeled Maximum PM2.5-24 hr Air Concentrations, μg/m^3

Location	OB	OD[b]	SF
Maximum Offsite[a]	5 (2)	**2,392** **(1,196)**	13 (10)
Grantsville	<1 (<1)	**485** **(485)**	2 (2)
Tooele	<1 (<1)	**222** **(222)**	1 (1)
Stockton	<1 (<1)	**310** (<35)	1 (<1)

[a] South/west OB/OD Unit and TEAD boundaries

[b] OD + donor

Note: Values in parentheses are based on exclusion of winds from the SE counter-clockwise through WNW.

Bold print values are greater than the NAAQS of 35 μg/m^3 for PM2.5-24 hr.

Maximum PM2.5-24 hr monitoring concentration at Grantsville was 62 μg/m^3 during 2000 – 2003 and 67 μg/m^3 at Tooele during 2005 – 2008. TEAD did not conduct OB/OD/SF operations during NAAQS exceedance days.

Table B.1-4 Modeled Maximum PM2.5-Annual Air Concentrations, μg/m^3

Location	OB	OD[b]	SF	Total
Maximum Offsite[a]	<1 (<1)	**64** **(32)**	<1 (<1)	**64** (32)
Grantsville	<1 (<2)	4 (10)	<1 (<2)	4 (10)
Tooele	<1 (<2)	1 (2)	<1 (<2)	1 (2)
Stockton	<1 (<1)	2 (<2)	<1 (<1)	2 (<2)

[a] South/west OB/OD Unit and TEAD boundaries

[b] OD + donor

Note: Values in parentheses are based on exclusion of winds from the SE counter-clockwise through WNW.

Bold print values are greater than the NAAQS of 15 μg/m^3 for PM2.5 annual.

Maximum PM2.5-annual monitoring concentration at Grantsville was 9 μg/m^3 during 2000 – 2003 and 67 μg/m^3 at Tooele during 2005 – 2008.

B.1.4 REFERENCES

USEPA (U.S. Environmental Protection Agency), 1997. Procedures for Preparing Emission Factor Documents. Research Triangle Park, NC. November

USEPA (U.S. Environmental Protection Agency, 1998. Emission Factors for the Disposal Materials for Open Burning and Open Detonation (OB/OD). Research Triangle Park, NC. August.

Appendix B.2

Emission Factors
(Based on 95 percentile UCLs of the mean)

Table B.2-1
OB Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	Maximum	Minimum	Mean	Standard Deviation of Mean	Standard Deviation / Mean	95% UCL	95% UCL / Mean	OB-3 Prop M1	OB-4 Prop M6	OB-5 Prop M30	OB-6 Al - AP
									BangBox			
2,4-Dinitrotoluene	ENERGETIC	3.00E-08	1.00E-09	1.07E-08	1.67E-08	1.55E+00	3.0E-08	2.8E+00	1.20E-09	1.00E-09	a	a
2,6-Dinitrotoluene	ENERGETIC	3.00E-08	3.30E-10	1.02E-08	1.71E-08	1.68E+00	3.0E-08	2.9E+00	3.30E-10	3.30E-10	a	a
Diphenylamine	ENERGETIC	3.00E-08	3.30E-10	1.52E-08	1.71E-08	1.13E+00	1.1E-06	7.3E+01	3.30E-10	3.30E-10	a	a
HMX	ENERGETIC	3.00E-08	3.00E-08	3.00E-08	.	.	3.0E-08	1.0E+00	a	a	a	a
RDX	ENERGETIC	3.00E-08	3.00E-08	3.00E-08	.	.	3.0E-08	1.0E+00	a	a	a	a
Nitroglycerine	ENERGETIC	3.00E-08	3.30E-10	2.41E-08	1.33E-08	5.51E-01	3.0E-08	1.2E+00	a	a	3.30E-10	a
Nitroguanidine (NQ)	ENERGETIC	3.00E-08	3.30E-10	1.52E-08	2.10E-08	1.38E+00	3.0E-08	2.0E+00	a	a	3.30E-10	a
Carbon dioxide	INORGANIC	1.20E+00	3.20E-01	7.68E-01	2.84E-01	3.69E-01	9.0E-01	1.2E+00	1.10E+00	1.10E+00	6.60E-01	3.20E-01
Carbon monoxide	INORGANIC	1.40E-02	2.50E-05	1.93E-03	3.53E-03	1.83E+00	4.0E-03	2.1E+00	2.50E-04	9.50E-05	2.50E-05	1.20E-03
Chlorine	INORGANIC	9.20E-03	4.60E-03	6.90E-03	3.25E-03	4.71E-01	9.2E-03	1.3E+00	a	a	a	4.60E-03
Hydrogen chloride	INORGANIC	2.20E-01	2.10E-01	2.15E-01	7.07E-03	3.29E-02	2.2E-01	1.0E+00	a	a	a	2.10E-01
Hydrogen Cyanide	INORGANIC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.			a	a	a	a
Nitric oxide	INORGANIC	2.40E-02	1.20E-03	4.78E-03	6.58E-03	1.38E+00	8.7E-03	1.8E+00	1.20E-03	2.40E-03	5.20E-03	1.90E-03
Nitrogen dioxide	INORGANIC	2.80E-03	1.00E-04	9.44E-04	1.00E-03	1.06E+00	1.9E-03	2.0E+00	4.70E-04	5.20E-04	2.10E-03	1.40E-04
Nitrogen Oxides	INORGANIC	3.80E-02	1.86E-03	7.96E-03	1.04E-02	1.30E+00	1.6E-02	2.0E+00	2.23E-03	4.04E-03	9.73E-03	2.93E-03
Filterable particulate matter 10 micron	INORGANIC	9.10E-01	1.20E-03	2.14E-01	3.23E-01	1.51E+00	1.1E+00	5.3E+00	a	a	a	4.20E-01
Filterable particulate matter 2.5 micron	INORGANIC	2.00E-02	6.90E-03	1.26E-02	6.70E-03	5.30E-01	2.0E-02	1.6E+00	6.90E-03	1.10E-02	2.00E-02	a
Sulfur dioxide	INORGANIC	3.20E-03	1.20E-04	1.19E-03	1.21E-03	1.02E+00	2.4E-03	2.0E+00	a	a	a	a
Aluminum	METAL	1.10E-02	1.30E-03	6.15E-03	6.86E-03	1.12E+00	1.1E-02	1.8E+00	a	a	a	1.10E-02
Lead	METAL	1.30E-02	5.60E-03	9.30E-03	5.23E-03	5.63E-01	1.3E-02	1.4E+00	a	a	a	a
1,2,3,4,6,7,8,9-Octachlorodibenzodioxin	PCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	PCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1,2,3,4,7,8,9-Heptachlorodibenzofuran	PCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	PCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	PCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	PCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	PCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	PCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Total HpCDD	PCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Total HxCDD	PCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Total PeCDD	PCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00

Table B.2-1
OB Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	Maximum	Minimum	Mean	Standard Deviation of Mean	Standard Deviation / Mean	95% UCL	95% UCL / Mean	OB-3 Prop M1	OB-4 Prop M6	OB-5 Prop M30	OB-6 Al - AP
									BangBox			
Total TCDD	PCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1,2,3,4,6,7,8-Heptachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1,2,3,4,7,8-hexachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1,2,3,6,7,8-hexachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1,2,3,7,8,9-Hexachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1,2,3,7,8-Pentachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
2,3,4,6,7,8-Hexachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
2,3,4,7,8-Pentachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
2,3,7,8-Tetrachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Total HpCDF	PCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Total HxCDF	PCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Total PeCDF	PCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Total TCDF	PCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Naphthalene	SVOC	5.00E-07	5.00E-10	4.06E-07	1.95E-07	4.79E-01	9.1E-07	2.2E+00	1.90E-08	7.50E-08	5.00E-10	5.00E-07
1,2,4-Trichlorobenzene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1,2,4-Trimethylbenzene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1,2-Dichloroethane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1,2-Dichloropropane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1,3-Butadiene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1,3-Dinitrobenzene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1,4-Dioxane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1-Butanol	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1-Butene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1-Heptene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1-Hexene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1-Nitropryene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1-Pentene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
1-Propanol	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
2-Butanone	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
2-Propanol	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
3-Ethyltoluene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00

Table B.2-1
OB Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	Maximum	Minimum	Mean	Standard Deviation of Mean	Standard Deviation / Mean	95% UCL	95% UCL / Mean	OB-3 Prop M1	OB-4 Prop M6	OB-5 Prop M30	OB-6 Al - AP
									BangBox			
Acetaldehyde	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Acetic Acid	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Acetone	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Acetonitrile	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Acetophenone	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Acetylene	VOC	2.00E-04	0.00E+00	2.24E-05	5.63E-05	2.51E+00	6.8E-05	3.0E+00	a	a	a	1.00E-05
Acrolein	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acrylonitrile	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Allyl Chloride	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Benzaldehyde	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Benzene	VOC	1.20E-04	0.00E+00	1.36E-05	3.28E-05	2.40E+00	1.2E-04	8.5E+00	4.80E-06	1.70E-06	0.00E+00	0.00E+00
Benzofuran	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Benzoic acid	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Benzonitrile	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Benzyl alcohol	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Benzyl chloride	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Biphenyl	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Butyl acrylate	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Butyraldehyde	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Carbon tetrachloride	VOC	1.10E-06	0.00E+00	1.33E-07	3.47E-07	2.61E+00	1.1E-06	8.3E+00	a	a	a	0.00E+00
Chlorobenzene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Chloroethane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Chloroform	VOC	4.20E-07	0.00E+00	4.20E-08	1.33E-07	3.16E+00	4.2E-07	1.0E+01	a	a	a	0.00E+00
Chlorotoluenes	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
cis-2-Butene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
cis-2-Pentene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Cyclohexane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Cyclopentane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Cyclopentene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Diethyl ether	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Ethane	VOC	1.30E-06	0.00E+00	2.30E-07	4.90E-07	2.13E+00	1.3E-06	5.7E+00	a	a	a	0.00E+00
Ethanol	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00

Table B.2-1
OB Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	Maximum	Minimum	Mean	Standard Deviation of Mean	Standard Deviation / Mean	95% UCL	95% UCL / Mean	OB-3 Prop M1	OB-4 Prop M6	OB-5 Prop M30	OB-6 Al - AP
									BangBox			
Ethyl chloride	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Ethylbenzene	VOC	8.00E-07	0.00E+00	1.06E-07	2.57E-07	2.43E+00	8.0E-07	7.5E+00	a	a	a	0.00E+00
Ethylene	VOC	7.80E-06	0.00E+00	2.58E-06	3.41E-06	1.32E+00	7.9E-06	3.1E+00	a	a	a	0.00E+00
Furan	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Hexachloro-1,3-butadiene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Isobutane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Isobutene	VOC	1.00E-05	0.00E+00	1.00E-06	3.16E-06	3.16E+00	1.0E-05	1.0E+01	a	a	a	1.00E-05
Isoheptane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Isopentane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Isopropylbenzene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
m-Dichlorobenzene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Methane	VOC	8.00E-03	4.60E-05	4.02E-03	5.62E-03	1.40E+00	8.0E-03	2.0E+00	8.00E-03	4.60E-05	a	a
Methyl chloride	VOC	7.10E-07	0.00E+00	1.18E-07	2.21E-07	1.87E+00	1.2E-06	9.9E+00	a	a	a	0.00E+00
Methyl chloroform	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Methylcyclohexane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Methylcyclopentane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Methylene chloride	VOC	2.30E-05	0.00E+00	2.36E-06	7.25E-06	3.07E+00	2.3E-05	9.7E+00	a	a	a	0.00E+00
n-Butane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
n-Decane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
n-Heptane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
n-Hexane	VOC	1.90E-05	0.00E+00	1.90E-06	6.01E-06	3.16E+00	1.9E-05	1.0E+01	a	a	a	0.00E+00
Nitrobenzene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Nitromethane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
n-Nonane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
n-Octane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
n-Pentane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
o-Dichlorobenzene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
o-Xylene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
p-Dichlorobenzene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
p-Ethyltoluene	VOC	4.00E-06	0.00E+00	5.94E-07	1.24E-06	2.08E+00	5.1E-06	8.6E+00	a	a	a	0.00E+00
Phenol	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Propane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00

Table B.2-1
OB Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	Maximum	Minimum	Mean	Standard Deviation of Mean	Standard Deviation / Mean	95% UCL	95% UCL / Mean	OB-3 Prop M1	OB-4 Prop M6	OB-5 Prop M30	OB-6 Al - AP
									BangBox			
Propylene	VOC	3.00E-06	0.00E+00	7.80E-07	1.11E-06	1.42E+00	2.9E-06	3.7E+00	a	a	a	0.00E+00
Pyrene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Pyridine	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Styrene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Tetrachloroethylene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Toluene	VOC	3.40E-06	0.00E+00	5.74E-07	1.14E-06	1.99E+00	3.4E-06	5.9E+00	a	a	a	0.00E+00
Total Non-methane Hydrocarbons	VOC	4.60E-04	0.00E+00	6.73E-05	1.23E-04	1.82E+00	1.8E-04	2.7E+00	4.60E-04	1.30E-05	1.50E-06	5.00E-05
trans-2-Butene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
trans-2-Hexene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
trans-2-Pentene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Trichloroethene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Vinyl acetate	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
Vinyl chloride	VOC	1.50E-06	0.00E+00	1.72E-07	4.72E-07	2.74E+00	1.5E-06	8.7E+00	a	a	a	0.00E+00
Xylenes	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	.	.	.	a	a	a	0.00E+00
					Mean	1.64E+00						

EXPLANATION OF LETTER CODES (SEE DOCUMENTATION FOR MORE INFORMATION)

a = no sample collected or no result reported or sample invalid or result reported not a meaningful value

Highlighted values represent the maximum value since there are an insufficient number of samples to calculate 95% UCL.

Table B.2-1
OB Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	OB-7 AP, Non-Al_ized	OB-8 Prop Comp (MK-6)	OB-9 Prop Double Base, DPG	OB-10 Prop Double Base, Sandia	OB-11 Prop M3	OB-12 Prop M43 (USN)	OB-13 Prop M9	OB-14 Prop M31A1E1	OB-15 Prop MK23	OB-16 Prop PBXN-110	OB-17 Smoke-less Pwdr
		BangBox										
2,4-Dinitrotoluene	ENERGETIC	a	a	a	a	3.00E-08	a	a	a	a	a	a
2,6-Dinitrotoluene	ENERGETIC	a	a	a	a	3.00E-08	a	a	a	a	a	a
Diphenylamine	ENERGETIC	a	a	a	a	3.00E-08	a	3.00E-08	a	a	a	a
HMX	ENERGETIC	a	a	a	a	a	a	a	a	a	3.00E-08	a
RDX	ENERGETIC	a	a	a	a	a	3.00E-08	a	a	a	a	a
Nitroglycerine	ENERGETIC	a	a	a	3.00E-08	a	a	3.00E-08	3.00E-08	a	a	3.00E-08
Nitroguanidine (NQ)	ENERGETIC	a	a	a	a	a	a	a	3.00E-08	a	a	a
Carbon dioxide	INORGANIC	3.70E-01	4.20E-01	6.70E-01	9.70E-01	1.20E+00	7.70E-01	9.40E-01	5.90E-01	5.40E-01	1.00E+00	8.70E-01
Carbon monoxide	INORGANIC	1.40E-04	4.20E-03	1.50E-03	9.50E-04	1.40E-02	6.60E-04	2.70E-03	1.30E-04	2.70E-04	1.20E-03	1.60E-03
Chlorine	INORGANIC	9.20E-03	a	a	a	a	a	a	a	a	a	a
Hydrogen chloride	INORGANIC	2.20E-01	a	a	a	a	a	a	a	a	a	a
Hydrogen Cyanide	INORGANIC	a	0.00E+00	a	0.00E+00	a	a	a	0.00E+00	a	a	a
Nitric oxide	INORGANIC	4.00E-03	2.10E-03	1.70E-03	2.40E-02	a	6.30E-03	a	1.20E-03	a	2.60E-03	a
Nitrogen dioxide	INORGANIC	2.40E-03	1.00E-03	1.00E-04	2.80E-03	a	4.70E-04	a	1.00E-04	a	2.80E-04	a
Nitrogen Oxides	INORGANIC	8.27E-03	4.08E-03	2.59E-03	3.80E-02	a	9.71E-03	a	1.86E-03	a	4.09E-03	a
Filterable particulate matter 10 micron	INORGANIC	1.50E-02	a	1.90E-02	a	8.60E-03	1.20E-03	a	9.10E-01	5.90E-02	4.90E-01	1.80E-03
Filterable particulate matter 2.5 micron	INORGANIC	a	a	a	a	a	a	a	a	a	a	a
Sulfur dioxide	INORGANIC	a	1.10E-03	a	3.20E-03	a	1.20E-04	a	1.20E-03	a	3.50E-04	a
Aluminum	METAL	a	1.30E-03	a	a	a	a	a	a	a	a	a
Lead	METAL	a	a	5.60E-03	1.30E-02	a	a	a	a	a	a	a
1,2,3,4,6,7,8,9-Octachlorodibenzodioxin	PCDD	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	PCDD	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
1,2,3,4,7,8,9-Heptachlorodibenzofuran	PCDD	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	PCDD	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	PCDD	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	PCDD	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	PCDD	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	PCDD	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
Total HpCDD	PCDD	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
Total HxCDD	PCDD	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
Total PeCDD	PCDD	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a

Table B.2-1
OB Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	OB-7 AP, Non-Al_ized	OB-8 Prop Comp (MK-6)	OB-9 Prop Double Base, DPG	OB-10 Prop Double Base, Sandia	OB-11 Prop M3	OB-12 Prop M43 (USN)	OB-13 Prop M9	OB-14 Prop M31A1E1	OB-15 Prop MK23	OB-16 Prop PBXN-110	OB-17 Smoke-less Pwdr
		BangBox										
Total TCDD	PCDD	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
1,2,3,4,6,7,8-Heptachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
1,2,3,4,7,8-hexachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
1,2,3,6,7,8-hexachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
1,2,3,7,8,9-Hexachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
1,2,3,7,8-Pentachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
2,3,4,6,7,8-Hexachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
2,3,4,7,8-Pentachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
2,3,7,8-Tetrachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
Total HpCDF	PCDF	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
Total HxCDF	PCDF	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
Total PeCDF	PCDF	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
Total TCDF	PCDF	0.00E+00	0.00E+00	a	a	a	a	a	0.00E+00	a	a	a
Naphthalene	SVOC	5.00E-07	5.00E-07	5.00E-07	5.00E-07	5.00E-07	5.00E-07	5.00E-07	5.00E-07	5.00E-07	5.00E-07	5.00E-07
1,2,4-Trichlorobenzene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,2,4-Trimethylbenzene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,2-Dichloroethane	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,2-Dichloropropane	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,3-Butadiene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,3-Dinitrobenzene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,4-Dioxane	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1-Butanol	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1-Butene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1-Heptene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1-Hexene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1-Nitropryene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1-Pentene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1-Propanol	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2-Butanone	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2-Propanol	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3-Ethyltoluene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table B.2-1
OB Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	OB-7 AP, Non-Al_ized	OB-8 Prop Comp (MK-6)	OB-9 Prop Double Base, DPG	OB-10 Prop Double Base, Sandia	OB-11 Prop M3	OB-12 Prop M43 (USN)	OB-13 Prop M9	OB-14 Prop M31A1E1	OB-15 Prop MK23	OB-16 Prop PBXN-110	OB-17 Smoke-less Pwdr
		BangBox										
Acetaldehyde	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acetic Acid	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acetone	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acetonitrile	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acetophenone	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acetylene	VOC	0.00E+00	2.10E-05	0.00E+00	2.00E-04	1.30E-05	5.90E-06	9.00E-06	0.00E+00	5.50E-06	3.10E-06	1.20E-06
Acrolein	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acrylonitrile	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Allyl Chloride	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzaldehyde	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	VOC	0.00E+00	5.70E-05	0.00E+00	1.20E-04	1.00E-05	1.70E-06	3.20E-06	0.00E+00	0.00E+00	4.90E-06	1.20E-06
Benzofuran	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzoic acid	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzonitrile	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzyl alcohol	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzyl chloride	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biphenyl	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Butyl acrylate	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Butyraldehyde	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon tetrachloride	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	2.30E-07	0.00E+00	1.10E-06	0.00E+00	0.00E+00
Chlorobenzene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroethane	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.20E-07	0.00E+00	0.00E+00
Chlorotoluenes	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
cis-2-Butene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
cis-2-Pentene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cyclohexane	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cyclopentane	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cyclopentene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Diethyl ether	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethane	VOC	0.00E+00	a	0.00E+00	a	1.30E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-06	0.00E+00
Ethanol	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table B.2-1
OB Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	OB-7 AP, Non-Al_ized	OB-8 Prop Comp (MK-6)	OB-9 Prop Double Base, DPG	OB-10 Prop Double Base, Sandia	OB-11 Prop M3	OB-12 Prop M43 (USN)	OB-13 Prop M9	OB-14 Prop M31A1E1	OB-15 Prop MK23	OB-16 Prop PBXN-110	OB-17 Smoke-less Pwdr
		BangBox										
Ethyl chloride	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylbenzene	VOC	0.00E+00	a	0.00E+00	a	2.60E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.00E-07	0.00E+00
Ethylene	VOC	0.00E+00	a	0.00E+00	a	7.80E-06	4.80E-06	6.50E-06	0.00E+00	0.00E+00	6.70E-06	0.00E+00
Furan	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexachloro-1,3-butadiene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isobutane	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isobutene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isoheptane	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopentane	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropylbenzene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
m-Dichlorobenzene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methane	VOC	a	a	a	a	a	a	a	a	a	a	a
Methyl chloride	VOC	0.00E+00	a	0.00E+00	a	1.40E-07	0.00E+00	1.50E-07	0.00E+00	7.10E-07	1.80E-07	0.00E+00
Methyl chloroform	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylcyclohexane	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylcyclopentane	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene chloride	VOC	0.00E+00	a	0.00E+00	a	2.30E-05	0.00E+00	0.00E+00	0.00E+00	6.00E-07	0.00E+00	0.00E+00
n-Butane	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
n-Decane	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
n-Heptane	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
n-Hexane	VOC	0.00E+00	a	0.00E+00	a	1.90E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nitrobenzene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nitromethane	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
n-Nonane	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
n-Octane	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
n-Pentane	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
o-Dichlorobenzene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
o-Xylene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
p-Dichlorobenzene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
p-Ethyltoluene	VOC	0.00E+00	a	0.00E+00	a	9.80E-07	1.80E-07	4.00E-06	0.00E+00	0.00E+00	3.00E-07	4.80E-07
Phenol	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Propane	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table B.2-1
OB Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	OB-7 AP, Non-Al_ized	OB-8 Prop Comp (MK-6)	OB-9 Prop Double Base, DPG	OB-10 Prop Double Base, Sandia	OB-11 Prop M3	OB-12 Prop M43 (USN)	OB-13 Prop M9	OB-14 Prop M31A1E1	OB-15 Prop MK23	OB-16 Prop PBXN-110	OB-17 Smoke-less Pwdr
		BangBox										
Propylene	VOC	0.00E+00	a	0.00E+00	a	2.00E-06	1.10E-06	0.00E+00	0.00E+00	1.70E-06	3.00E-06	0.00E+00
Pyrene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pyridine	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Styrene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	VOC	0.00E+00	a	0.00E+00	a	1.80E-06	5.40E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.40E-06
Total Non-methane Hydrocarbons	VOC	4.00E-05	a	1.00E-05	a	9.30E-05	4.10E-05	1.50E-05	1.00E-04	0.00E+00	5.10E-05	0.00E+00
trans-2-Butene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
trans-2-Hexene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
trans-2-Pentene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Trichloroethene	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Vinyl acetate	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Vinyl chloride	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E-06	2.20E-07	0.00E+00
Xylenes	VOC	0.00E+00	a	0.00E+00	a	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	Maximum	Minimum	Mean	Standard Deviation of Mean	Standard Deviation / Mean	95% UCL	95% UCL / Mean	TEST OD-1 CompB Bulk	TEST OD-3 RDX Bulk	TEST OD-4 TNT Bulk Surface OD	TEST OD-5 TNT 10-m AGL OD	TEST OD-7 40mm HEI Cart.	TEST OD-8 Amatol Surrog.	TEST OD-9 Im.Cart.ARD 446-1	TEST OD-10 Im.Cart.BBU-36/B
											BangBox					
1,3,5-Trinitrobenzene	ENERGETIC	9.9E-06	0.0E+00	1.1E-06	2.8E-06	2.4E+00	1.1E-05	9.6E+00	5.9E-08	4.4E-08	0.0E+00	0.0E+00	a	0.0E+00	a	a
1,1,1-Trichloroethane	SVOC	2.2E-05	0.0E+00	1.4E-06	5.2E-06	3.7E+00	2.2E-05	1.6E+01	a	a	a	a	a	a	a	a
1,2,3,4,6,7,8,9-Octachlorodibenzodioxin	PCDD	6.3E-10	0.0E+00	1.5E-10	2.0E-10	1.3E+00	3.2E-10	2.1E+00	a	a	a	a	a	a	0.0E+00	0.0E+00
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	PCDF	1.7E-09	0.0E+00	7.6E-11	3.4E-10	4.5E+00	1.2E-09	1.5E+01	a	a	a	a	a	a	0.0E+00	0.0E+00
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	PCDD	6.1E-11	0.0E+00	1.3E-11	1.6E-11	1.2E+00	2.7E-11	2.0E+00	a	a	a	a	a	a	0.0E+00	0.0E+00
1,2,3,4,6,7,8-Heptachlorodibenzofuran	PCDF	5.2E-10	0.0E+00	2.4E-11	1.1E-10	4.3E+00	3.6E-10	1.5E+01	a	a	a	a	a	a	0.0E+00	0.0E+00
1,2,3,4,7,8,9-Heptachlorodibenzofuran	PCDD	1.2E-10	0.0E+00	5.9E-12	2.5E-11	4.2E+00	3.6E-11	6.2E+00	a	a	a	a	a	a	0.0E+00	0.0E+00
1,2,3,4,7,8-hexachlorodibenzofuran	PCDF	1.5E-10	0.0E+00	8.0E-12	3.0E-11	3.8E+00	1.1E-10	1.4E+01	a	a	a	a	a	a	0.0E+00	0.0E+00
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	PCDD	3.6E-12	0.0E+00	3.7E-13	8.5E-13	2.3E+00	2.1E-12	5.7E+00	a	a	a	a	a	a	0.0E+00	0.0E+00
1,2,3,6,7,8-hexachlorodibenzofuran	PCDF	5.7E-11	0.0E+00	2.9E-12	1.1E-11	4.0E+00	2.4E-11	8.3E+00	a	a	a	a	a	a	0.0E+00	0.0E+00
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	PCDD	6.2E-12	0.0E+00	8.7E-13	1.4E-12	1.6E+00	2.9E-12	3.3E+00	a	a	a	a	a	a	0.0E+00	0.0E+00
1,2,3,7,8,9-Hexachlorodibenzofuran	PCDF	5.2E-12	0.0E+00	2.9E-13	1.1E-12	3.8E+00	5.2E-12	1.8E+01	a	a	a	a	a	a	0.0E+00	0.0E+00
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	PCDD	1.2E-11	0.0E+00	1.2E-12	2.5E-12	2.2E+00	5.3E-12	4.6E+00	a	a	a	a	a	a	0.0E+00	0.0E+00
1,2,3,7,8-Pentachlorodibenzofuran	PCDF	3.3E-11	0.0E+00	1.8E-12	6.7E-12	3.6E+00	2.8E-11	1.5E+01	a	a	a	a	a	a	0.0E+00	0.0E+00
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	PCDD	4.3E-11	0.0E+00	2.0E-12	8.8E-12	4.4E+00	1.2E-10	6.2E+01	a	a	a	a	a	a	0.0E+00	0.0E+00
1,2,4-Trichlorobenzene	VOC	1.5E-04	0.0E+00	8.1E-06	3.5E-05	4.3E+00	1.5E-04	1.9E+01	a	a	a	a	a	a	a	a
1,2,4-Trimethylbenzene	VOC	6.8E-06	0.0E+00	7.4E-07	1.7E-06	2.2E+00	4.6E-06	6.2E+00	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
1,2-Dichloroethane	VOC	2.2E-05	0.0E+00	1.3E-06	4.7E-06	3.6E+00	2.1E-05	1.6E+01	a	a	a	a	0.0E+00	a	0.0E+00	0.0E+00
1,2-Dichloropropane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.		a	a	a	a	0.0E+00	a	0.0E+00	0.0E+00
1,2-Propadiene	VOC TICs	4.1E-06	0.0E+00	4.3E-07	1.0E-06	2.4E+00	3.7E-06	8.6E+00	a	a	a	a	a	a	a	a
1,3 Butadiyne	VOC TICs	4.9E-06	0.0E+00	3.2E-07	1.1E-06	3.6E+00	4.9E-06	1.5E+01	a	a	a	a	a	a	a	a
1,3,5-Trimethylbenzene	VOC	1.5E-06	0.0E+00	1.8E-07	4.7E-07	2.6E+00	1.5E-06	8.5E+00	a	a	a	a	a	a	a	a
1,3,5-Trinitrobenzene	SVOC TICs	5.7E-06	0.0E+00	3.0E-07	.	.	5.7E-06	1.9E+01	a	a	a	a	a	a	a	a
1,3-Butadiene	VOC	8.0E-05	0.0E+00	4.4E-06	1.4E-05	3.2E+00	1.7E-05	3.9E+00	a	a	a	a	1.9E-06	0.0E+00	6.7E-06	2.8E-06
1,3-dichlorobenzene	SVOC	0.0E+00	0.0E+00	0.0E+00	.	.	.	.	a	a	a	a	a	a	a	a
1,3-Dinitrobenzene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
1,4-Dichlorobenzene	VOC	1.1E-05	0.0E+00	5.8E-07	.	.	1.1E-05	1.9E+01	a	a	a	a	a	a	a	a
1,4-Dioxane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
1-Butanol	VOC	2.5E-05	0.0E+00	8.7E-07	4.3E-06	4.9E+00	2.5E-05	2.9E+01	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
1-Butanol 3-methyl-acetate	SVOC TICs	4.1E-03	0.0E+00	2.4E-04	9.3E-04	3.9E+00	4.1E-03	1.7E+01	a	a	a	a	a	a	a	a
1-Butanol, 2-methyl-	SVOC TICs	3.5E-05	0.0E+00	1.9E-06	.	.	3.5E-05	1.9E+01	a	a	a	a	a	a	a	a
1-Butanol, 3-methyl-	SVOC TICs	4.1E-05	0.0E+00	2.2E-06	.	.	4.1E-05	1.9E+01	a	a	a	a	a	a	a	a
1-Butanol, 3-methyl-, acetate	SVOC TICs	0.0E+00	0.0E+00	0.0E+00	.	.	.	.	a	a	a	a	a	a	a	a
1-Buten-3-yne	VOC TICs	2.5E-06	0.0E+00	1.3E-07	.	.	2.5E-06	1.9E+01	a	a	a	a	a	a	a	a
1-Butene	VOC	4.2E-05	0.0E+00	4.8E-06	9.4E-06	1.9E+00	1.7E-05	3.6E+00	a	a	a	a	5.0E-06	1.7E-06	0.0E+00	7.3E-06
1-Butene / Isobutylene	Hydrocarbons	8.6E-06	0.0E+00	4.5E-07	2.0E-06	4.4E+00	8.6E-06	1.9E+01	a	a	a	a	a	a	a	a
1-Heptene	VOC	1.2E-05	0.0E+00	3.4E-07	2.0E-06	5.9E+00	1.2E-05	3.5E+01	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
1-Hexene	VOC	2.5E-05	0.0E+00	4.1E-06	7.0E-06	1.7E+00	2.6E-05	6.3E+00	a	a	a	a	1.4E-06	2.0E-06	1.8E-05	1.9E-05
1-Nitropryene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
1-Pentanol,2-methyl-, acetate	VOC TICs	8.4E-06	0.0E+00	4.4E-07	.	.	8.4E-06	1.9E+01	a	a	a	a	a	a	a	a
1-Pentene	VOC	1.4E-05	0.0E+00	1.9E-06	3.5E-06	1.8E+00	1.0E-05	5.2E+00	a	a	a	a	1.2E-06	1.2E-06	8.9E-06	1.0E-05
1-Propanol	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.		.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
1-Propene, 2-methyl-	VOC TICs	1.9E-06	0.0E+00	1.0E-07	4.5E-07	4.4E+00	1.9E-06	1.9E+01	a	a	a	a	a	a	a	a
1-Propene,2-methyl-Isomer	VOC TICs	2.2E-06	0.0E+00	1.1E-07	.	.	2.2E-06	1.9E+01	a	a	a	a	a	a	a	a
1-Propyne	VOC TICs	9.2E-07	0.0E+00	8.5E-08	2.6E-07	3.0E+00	9.2E-07	1.1E+01	a	a	a	a	a	a	a	a
2,3,4,6,7,8-Hexachlorodibenzofuran	PCDF	4.9E-11	0.0E+00	2.5E-12	1.0E-11	3.9E+00	3.3E-11	1.3E+01	a	a	a	a	a	a	0.0E+00	0.0E+00
2,3,4,7,8-Pentachlorodibenzofuran	PCDF	4.1E-11	0.0E+00	2.5E-12	8.5E-12	3.4E+00	2.1E-11	8.5E+00	a	a	a	a	a	a	0.0E+00	0.0E+00
2,3,7,8-Tetrachlorodibenzofuran	PCDF	7.9E-11	0.0E+00	4.8E-12	1.6E-11	3.4E+00	5.9E-11	1.2E+01	a	a	a	a	a	a	0.0E+00	0.0E+00
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	PCDD	2.8E-10	0.0E+00	1.2E-11	5.8E-11	4.7E+00	2.8E-10	2.3E+01	a	a	a	a	a	a	0.0E+00	0.0E+00
2,4,6-Trinitrotoluene	ENERGETIC	8.1E-05	0.0E+00	5.8E-06	1.9E-05	3.2E+00	7.1E-05	1.2E+01	2.5E-07	a	1.4E-07	1.4E-07	a	5.0E-08	a	a
2,4-Dinitrophenol	SVOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	Maximum	Minimum	Mean	Standard Deviation of Mean	Standard Deviation / Mean	95% UCL	95% UCL / Mean	TEST OD-1 CompB Bulk	TEST OD-3 RDX Bulk	TEST OD-4 TNT Bulk Surface OD	TEST OD-5 TNT 10-m AGL OD	TEST OD-7 40mm HEI Cart.	TEST OD-8 Amatol Surrog.	TEST OD-9 Im.Cart.ARD 446-1	TEST OD-10 Im.Cart.BBU-36/B
											BangBox					
2,4-dinitrotoluene	SVOC	2.6E-05	0.0E+00	1.5E-06	6.1E-06	3.9E+00	2.6E-05	1.7E+01	a	a	a	a	a	a	a	a
2,6-Dinitrotoluene	ENERGETIC	4.1E-08	0.0E+00	2.5E-09	8.6E-09	3.5E+00	4.1E-08	1.7E+01	2.4E-08	4.1E-08	9.5E-09	0.0E+00	a	0.0E+00	a	a
2-Amino-4,6-Dinitrotoluene	ENERGETIC	9.9E-07	0.0E+00	1.4E-07	3.2E-07	2.3E+00	1.1E-06	7.9E+00	a	a	a	a	a	a	a	a
2-Butanone	VOC	9.5E-06	0.0E+00	5.8E-07	1.9E-06	3.2E+00	8.6E-06	1.5E+01	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2-Butenal	VOC TICs	2.5E-06	0.0E+00	1.3E-07	.	.	2.5E-06	1.9E+01	a	a	a	a	a	a	a	a
2-Butyne	Hydrocarbons	2.4E-05	0.0E+00	1.3E-06	.	.	2.4E-05	1.9E+01	a	a	a	a	a	a	a	a
2-Hexanol	SVOC TICs	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	a	a	a	a
2-methyl-2,3-pentanediol	SVOC TICs	7.5E-05	0.0E+00	4.0E-06	.	.	7.5E-05	1.9E+01	a	a	a	a	a	a	a	a
2-Methylnaphthalene	SVOC	0.0E+00	0.0E+00	0.0E+00	.	.	.	.	a	a	a	a	a	a	a	a
2-methylphenol	SVOC	1.0E-06	0.0E+00	5.3E-08	.	.	1.0E-06	1.9E+01	a	a	a	a	a	a	a	a
2-Nitrodiphenylamine	SVOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2-Nitronaphthalene	SVOC	8.6E-08	0.0E+00	4.6E-09	1.7E-08	3.7E+00	8.6E-08	1.9E+01	8.6E-08	4.9E-08	4.0E-08	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2-Nitrophenol	SVOC	3.9E-06	0.0E+00	1.0E-07	6.3E-07	6.2E+00	3.9E-06	3.8E+01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2-Nitrotoluene	ENERGETIC	0.0E+00	0.0E+00	0.0E+00	.	.	.	.	a	a	a	a	a	a	a	a
2-Pentanol, 4-methyl-	SVOC TICs	2.4E-06	0.0E+00	1.3E-07	5.4E-07	4.3E+00	2.4E-06	1.9E+01	a	a	a	a	a	a	a	a
2-Propanol	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2-Propenal, 2-methyl-	VOC TICs	4.0E-06	0.0E+00	5.1E-07	1.2E-06	2.3E+00	4.0E-06	7.9E+00	a	a	a	a	a	a	a	a
3-Buten-2-one	VOC TICs	7.0E-06	0.0E+00	8.2E-07	2.0E-06	2.5E+00	7.0E-06	8.6E+00	a	a	a	a	a	a	a	a
3-Chloropropene	VOC	0.0E+00	0.0E+00	0.0E+00	.	.	.	.	a	a	a	a	a	a	a	a
3-Ethyltoluene	VOC	5.6E-06	0.0E+00	3.4E-07	9.7E-07	2.9E+00	3.1E-06	9.2E+00	a	a	a	a	0.0E+00	3.7E-07	5.1E-07	1.0E-06
3-Nitrotoluene	ENERGETIC	4.0E-07	0.0E+00	2.1E-08	.	.	4.0E-07	1.9E+01	a	a	a	a	a	a	a	a
4-Amino-2,6-Dinitrotoluene	ENERGETIC	1.1E-06	0.0E+00	1.4E-07	3.0E-07	2.2E+00	1.0E-06	7.2E+00	a	a	a	a	a	a	a	a
4-Chloro-3-methylphenol	SVOC	0.0E+00	0.0E+00	0.0E+00	.	.	.	.	a	a	a	a	a	a	a	a
4-Ethyltoluene	VOC	3.4E-06	0.0E+00	4.8E-07	1.1E-06	2.4E+00	4.1E-06	8.6E+00	a	a	a	a	a	a	a	a
4-Nitrophenol	SVOC	5.1E-06	0.0E+00	1.3E-07	8.2E-07	6.2E+00	5.1E-06	3.8E+01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
4-Nitrotoluene	ENERGETIC	2.0E-05	0.0E+00	1.5E-06	4.8E-06	3.1E+00	2.0E-05	1.3E+01	a	a	a	a	a	a	a	a
Acenaphthene	TO-13 (PAHs)	1.5E-06	0.0E+00	1.0E-07	3.3E-07	3.2E+00	1.3E-06	1.2E+01	a	a	a	a	a	a	a	a
Acenaphthylene	TO-13 (PAHs)	2.5E-04	0.0E+00	1.3E-05	5.7E-05	4.2E+00	2.1E-04	1.6E+01	a	a	a	a	a	a	a	a
Acetaldehyde	TO-11 Carbonyls	1.5E-04	0.0E+00	1.9E-05	3.6E-05	1.9E+00	6.1E-05	3.2E+00	a	a	a	a	a	a	a	a
Acetic Acid	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Acetic Acid, butyl ester	VOC TICs	1.2E-04	0.0E+00	7.1E-06	2.8E-05	3.9E+00	1.2E-04	1.7E+01	a	a	a	a	a	a	a	a
Acetic Acid, hexyl ester	VOC TICs	8.2E-06	0.0E+00	4.3E-07	.	.	8.2E-06	1.9E+01	a	a	a	a	a	a	a	a
Acetone	TO-11 Carbonyls	1.5E-04	0.0E+00	2.4E-05	4.4E-05	1.8E+00	8.0E-05	3.3E+00	a	a	a	a	a	a	a	a
Acetonitrile	VOC	8.2E-05	0.0E+00	7.5E-06	1.7E-05	2.3E+00	4.0E-05	5.3E+00	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Acetophenone	SVOC TICs	7.9E-06	0.0E+00	4.2E-07	.	.	7.9E-06	1.9E+01	a	a	a	a	a	a	a	a
Acetylene	VOC	2.0E-03	0.0E+00	1.8E-04	3.7E-04	2.0E+00	4.3E-04	2.4E+00	a	a	a	a	4.2E-05	9.6E-05	2.2E-04	1.5E-04
Acrolein	VOC	2.2E-04	0.0E+00	1.3E-05	3.9E-05	3.1E+00	2.1E-04	1.7E+01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Acrylonitrile	VOC	6.5E-05	0.0E+00	3.7E-06	1.1E-05	3.0E+00	2.5E-05	6.6E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Aliphatic with triple C-N bond	VOC TICs	1.6E-06	0.0E+00	8.6E-08	.	.	1.6E-06	1.9E+01	a	a	a	a	a	a	a	a
Allyl Chloride	VOC	3.0E-05	0.0E+00	1.7E-06	5.8E-06	3.4E+00	2.8E-05	1.6E+01	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	9.3E-06
Alpha Methyl Styrene	VOC	4.9E-06	0.0E+00	2.6E-07	.	.	4.9E-06	1.9E+01	a	a	a	a	a	a	a	a
Aluminum	METAL	3.4E-02	0.0E+00	6.3E-03	8.4E-03	1.3E+00	1.4E-02	2.3E+00	a	a	a	a	1.5E-02	a	3.9E-03	1.1E-02
Ammonia	Permanent Gases	3.2E-03	0.0E+00	2.5E-04	7.9E-04	3.2E+00	3.2E-03	1.3E+01	a	a	a	a	a	a	a	a
Anthracene	TO-13 (PAHs)	5.9E-06	0.0E+00	3.6E-07	1.3E-06	3.7E+00	4.6E-06	1.3E+01	a	a	a	a	a	a	a	a
Antimony	METAL	2.4E-04	0.0E+00	2.1E-05	6.0E-05	2.8E+00	1.8E-04	8.5E+00	a	a	a	a	a	a	a	a
Arsenic	METAL	1.5E-08	0.0E+00	8.0E-10	3.5E-09	4.4E+00	1.5E-08	1.9E+01	a	a	a	a	a	a	a	a
Barium	METAL	9.8E-03	0.0E+00	9.5E-04	2.5E-03	2.6E+00	3.7E-03	4.0E+00	a	a	a	a	a	a	a	a
Benzaldehyde	TO-11 Carbonyls	1.0E-04	0.0E+00	7.3E-06	2.4E-05	3.3E+00	1.0E-04	1.4E+01	a	a	a	a	a	a	a	a
Benzaldehyde, 4-ethyl-	SVOC TICs	0.0E+00	0.0E+00	0.0E+00	.	.	.	.	a	a	a	a	a	a	a	a
Benzaldehyde,ethyl-	SVOC TICs	1.8E-05	0.0E+00	9.5E-07	.	.	1.8E-05	1.9E+01	a	a	a	a	a	a	a	a

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	Maximum	Minimum	Mean	Standard Deviation of Mean	Standard Deviation / Mean	95% UCL	95% UCL / Mean	TEST OD-1 CompB Bulk	TEST OD-3 RDX Bulk	TEST OD-4 TNT Bulk Surface OD	TEST OD-5 TNT 10-m AGL OD	TEST OD-7 40mm HEI Cart.	TEST OD-8 Amatol Surrog.	TEST OD-9 Im.Cart.ARD 446-1	TEST OD-10 Im.Cart.BBU-36/B
											BangBox					
Benzene	VOC	2.8E-03	0.0E+00	1.2E-04	4.5E-04	3.7E+00	4.8E-04	3.9E+00	6.2E-06	6.9E-05	9.7E-05	6.2E-05	2.8E-05	2.3E-05	6.7E-05	2.1E-05
Benzene, (2-nitroethenyl)-	SVOC TICs	1.7E-05	0.0E+00	9.0E-07	.	.	1.7E-05	1.9E+01	a	a	a	a	a	a	a	a
Benzene, (epoxyethyl)-, R,	SVOC TICs	2.1E-05	0.0E+00	1.1E-06	.	.	2.1E-05	1.9E+01	a	a	a	a	a	a	a	a
Benzene, 1,3,5-trimethyl-	SVOC TICs	0.0E+00	0.0E+00	0.0E+00	.	.	.	.	a	a	a	a	a	a	a	a
Benzene, 1-ethenyl-3-methyl-	SVOC TICs	0.0E+00	0.0E+00	0.0E+00	.	.	.	.	a	a	a	a	a	a	a	a
Benzene, 1-ethyl-2methyl-	SVOC TICs	0.0E+00	0.0E+00	0.0E+00	.	.	.	.	a	a	a	a	a	a	a	a
Benzene, 2-methyl- 1,3,5-trinitro	SVOC TICs	9.8E-05	0.0E+00	5.5E-06	2.3E-05	4.1E+00	9.8E-05	1.8E+01	a	a	a	a	a	a	a	a
Benzene, propyl-	VOC TICs	1.1E-06	0.0E+00	6.0E-08	2.6E-07	4.4E+00	1.1E-06	1.9E+01	a	a	a	a	a	a	a	a
Benzenecarbothioic acid, 2,6-dic	SVOC TICs	0.0E+00	0.0E+00	0.0E+00	.	.	.	.	a	a	a	a	a	a	a	a
Benzo(a)anthracene	TO-13 (PAHs)	5.1E-06	0.0E+00	3.0E-07	1.2E-06	3.8E+00	5.5E-06	1.8E+01	a	a	a	a	a	a	a	a
Benzo(a)pyrene	TO-13 (PAHs)	6.8E-06	0.0E+00	3.8E-07	1.6E-06	4.1E+00	5.7E-06	1.5E+01	a	a	a	a	a	a	a	a
Benzo(b)fluoranthene	TO-13 (PAHs)	2.1E-05	0.0E+00	1.1E-06	4.7E-06	4.2E+00	5.0E-06	4.4E+00	a	a	a	a	a	a	a	a
Benzo(e)pyrene	TO-13 (PAHs)	4.3E-06	0.0E+00	2.6E-07	9.9E-07	3.8E+00	3.4E-06	1.3E+01	a	a	a	a	a	a	a	a
Benzo(g,h,i)perylene	TO-13 (PAHs)	6.5E-06	0.0E+00	3.8E-07	1.5E-06	4.0E+00	1.1E-05	3.0E+01	a	a	a	a	a	a	a	a
Benzo(k)fluoranthene	TO-13 (PAHs)	2.7E-05	0.0E+00	1.5E-06	6.2E-06	4.1E+00	2.5E-04	1.6E+02	a	a	a	a	a	a	a	a
Benzofuran	SVOC TICs	7.9E-06	0.0E+00	4.1E-07	.	.	7.9E-06	1.9E+01	a	a	a	a	a	a	a	a
Benzoic acid	SVOC TICs	2.5E-05	0.0E+00	1.7E-06	6.0E-06	3.5E+00	2.5E-05	1.5E+01	a	a	a	a	a	a	a	a
Benzonitrile	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Benzyl alcohol	SVOC	1.2E-06	0.0E+00	6.4E-08	.	.	1.2E-06	1.9E+01	a	a	a	a	a	a	a	a
Benzyl chloride	VOC	2.1E-06	0.0E+00	6.1E-08	3.6E-07	5.9E+00	2.1E-06	3.5E+01	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Bicyclo [2.2.1] heptan-2-one, 1,3,3-trimethyl-	VOC TICs	1.7E-05	0.0E+00	9.1E-07	.	.	1.7E-05	1.9E+01	a	a	a	a	a	a	a	a
Bicyclo [2.2.1] heptan-2-one, 5,5,6-trimethyl-, ex	VOC TICs	5.7E-06	0.0E+00	3.0E-07	.	.	5.7E-06	1.9E+01	a	a	a	a	a	a	a	a
Bicyclo[2.2.1]heptan-2-one, 1,7,7-trimethyl-, (1S	SVOC TICs	7.7E-04	0.0E+00	4.1E-05	.	.	7.7E-04	1.9E+01	a	a	a	a	a	a	a	a
Bicyclo[2.2.1]heptan-2-one, 5,5,6-trimethyl-, end	SVOC TICs	5.2E-05	0.0E+00	2.7E-06	.	.	5.2E-05	1.9E+01	a	a	a	a	a	a	a	a
Biphenyl	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Bis(2-ethylhexyl)phthalate	SVOC	2.3E-04	0.0E+00	4.2E-05	6.9E-05	1.6E+00	1.5E-04	3.5E+00	a	a	a	a	a	a	a	a
Borneol	SVOC TICs	2.8E-05	0.0E+00	1.5E-06	.	.	2.8E-05	1.9E+01	a	a	a	a	a	a	a	a
Bromomethane	VOC	1.9E-05	0.0E+00	1.0E-06	4.4E-06	4.4E+00	1.9E-05	1.9E+01	a	a	a	a	a	a	a	a
Butanal	VOC TICs	6.9E-07	0.0E+00	3.6E-08	1.6E-07	4.4E+00	6.9E-07	1.9E+01	a	a	a	a	a	a	a	a
Butyl acrylate	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Butylbenzylphthalate	SVOC	2.4E-05	0.0E+00	2.7E-06	5.7E-06	2.1E+00	1.6E-05	6.1E+00	a	a	a	a	a	a	a	a
Butyraldehyde	TO-11 Carbonyls	1.8E-04	0.0E+00	1.9E-05	5.0E-05	2.6E+00	1.8E-04	9.5E+00	a	a	a	a	a	a	a	a
Cadmium	METAL	3.2E-03	0.0E+00	4.4E-04	8.6E-04	2.0E+00	2.8E-03	6.2E+00	a	a	a	a	a	a	a	a
Calcium	METAL	1.1E-03	0.0E+00	2.6E-04	3.5E-04	1.4E+00	9.0E-04	3.5E+00	a	a	a	a	a	a	a	a
Camphene	VOC TICs	6.4E-05	0.0E+00	3.4E-06	.	.	6.4E-05	1.9E+01	a	a	a	a	a	a	a	a
Camphor	VOC TICs	1.2E-05	0.0E+00	6.2E-07	.	.	1.2E-05	1.9E+01	a	a	a	a	a	a	a	a
Camphor & Benzoic Acid	SVOC TICs	0.0E+00	0.0E+00	0.0E+00	.	.	.	.	a	a	a	a	a	a	a	a
Carbon dioxide	Permanent Gases	5.0E+00	1.3E-01	1.1E+00	7.8E-01	7.3E-01	1.3E+00	1.2E+00	8.7E-01	5.7E-01	1.3E+00	1.4E+00	8.9E-01	7.0E-01	4.8E-01	5.0E-01
Carbon Disulfide	VOC	3.2E-05	0.0E+00	1.9E-06	7.3E-06	3.8E+00	3.2E-05	1.6E+01	a	a	a	a	a	a	a	a
Carbon monoxide	Permanent Gases	1.7E-01	2.2E-03	2.3E-02	2.9E-02	1.3E+00	3.0E-02	1.3E+00	3.1E-02	3.1E-02	5.5E-02	6.9E-03	2.1E-02	9.7E-03	1.3E-02	8.4E-03
Carbon tetrachloride	VOC	4.5E-06	0.0E+00	2.9E-07	8.9E-07	3.1E+00	7.5E-06	2.6E+01	a	a	a	a	4.5E-06	3.7E-07	0.0E+00	0.0E+00
Chlorobenzene	VOC	1.3E-04	0.0E+00	3.8E-06	2.2E-05	5.9E+00	1.3E-04	3.5E+01	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Chloroethane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Chloroform	VOC	3.8E-07	0.0E+00	2.1E-08	8.7E-08	4.1E+00	3.8E-07	1.8E+01	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Chloromethane	VOC	8.5E-05	0.0E+00	4.9E-06	1.9E-05	4.0E+00	3.3E-05	6.8E+00	a	a	a	a	a	a	a	a
Chlorotoluenes	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Chromium	METAL	1.4E-04	0.0E+00	3.1E-05	3.8E-05	1.2E+00	5.6E-05	1.8E+00	a	a	a	a	8.8E-05	a	b	2.2E-05
Chrysene	TO-13 (PAHs)	6.8E-06	0.0E+00	4.1E-07	1.6E-06	3.8E+00	1.9E-06	4.7E+00	a	a	a	a	a	a	a	a
cis-2-Butene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
cis-2-Pentene	VOC	1.2E-06	0.0E+00	1.6E-07	3.0E-07	1.8E+00	7.3E-07	4.5E+00	a	a	a	a	8.3E-07	0.0E+00	5.1E-07	3.7E-07

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	Maximum	Minimum	Mean	Standard Deviation of Mean	Standard Deviation / Mean	95% UCL	95% UCL / Mean	TEST OD-1 CompB Bulk	TEST OD-3 RDX Bulk	TEST OD-4 TNT Bulk Surface OD	TEST OD-5 TNT 10-m AGL OD	TEST OD-7 40mm HEI Cart.	TEST OD-8 Amatol Surrog.	TEST OD-9 Im.Cart.ARD 446-1	TEST OD-10 Im.Cart.BBU-36/B
											BangBox					
Cobalt	METAL	2.7E-05	0.0E+00	2.1E-06	6.7E-06	3.2E+00	2.7E-05	1.3E+01	a	a	a	a	a	a	a	a
Copper	METAL	3.5E-02	0.0E+00	2.8E-03	7.0E-03	2.5E+00	7.9E-03	2.8E+00	a	a	a	a	8.9E-03	a	a	1.2E-03
Cumene	VOC	1.2E-06	0.0E+00	6.1E-08	.	.	1.2E-06	1.9E+01	a	a	a	a	a	a	a	a
Cyclohexane	VOC	7.5E-06	0.0E+00	3.8E-07	1.3E-06	3.5E+00	4.5E-06	1.2E+01	a	a	a	a	7.5E-06	0.0E+00	0.0E+00	5.6E-07
Cyclohexanone	VOC TICs	9.4E-07	0.0E+00	5.0E-08	.	.	9.4E-07	1.9E+01	a	a	a	a	a	a	a	a
Cyclopentane, methylene- isomer	VOC TICs	2.4E-06	0.0E+00	1.2E-07	.	.	2.4E-06	1.9E+01	a	a	a	a	a	a	a	a
Cyclopentene	VOC	3.7E-06	0.0E+00	5.1E-07	9.3E-07	1.8E+00	1.9E-06	3.8E+00	a	a	a	a	8.3E-07	0.0E+00	3.1E-06	2.7E-06
Decanal	VOC TICs	3.3E-07	0.0E+00	1.8E-08	.	.	3.3E-07	1.9E+01	a	a	a	a	a	a	a	a
Dibenz(a,h)anthracene	TO-13 (PAHs)	5.1E-07	0.0E+00	3.8E-08	1.2E-07	3.1E+00	4.5E-07	1.2E+01	a	a	a	a	a	a	a	a
Dibenzofuran	SVOC	2.0E-06	0.0E+00	1.0E-07	4.4E-07	4.2E+00	2.0E-06	1.9E+01	a	2.0E-06	a	1.9E-07	a	a	a	a
Dichlorodiflouromethane	VOC	1.1E-06	0.0E+00	7.9E-08	2.5E-07	3.2E+00	9.4E-07	1.2E+01	a	a	a	a	a	a	a	a
Diethyl ether	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Diethylphthalate	SVOC	1.5E-03	0.0E+00	1.0E-04	3.3E-04	3.3E+00	1.3E-03	1.3E+01	a	a	a	a	a	a	a	4.0E-04
Dimethylbenzene isomer	SVOC TICs	1.8E-05	0.0E+00	1.5E-06	4.6E-06	3.1E+00	1.8E-05	1.2E+01	a	a	a	a	a	a	a	a
Di-n-butylphthalate	SVOC	1.3E-05	0.0E+00	2.6E-06	4.2E-06	1.6E+00	1.0E-05	3.8E+00	a	a	a	a	a	a	a	a
Di-n-octylphthalate	SVOC	1.3E-06	0.0E+00	6.9E-08	.	.	1.3E-06	1.9E+01	a	a	a	a	a	a	a	a
Diphenylamine	ENERGETIC	0.0E+00	0.0E+00	0.0E+00	.	.	.	.	a	a	a	a	a	a	a	a
Docosane	SVOC TICs	5.6E-05	0.0E+00	3.0E-06	1.3E-05	4.2E+00	5.6E-05	1.8E+01	a	a	a	a	a	a	a	a
Dodecanoic acid	SVOC TICs	1.7E-05	0.0E+00	8.8E-07	.	.	1.7E-05	1.9E+01	a	a	a	a	a	a	a	a
Eicosane	SVOC TICs	4.8E-05	0.0E+00	3.5E-06	1.1E-05	3.2E+00	4.8E-05	1.4E+01	a	a	a	a	a	a	a	a
Elemental Carbon	Carbon	2.2E-02	0.0E+00	4.5E-03	6.2E-03	1.4E+00	9.8E-03	2.2E+00	a	a	a	a	a	a	a	a
Ethane	VOC	7.3E-05	0.0E+00	9.1E-06	1.6E-05	1.8E+00	2.5E-05	2.8E+00	a	a	a	a	3.0E-05	4.1E-06	2.4E-05	3.4E-06
Ethanedinitrile	VOC TICs	1.9E-04	0.0E+00	2.2E-05	5.5E-05	2.5E+00	2.0E-04	9.1E+00	a	a	a	a	a	a	a	a
Ethanol	VOC	1.1E-04	0.0E+00	3.3E-06	1.9E-05	5.7E+00	1.3E-04	3.9E+01	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Ethanol, 2-butoxy-	SVOC TICs	8.6E-06	0.0E+00	4.5E-07	.	.	8.6E-06	1.9E+01	a	a	a	a	a	a	a	a
Ethanone, 1-(4-ethylphenyl)-	SVOC TICs	5.5E-07	0.0E+00	2.9E-08	.	.	5.5E-07	1.9E+01	a	a	a	a	a	a	a	a
Ethanone, 1,1'-(1,4-phenylene)bi	SVOC TICs	2.7E-06	0.0E+00	1.4E-07	.	.	2.7E-06	1.9E+01	a	a	a	a	a	a	a	a
Ethyl chloride	VOC	6.9E-07	0.0E+00	2.0E-08	1.2E-07	5.9E+00	6.9E-07	3.5E+01	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Ethylbenzene	VOC	3.8E-05	0.0E+00	3.4E-06	8.1E-06	2.4E+00	2.5E-05	7.3E+00	a	a	a	a	2.5E-06	1.2E-06	1.9E-06	2.4E-06
Ethylbenzoic acid	SVOC TICs	3.6E-06	0.0E+00	1.9E-07	.	.	3.6E-06	1.9E+01	a	a	a	a	a	a	a	a
Ethylene	VOC	8.2E-04	0.0E+00	1.3E-04	1.9E-04	1.5E+00	2.8E-04	2.2E+00	a	a	a	a	8.1E-05	3.1E-05	3.3E-04	2.7E-04
Ethylmethylbenzene isomer	SVOC TICs	1.1E-05	0.0E+00	5.8E-07	.	.	1.1E-05	1.9E+01	a	a	a	a	a	a	a	a
Filterable particulate matter 10 micron	Particulates	7.1E-01	0.0E+00	1.7E-01	1.9E-01	1.1E+00	2.6E-01	1.5E+00	a	a	a	a	4.7E-01	1.9E-02	8.3E-02	1.8E-01
Filterable particulate matter 2.5 micron	Particulates	9.6E+00	0.0E+00	1.3E+00	2.9E+00	2.2E+00	1.6E+01	1.2E+01	9.0E+00	9.6E+00	7.2E+00	1.6E+00	a	a	a	a
Fluoranthene	TO-13 (PAHs)	3.1E-05	0.0E+00	1.8E-06	7.2E-06	3.9E+00	2.2E-05	1.2E+01	a	a	a	a	a	a	a	a
Fluorene	TO-13 (PAHs)	3.5E-06	0.0E+00	2.5E-07	7.9E-07	3.2E+00	1.1E-06	4.3E+00	a	a	a	a	a	a	a	a
Formaldehyde	TO-11 Carbonyls	2.3E-04	0.0E+00	4.5E-05	5.9E-05	1.3E+00	1.0E-04	2.3E+00	a	a	a	a	a	a	a	a
Freon 113	VOC	9.6E-05	0.0E+00	5.0E-06	.	.	9.6E-05	1.9E+01	a	a	a	a	a	a	a	a
Furan	VOC	2.6E-06	0.0E+00	7.3E-08	4.3E-07	5.9E+00	2.6E-06	3.5E+01	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Furan 2,3-dihydro-	VOC TICs	6.7E-07	0.0E+00	3.5E-08	.	.	6.7E-07	1.9E+01	a	a	a	a	a	a	a	a
Furan, 2,5-dihydro	VOC TICs	6.7E-07	0.0E+00	3.5E-08	.	.	6.7E-07	1.9E+01	a	a	a	a	a	a	a	a
Furan, tetrahydro-	VOC TICs	1.0E-05	0.0E+00	5.3E-07	2.3E-06	4.4E+00	1.0E-05	1.9E+01	a	a	a	a	a	a	a	a
Heptane	VOC	1.3E-06	0.0E+00	7.6E-08	3.0E-07	3.9E+00	1.3E-06	1.7E+01	a	a	a	a	a	a	a	a
Heptane, 3-methylene-	VOC TICs	0.0E+00	0.0E+00	0.0E+00	.	.	.	.	a	a	a	a	a	a	a	a
Hexachloro-1,3-butadiene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Hexachlorobenzene	SVOC	2.3E-04	0.0E+00	1.2E-05	.	.	2.3E-04	1.9E+01	a	a	a	a	a	a	a	a
Hexadecane	SVOC TICs	1.6E-06	0.0E+00	8.3E-08	.	.	1.6E-06	1.9E+01	a	a	a	a	a	a	a	a
Hexanal	VOC TICs	9.6E-07	0.0E+00	5.1E-08	.	.	9.6E-07	1.9E+01	a	a	a	a	a	a	a	a
Hexane	VOC	6.0E-06	0.0E+00	9.8E-07	1.8E-06	1.8E+00	4.2E-06	4.2E+00	a	a	a	a	a	a	a	a
Hexanedioic acid isomer	SVOC TICs	3.4E-05	0.0E+00	1.8E-06	7.9E-06	4.4E+00	3.4E-05	1.9E+01	a	a	a	a	a	a	a	a

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	Maximum	Minimum	Mean	Standard Deviation of Mean	Standard Deviation / Mean	95% UCL	95% UCL / Mean	TEST OD-1 CompB Bulk	TEST OD-3 RDX Bulk	TEST OD-4 TNT Bulk Surface OD	TEST OD-5 TNT 10-m AGL OD	TEST OD-7 40mm HEI Cart.	TEST OD-8 Amatol Surrog.	TEST OD-9 Im.Cart.ARD 446-1	TEST OD-10 Im.Cart.BBU-36/B
											BangBox					
Hexanedioic acid, Bis (2-ethylhexyl)	SVOC TICs	2.2E-05	0.0E+00	1.4E-06	5.0E-06	3.6E+00	2.2E-05	1.5E+01	a	a	a	a	a	a	a	a
Hexatriacontane	SVOC TICs	4.0E-05	0.0E+00	4.5E-06	1.1E-05	2.5E+00	4.0E-05	8.8E+00	a	a	a	a	a	a	a	a
Hexavalent Chromium	CrVI	5.4E-06	0.0E+00	8.2E-07	1.5E-06	1.8E+00	4.0E-06	4.8E+00	a	a	a	a	a	a	a	a
HMX	ENERGETIC	1.5E-07	0.0E+00	7.8E-09	.	.	1.5E-07	1.9E+01	a	a	a	a	a	a	a	a
Hydrogen Chloride	Acid Gases	5.4E-03	0.0E+00	6.1E-04	1.6E-03	2.7E+00	4.8E-03	8.0E+00	a	a	a	a	a	a	a	a
Hydrogen Cyanide	Cyanide	1.1E-03	0.0E+00	3.0E-04	3.4E-04	1.1E+00	5.9E-04	2.0E+00	a	a	a	a	a	a	a	a
Hydrogen Fluoride	Acid Gases	5.2E-05	0.0E+00	2.7E-06	1.2E-05	4.4E+00	5.2E-05	1.9E+01	a	a	a	a	a	a	a	a
Indeno(1,2,3-cd)pyrene	TO-13 (PAHs)	1.3E-05	0.0E+00	7.1E-07	2.9E-06	4.1E+00	5.0E-05	7.0E+01	a	a	a	a	a	a	a	a
Iron	METAL	1.0E-04	0.0E+00	8.1E-06	2.6E-05	3.2E+00	1.0E-04	1.3E+01	a	a	a	a	a	a	a	a
Isoborneol	SVOC TICs	3.1E-05	0.0E+00	1.6E-06	.	.	3.1E-05	1.9E+01	a	a	a	a	a	a	a	a
Isobutane	VOC	2.3E-06	0.0E+00	3.3E-07	5.5E-07	1.7E+00	1.2E-06	3.7E+00	a	a	a	a	1.6E-06	6.2E-07	1.4E-06	0.0E+00
Isobutene	VOC	2.4E-05	0.0E+00	3.5E-06	6.6E-06	1.9E+00	1.3E-05	3.6E+00	a	a	a	a	8.8E-06	1.5E-06	2.2E-05	2.2E-05
Isobutyl phthlate	SVOC TICs	2.9E-06	0.0E+00	1.5E-07	.	.	2.9E-06	1.9E+01	a	a	a	a	a	a	a	a
Isobutylene	Hydrocarbons	2.8E-05	0.0E+00	1.7E-06	6.5E-06	3.8E+00	2.8E-05	1.7E+01	a	a	a	a	a	a	a	a
Isoheptane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Isopentane	VOC	9.1E-06	0.0E+00	7.1E-07	1.7E-06	2.4E+00	4.0E-06	5.6E+00	a	a	a	a	9.1E-06	1.5E-06	0.0E+00	9.7E-07
Isopropylbenzene	VOC	9.2E-07	0.0E+00	1.0E-07	2.4E-07	2.4E+00	7.8E-07	7.5E+00	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	9.2E-07
Lead	METAL	5.6E-03	0.0E+00	6.1E-04	1.2E-03	2.0E+00	1.6E-03	2.6E+00	a	a	a	a	3.7E-04	b	3.0E-05	1.3E-03
m/p-Xylene	VOC	7.0E-05	0.0E+00	5.9E-06	1.6E-05	2.7E+00	2.5E-05	4.3E+00	a	a	a	a	a	a	a	a
Magnesium	METAL	1.5E-01	0.0E+00	1.5E-02	4.4E-02	2.9E+00	8.3E-01	5.4E+01	a	a	a	a	a	a	a	a
Manganese	METAL	7.2E-04	0.0E+00	9.0E-05	1.7E-04	1.8E+00	2.8E-04	3.1E+00	a	a	a	a	a	a	a	a
m-Dichlorobenzene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Mercury (filter)	METAL	0.0E+00	0.0E+00	0.0E+00	.	.	.	.	a	a	a	a	a	a	a	a
Methacrylic acid, isopropyl ester	SVOC TICs	7.2E-06	0.0E+00	3.8E-07	.	.	7.2E-06	1.9E+01	a	a	a	a	a	a	a	a
Methane	VOC	1.8E-03	0.0E+00	4.4E-04	5.6E-04	1.3E+00	8.9E-04	2.0E+00	6.0E-04	2.0E-04	1.5E-03	1.5E-03	a	a	a	a
Methane, nitro-	VOC TICs	4.4E-06	0.0E+00	3.6E-07	1.1E-06	3.0E+00	4.4E-06	1.2E+01	a	a	a	a	a	a	a	a
Methenamine	SVOC TICs	3.6E-05	0.0E+00	1.9E-06	.	.	3.6E-05	1.9E+01	a	a	a	a	a	a	a	a
Methyl chloride	VOC	4.7E-06	0.0E+00	5.5E-07	1.2E-06	2.1E+00	3.1E-06	5.5E+00	a	a	a	a	0.0E+00	7.5E-07	1.2E-06	1.0E-06
Methyl chloroform	VOC	1.6E-05	0.0E+00	5.8E-07	2.7E-06	4.7E+00	2.4E-05	4.2E+01	a	a	a	a	0.0E+00	3.7E-07	1.2E-06	0.0E+00
Methyl Methacrylate	VOC	1.9E-07	0.0E+00	1.0E-08	.	.	1.9E-07	1.9E+01	a	a	a	a	a	a	a	a
Methyl t-Butyl Ether	VOC	2.9E-06	0.0E+00	1.5E-07	.	.	2.9E-06	1.9E+01	a	a	a	a	a	a	a	a
Methylcyclohexane	VOC	1.0E-05	0.0E+00	1.0E-06	2.3E-06	2.2E+00	5.0E-06	4.8E+00	a	a	a	a	2.5E-06	2.5E-06	0.0E+00	4.1E-07
Methylcyclopentane	VOC	1.6E-05	0.0E+00	9.3E-07	3.0E-06	3.3E+00	1.4E-05	1.5E+01	a	a	a	a	9.1E-06	1.9E-07	6.0E-07	1.1E-06
Methylene chloride	VOC	8.7E-04	0.0E+00	1.0E-04	1.9E-04	2.0E+00	3.3E-04	3.3E+00	a	a	a	a	8.7E-04	1.5E-04	5.0E-05	1.7E-04
Nanocosane	SVOC TICs	5.8E-05	0.0E+00	3.0E-06	1.3E-05	4.4E+00	5.8E-05	1.9E+01	a	a	a	a	a	a	a	a
Naphthalene	TO-13 (PAHs)	8.0E-04	0.0E+00	4.3E-05	1.8E-04	4.2E+00	5.5E-04	1.3E+01	a	a	a	a	a	a	a	a
n-Butane	VOC	4.8E-06	0.0E+00	7.0E-07	1.3E-06	1.8E+00	2.6E-06	3.7E+00	a	a	a	a	1.4E-06	6.2E-07	2.2E-06	4.8E-06
n-Decane	VOC	1.0E-05	0.0E+00	6.8E-07	2.0E-06	2.9E+00	1.1E-05	1.6E+01	a	a	a	a	5.2E-06	0.0E+00	3.4E-07	4.2E-06
n-Heptane	VOC	5.0E-06	0.0E+00	5.8E-07	1.1E-06	1.9E+00	2.2E-06	3.7E+00	a	a	a	a	5.0E-06	7.5E-07	1.8E-06	1.5E-06
n-Hexane	VOC	2.4E-04	0.0E+00	8.5E-06	4.0E-05	4.7E+00	1.7E-04	2.1E+01	a	a	a	a	1.9E-05	5.6E-07	1.5E-06	1.7E-06
Nickel	METAL	1.5E-04	0.0E+00	1.7E-05	4.6E-05	2.6E+00	1.7E-04	9.8E+00	a	a	a	a	a	a	a	a
Nitric Acid	Acid Gases	1.1E-03	0.0E+00	1.8E-04	2.8E-04	1.6E+00	6.2E-04	3.4E+00	a	a	a	a	a	a	a	a
Nitric oxide	INORGANIC	1.8E-02	0.0E+00	3.2E-03	4.8E-03	1.5E+00	9.1E-03	2.9E+00	8.0E-04	9.0E-04	1.0E-03	2.3E-03	a	1.8E-02	6.4E-03	4.0E-03
Nitrobenzene	ENERGETIC	8.2E-06	0.0E+00	4.3E-07	1.9E-06	4.4E+00	8.2E-06	1.9E+01	a	a	a	a	a	a	a	a
Nitrogen dioxide	INORGANIC	1.7E-02	0.0E+00	9.6E-04	3.0E-03	3.1E+00	5.0E-03	5.2E+00	1.0E-03	6.0E-04	2.5E-03	1.2E-03	a	1.2E-04	1.7E-03	1.5E-03
Nitrogen Oxides	INORGANIC	3.2E-02	0.0E+00	1.0E-02	7.2E-03	7.0E-01	1.3E-02	1.3E+00	2.2E-03	1.9E-03	4.0E-03	4.6E-03	a	2.7E-02	1.1E-02	7.4E-03
Nitroglycerine	ENERGETIC	5.0E-08	0.0E+00	8.7E-09	1.9E-08	2.2E+00	5.0E-08	5.8E+00	a	a	a	a	5.0E-08	a	5.0E-08	5.0E-08
Nitromethane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
N-Nitrosodiphenylamine	SVOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
n-Nonane	VOC	3.2E-06	0.0E+00	3.6E-07	6.9E-07	1.9E+00	1.6E-06	4.3E+00	a	a	a	a	1.9E-06	3.7E-07	5.9E-07	3.2E-06

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	Maximum	Minimum	Mean	Standard Deviation of Mean	Standard Deviation / Mean	95% UCL	95% UCL / Mean	TEST OD-1 CompB Bulk	TEST OD-3 RDX Bulk	TEST OD-4 TNT Bulk Surface OD	TEST OD-5 TNT 10-m AGL OD	TEST OD-7 40mm HEI Cart.	TEST OD-8 Amatol Surrog.	TEST OD-9 Im.Cart.ARD 446-1	TEST OD-10 Im.Cart.BBU-36/B
											BangBox					
Noanal	VOC TICs	2.5E-06	0.0E+00	1.3E-07	.	.	2.5E-06	1.9E+01	a	a	a	a	a	a	a	a
n-Octane	VOC	7.2E-06	0.0E+00	6.0E-07	1.4E-06	2.3E+00	3.1E-06	5.2E+00	a	a	a	a	3.6E-06	3.7E-07	7.7E-07	1.2E-06
Nonadecane	SVOC TICs	0.0E+00	0.0E+00	0.0E+00	.	.	.	.	a	a	a	a	a	a	a	a
Nonanoic acid	SVOC TICs	2.2E-05	0.0E+00	1.2E-06	5.1E-06	4.4E+00	2.2E-05	1.9E+01	a	a	a	a	a	a	a	a
n-Pentane	VOC	1.3E-05	0.0E+00	9.9E-07	2.7E-06	2.7E+00	5.4E-06	5.4E+00	a	a	a	a	1.3E-05	0.0E+00	1.1E-06	1.2E-06
Octacosane	SVOC TICs	6.6E-05	0.0E+00	3.6E-06	1.5E-05	4.2E+00	6.6E-05	1.8E+01	a	a	a	a	a	a	a	a
Octane	VOC	1.3E-06	0.0E+00	1.4E-07	3.9E-07	2.7E+00	1.3E-06	9.1E+00	a	a	a	a	a	a	a	a
o-Dichlorobenzene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Organic Carbon	Carbon	2.1E-02	0.0E+00	2.0E-03	4.8E-03	2.4E+00	9.0E-03	4.5E+00	a	a	a	a	a	a	a	a
o-Xylene	VOC	3.2E-05	0.0E+00	1.6E-06	5.6E-06	3.4E+00	1.6E-05	9.9E+00	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Particulate Cyanide	Cyanide	5.6E-05	0.0E+00	2.9E-06	1.3E-05	4.4E+00	5.6E-05	1.9E+01	a	a	a	a	a	a	a	a
Particulate Perchlorate	Perchlorate	0.0E+00	0.0E+00	0.0E+00	.	.	.	.	a	a	a	a	a	a	a	a
p-Dichlorobenzene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Pentaerythritol tetranitrate	ENERGETIC	5.8E-04	0.0E+00	4.9E-05	1.6E-04	3.2E+00	3.5E-03	7.2E+01	a	a	a	a	a	a	5.0E-08	5.8E-04
Pentanal	VOC TICs	2.5E-06	0.0E+00	1.3E-07	5.7E-07	4.4E+00	2.5E-06	1.9E+01	a	a	a	a	a	a	a	a
Pentane	VOC	2.4E-06	0.0E+00	3.6E-07	7.3E-07	2.0E+00	1.7E-06	4.7E+00	a	a	a	a	a	a	a	a
Pentatriacontane	SVOC TICs	9.9E-05	0.0E+00	8.2E-06	2.6E-05	3.1E+00	9.9E-05	1.2E+01	a	a	a	a	a	a	a	a
p-Ethyltoluene	VOC	1.7E-05	0.0E+00	1.3E-06	3.2E-06	2.4E+00	6.2E-06	4.7E+00	a	a	a	a	5.2E-06	7.6E-06	0.0E+00	2.3E-06
Phenanthrene	TO-13 (PAHs)	3.3E-05	0.0E+00	2.1E-06	7.4E-06	3.6E+00	1.3E-05	6.4E+00	a	a	a	a	a	a	a	a
Phenol	SVOC	3.6E-06	0.0E+00	3.3E-07	1.0E-06	3.0E+00	3.6E-06	1.1E+01	a	a	a	a	a	a	a	a
Phenol, 2-ethyl-	SVOC TICs	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	a	a	a	a
Phenylethyne	SVOC TICs	1.1E-05	0.0E+00	5.8E-07	.	.	1.1E-05	1.9E+01	a	a	a	a	a	a	a	a
Propanal	VOC TICs	0.0E+00	0.0E+00	0.0E+00	.	.	.	.	a	a	a	a	a	a	a	a
Propane	VOC	7.1E-06	0.0E+00	1.3E-06	2.0E-06	1.6E+00	3.7E-06	2.9E+00	a	a	a	a	3.8E-06	1.0E-06	5.7E-06	3.5E-06
Propane, 2,2-dimethoxy-	VOC TICs	0.0E+00	0.0E+00	0.0E+00	.	.	.	.	a	a	a	a	a	a	a	a
Propanoic acid, 3- ethoxy, ethyl e	SVOC TICs	2.4E-05	0.0E+00	1.8E-06	5.5E-06	3.1E+00	2.4E-05	1.3E+01	a	a	a	a	a	a	a	a
Propene	VOC	2.4E-04	0.0E+00	2.8E-05	5.9E-05	2.1E+00	8.7E-05	3.1E+00	a	a	a	a	a	a	a	a
Proprionaldehyde	TO-11 Carbonyls	2.5E-06	0.0E+00	1.3E-07	5.7E-07	4.4E+00	2.5E-06	1.9E+01	a	a	a	a	a	a	a	a
Propylene	VOC	1.7E-04	0.0E+00	2.2E-05	3.4E-05	1.6E+00	5.3E-05	2.4E+00	a	a	a	a	1.6E-05	5.5E-06	6.0E-05	4.9E-05
Propyne	Hydrocarbons	4.9E-05	0.0E+00	4.7E-06	1.3E-05	2.7E+00	4.7E-05	1.0E+01	a	a	a	a	a	a	a	a
Pyrene	TO-13 (PAHs)	2.0E-05	0.0E+00	1.2E-06	4.4E-06	3.6E+00	4.3E-06	3.5E+00	a	a	a	a	a	a	a	a
Pyridine	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
RDX	ENERGETIC	7.4E-03	0.0E+00	2.4E-04	1.2E-03	5.0E+00	5.2E-03	2.1E+01	1.0E-09	2.0E-06	a	a	3.7E-05	5.0E-08	8.4E-04	5.0E-08
Selenium	METAL	3.7E-06	0.0E+00	1.9E-07	8.5E-07	4.4E+00	3.7E-06	1.9E+01	a	a	a	a	a	a	a	a
Silane, difluorodimethyl-	VOC TICs	1.9E-06	0.0E+00	1.0E-07	.	.	1.9E-06	1.9E+01	a	a	a	a	a	a	a	a
Silver	METAL	3.9E-05	0.0E+00	4.5E-06	1.1E-05	2.4E+00	4.0E-05	8.8E+00	a	a	a	a	a	a	a	a
Strontium	METAL	1.4E-01	0.0E+00	9.7E-03	3.2E-02	3.3E+00	6.4E-01	6.6E+01	a	a	a	a	a	a	a	a
Styrene	VOC	1.7E-03	0.0E+00	5.8E-05	2.9E-04	4.9E+00	5.3E-04	9.0E+00	a	a	a	a	4.2E-05	0.0E+00	5.4E-06	3.6E-06
Sulfur dioxide	INORGANIC	1.4E-03	0.0E+00	1.3E-04	2.9E-04	2.2E+00	7.0E-04	5.2E+00	a	a	a	a	a	2.6E-04	2.4E-04	4.0E-04
Sulfuric Acid	Acid Gases	3.2E-03	0.0E+00	1.8E-04	7.3E-04	4.0E+00	3.2E-03	1.8E+01	a	a	a	a	a	a	a	a
tert-Butyl Alcohol	VOC	2.1E-06	0.0E+00	1.1E-07	4.7E-07	4.4E+00	2.1E-06	1.9E+01	a	a	a	a	a	a	a	a
teterachlobenzene isomer	SVOC TICs	1.6E-05	0.0E+00	8.4E-07	.	.	1.6E-05	1.9E+01	a	a	a	a	a	a	a	a
Tetrachloroethylene	VOC	3.6E-05	0.0E+00	2.0E-06	6.9E-06	3.4E+00	3.7E-05	1.8E+01	a	a	a	a	0.0E+00	3.7E-07	3.6E-05	2.4E-06
Tetracosane	SVOC TICs	1.6E-05	0.0E+00	1.0E-06	3.8E-06	3.6E+00	1.6E-05	1.6E+01	a	a	a	a	a	a	a	a
TETRYL	ENERGETIC	5.0E-08	0.0E+00	6.8E-09	1.8E-08	2.6E+00	5.0E-08	7.3E+00	a	a	a	a	a	a	a	a
Thallium	METAL	1.9E-03	0.0E+00	1.0E-04	.	.	1.9E-03	1.9E+01	a	a	a	a	a	a	a	a
Titanium	METAL	7.7E-05	0.0E+00	6.0E-06	1.9E-05	3.2E+00	7.7E-05	1.3E+01	a	a	a	a	a	a	a	a
Toluene	VOC	2.5E-04	0.0E+00	1.9E-05	4.8E-05	2.6E+00	6.9E-05	3.7E+00	a	a	a	a	2.6E-05	6.7E-06	1.7E-05	9.1E-06
Total Carbon	Carbon	3.0E-02	0.0E+00	6.5E-03	8.7E-03	1.3E+00	1.6E-02	2.5E+00	a	a	a	a	a	a	a	a
Total HpCDD	PCDD	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	a	a	0.0E+00	0.0E+00

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	Maximum	Minimum	Mean	Standard Deviation of Mean	Standard Deviation / Mean	95% UCL	95% UCL / Mean	TEST OD-1 CompB Bulk	TEST OD-3 RDX Bulk	TEST OD-4 TNT Bulk Surface OD	TEST OD-5 TNT 10-m AGL OD	TEST OD-7 40mm HEI Cart.	TEST OD-8 Amatol Surrog.	TEST OD-9 Im.Cart.ARD 446-1	TEST OD-10 Im.Cart.BBU-36/B
											BangBox					
Total HpCDF	PCDF	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	a	a	0.0E+00	0.0E+00
Total HxCDD	PCDD	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	a	a	0.0E+00	0.0E+00
Total HxCDF	PCDF	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	a	a	0.0E+00	0.0E+00
Total Non-methane Hydrocarbons	VOC	5.0E-03	0.0E+00	5.6E-04	1.1E-03	2.0E+00	1.8E-03	3.3E+00	1.2E-03	1.3E-03	1.8E-03	5.0E-03	3.3E-04	4.5E-04	9.8E-04	7.7E-04
Total PeCDD	PCDD	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	a	a	0.0E+00	0.0E+00
Total PeCDF	PCDF	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	a	a	0.0E+00	0.0E+00
Total TCDD	PCDD	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	a	a	0.0E+00	0.0E+00
Total TCDF	PCDF	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	a	a	0.0E+00	0.0E+00
trans-2-Butene	VOC	1.8E-05	0.0E+00	2.3E-06	4.3E-06	1.9E+00	9.5E-06	4.1E+00	a	a	a	a	1.9E-06	1.5E-06	8.3E-06	0.0E+00
trans-2-Hexene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
trans-2-Pentene	VOC	5.0E-06	0.0E+00	3.9E-07	9.3E-07	2.4E+00	1.9E-06	4.9E+00	a	a	a	a	5.0E-06	0.0E+00	6.0E-07	6.4E-07
Triacontane	SVOC TICs	7.3E-05	0.0E+00	3.9E-06	1.7E-05	4.4E+00	7.3E-05	1.9E+01	a	a	a	a	a	a	a	a
Trichloroethene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Trichloroflouromethane	VOC	7.1E-07	0.0E+00	3.8E-08	1.6E-07	4.3E+00	7.1E-07	1.9E+01	a	a	a	a	a	a	a	a
Trimethylbenzene isomer	SVOC TICs	2.3E-05	0.0E+00	1.4E-06	5.3E-06	3.8E+00	2.3E-05	1.6E+01	a	a	a	a	a	a	a	a
Trinitrophenol (Picric Acid)	ENERGETIC	0.0E+00	0.0E+00	0.0E+00	.	.	.	.	c	c	a	a	a	a	a	a
TSP	Particulates	7.3E-01	0.0E+00	1.6E-01	2.1E-01	1.3E+00	4.6E-01	2.8E+00	a	a	a	a	a	a	a	a
Vanadium	METAL	8.3E-03	0.0E+00	4.9E-04	1.9E-03	3.9E+00	2.5E-02	5.0E+01	a	a	a	a	a	a	a	a
Vinyl acetate	VOC	2.4E-06	0.0E+00	6.9E-08	4.1E-07	5.9E+00	2.4E-06	3.5E+01	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Vinyl chloride	VOC	5.1E-05	0.0E+00	1.8E-06	8.6E-06	4.8E+00	2.8E-05	1.6E+01	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	1.7E-06
Xylenes	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	.	.	a	a	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Zinc	METAL	6.4E-02	0.0E+00	5.5E-03	1.4E-02	2.6E+00	2.1E-01	3.9E+01	a	a	a	a	1.1E-03	a	7.5E-05	7.5E-05
Zirconium	METAL	1.7E-04	0.0E+00	1.0E-05	3.8E-05	3.8E+00	1.7E-04	1.7E+01	a	a	a	a	a	a	a	a
					Mean	3.1E+00										

EXPLANATION OF LETTER CODES (FOR MORE INFORMATION SEE DOCUMENTATION)

a = no sample collected or no result reported or sample invalid or result reported not a meaningful value

b = analyte not a possible emission product and it is either a common air pollutant and/or was detected in either the background air samples or pre-test surface wipes

c = not possible to adjust sampling result for contribution from test chamber surfaces and/or air

Highlighted values represent the maximum value since there are an insufficient number of samples to calculate 95% UCL.

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	TEST OD-11 Im. Cart. MK-107	TEST OD-12 CompB Surrog.	TEST OD-13 Det. Train	TEST OD-15 T.Fuse FMU-139A/B	TEST OD-16 T Fuse FMU-54A/B	TEST OD-18 HBX Surrog.	TEST OD-19 Claymore mine M18A1	TEST OD-22 Adapter Booster T45E7	TEST OD-23 TNT (ACC1)	TEST OD-24 TNT (ACC2)	TEST OD-26 Tritonal Surrog.	TEST OD-27 Tritonal Surrog. CaStear	1 Pound TNT Demo Block with M6 Blasting Cap	1/2 POUND PAX-11	1/4 POUND PAX-11
			BangBox											**Exploding Ordnance Study**		
1,3,5-Trinitrobenzene	ENERGETIC	a	0.0E+00	a	a	a	0.0E+00	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.12E-06	0.00E+00	0.00E+00
1,1,1-Trichloroethane	SVOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1,2,3,4,6,7,8,9-Octachlorodibenzodioxin	PCDD	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	2.20E-10	1.44E-10	0.00E+00
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	PCDF	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	3.31E-12	7.29E-12	0.00E+00
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	PCDD	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	1.46E-11	1.46E-11	0.00E+00
1,2,3,4,6,7,8-Heptachlorodibenzofuran	PCDF	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	1.75E-12	2.27E-12	0.00E+00
1,2,3,4,7,8,9-Heptachlorodibenzofuran	PCDD	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	7.19E-13	0.00E+00	0.00E+00
1,2,3,4,7,8-hexachlorodibenzofuran	PCDF	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	9.76E-13	6.93E-13	0.00E+00
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	PCDD	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1,2,3,6,7,8-hexachlorodibenzofuran	PCDF	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	6.65E-13	0.00E+00	0.00E+00
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	PCDD	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1,2,3,7,8,9-Hexachlorodibenzofuran	PCDF	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	PCDD	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1,2,3,7,8-Pentachlorodibenzofuran	PCDF	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	PCDD	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1,2,4-Trichlorobenzene	VOC	a	a	a	a	a	a	a	a	a	a	a	a	2.43E-06	0.00E+00	0.00E+00
1,2,4-Trimethylbenzene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
1,2-Dichloroethane	VOC	0.0E+00	a	a	0.0E+00	0.0E+00	a	0.0E+00	0.0E+00	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1,2-Dichloropropane	VOC	0.0E+00	a	a	0.0E+00	0.0E+00	a	0.0E+00	0.0E+00	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1,2-Propadiene	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1,3 Butadiyne	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1,3,5-Trimethylbenzene	VOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1,3,5-Trinitrobenzene	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	5.67E-06	0.00E+00	0.00E+00
1,3-Butadiene	VOC	2.0E-06	0.0E+00	9.0E-06	2.1E-05	4.5E-06	1.4E-06	2.7E-06	9.9E-06	1.7E-06	3.7E-07	1.5E-06	1.3E-06	0.00E+00	0.00E+00	0.00E+00
1,3-dichlorobenzene	SVOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1,3-Dinitrobenzene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
1,4-Dichlorobenzene	VOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1,4-Dioxane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
1-Butanol	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
1-Butanol 3-methyl-acetate	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1-Butanol, 2-methyl-	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1-Butanol, 3-methyl-	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1-Butanol, 3-methyl-, acetate	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1-Buten-3-yne	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1-Butene	VOC	1.0E-05	1.3E-06	3.1E-05	1.6E-05	1.1E-05	6.3E-06	7.6E-06	2.1E-05	1.9E-06	1.5E-06	2.5E-06	3.7E-06	0.00E+00	0.00E+00	0.00E+00
1-Butene / Isobutylene	Hydrocarbons	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1-Heptene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
1-Hexene	VOC	7.1E-06	1.6E-06	2.4E-05	8.7E-06	7.2E-06	2.7E-06	2.4E-06	1.2E-05	2.2E-06	1.5E-06	2.5E-06	2.8E-06	0.00E+00	0.00E+00	0.00E+00
1-Nitropryene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
1-Pentanol,2-methyl-, acetate	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1-Pentene	VOC	4.4E-06	0.0E+00	1.4E-05	6.1E-06	5.1E-06	1.5E-06	1.4E-06	8.2E-06	1.4E-06	7.4E-07	1.5E-06	9.1E-07	0.00E+00	0.00E+00	0.00E+00
1-Propanol	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
1-Propene, 2-methyl-	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1-Propene,2-methyl-Isomer	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
1-Propyne	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
2,3,4,6,7,8-Hexachlorodibenzofuran	PCDF	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	7.92E-13	0.00E+00	0.00E+00
2,3,4,7,8-Pentachlorodibenzofuran	PCDF	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	1.17E-12	0.00E+00	0.00E+00
2,3,7,8-Tetrachlorodibenzofuran	PCDF	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	8.45E-13	0.00E+00	1.60E-12
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	PCDD	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
2,4,6-Trinitrotoluene	ENERGETIC	a	5.0E-08	a	a	a	5.0E-08	a	a	5.0E-08	5.0E-08	5.0E-08	5.0E-08	0.00E+00	0.00E+00	0.00E+00
2,4-Dinitrophenol	SVOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	TEST OD-11 Im. Cart. MK-107	TEST OD-12 CompB Surrog.	TEST OD-13 Det. Train	TEST OD-15 T.Fuse FMU-139A/B	TEST OD-16 T Fuse FMU-54A/B	TEST OD-18 HBX Surrog.	TEST OD-19 Claymore mine M18A1	TEST OD-22 Adapter Booster T45E7	TEST OD-23 TNT (ACC1)	TEST OD-24 TNT (ACC2)	TEST OD-26 Tritonal Surrog.	TEST OD-27 Tritonal Surrog. CaStear	1 Pound TNT Demo Block with M6 Blasting Cap	1/2 POUND PAX-11	1/4 POUND PAX-11
		BangBox												**Exploding Ordnance Study**		
2,4-dinitrotoluene	SVOC	a	a	a	a	a	a	a	a	a	a	a	a	2.80E-06	0.00E+00	0.00E+00
2,6-Dinitrotoluene	ENERGETIC	a	0.0E+00	a	a	a	0.0E+00	a	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
2-Amino-4,6-Dinitrotoluene	ENERGETIC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
2-Butanone	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
2-Butenal	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
2-Butyne	Hydrocarbons	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
2-Hexanol	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
2-methyl-2,3-pentanediol	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
2-Methylnaphthalene	SVOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
2-methylphenol	SVOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
2-Nitrodiphenylamine	SVOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
2-Nitronaphthalene	SVOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
2-Nitrophenol	SVOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
2-Nitrotoluene	ENERGETIC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
2-Pentanol, 4-methyl-	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	1.66E-08	0.00E+00	0.00E+00
2-Propanol	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
2-Propenal, 2-methyl-	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
3-Buten-2-one	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
3-Chloropropene	VOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
3-Ethyltoluene	VOC	6.6E-07	3.7E-07	3.0E-07	9.7E-07	4.0E-07	0.0E+00	5.6E-06	1.1E-06	4.8E-07	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
3-Nitrotoluene	ENERGETIC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
4-Amino-2,6-Dinitrotoluene	ENERGETIC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
4-Chloro-3-methylphenol	SVOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
4-Ethyltoluene	VOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
4-Nitrophenol	SVOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
4-Nitrotoluene	ENERGETIC	a	a	a	a	a	a	a	a	a	a	a	a	0.0E+00	0.0E+00	0.0E+00
Acenaphthene	TO-13 (PAHs)	a	a	a	a	a	a	a	a	a	a	a	a	8.98E-09	2.26E-08	0.00E+00
Acenaphthylene	TO-13 (PAHs)	a	a	a	a	a	a	a	a	a	a	a	a	1.01E-07	8.54E-08	0.00E+00
Acetaldehyde	TO-11 Carbonyls	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	1.04E-05
Acetic Acid	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Acetic Acid, butyl ester	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Acetic Acid, hexyl ester	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Acetone	TO-11 Carbonyls	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	3.79E-08	0.00E+00
Acetonitrile	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	1.85E-05	0.00E+00
Acetophenone	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	7.90E-06	0.00E+00
Acetylene	VOC	2.4E-04	1.4E-05	1.3E-04	6.2E-04	4.6E-04	2.9E-05	9.8E-04	2.2E-04	1.7E-05	1.6E-05	4.3E-05	1.9E-05	0.00E+00	9.07E-06	2.88E-05
Acrolein	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.01E-06	3.83E-07	0.00E+00
Acrylonitrile	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.85E-07	7.29E-07	0.00E+00
Aliphatic with triple C-N bond	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Allyl Chloride	VOC	5.1E-06	0.0E+00	0.0E+00	3.0E-05	1.5E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Alpha Methyl Styrene	VOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Aluminum	METAL	9.5E-03	a	a	3.4E-02	1.2E-02	8.6E-03	6.2E-03	3.8E-03	a	b	1.6E-02	1.7E-02	8.89E-04	1.69E-03	0.00E+00
Ammonia	Permanent Gases	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	1.49E-03	0.00E+00
Anthracene	TO-13 (PAHs)	a	a	a	a	a	a	a	a	a	a	a	a	1.15E-08	2.49E-08	0.00E+00
Antimony	METAL	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Arsenic	METAL	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Barium	METAL	5.5E-05	a	a	a	a	a	a	a	b	a	b	b	6.03E-04	1.50E-05	0.00E+00
Benzaldehyde	TO-11 Carbonyls	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Benzaldehyde, 4-ethyl-	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Benzaldehyde,ethyl-	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	TEST OD-11 Im. Cart. MK-107	TEST OD-12 CompB Surrog.	TEST OD-13 Det. Train	TEST OD-15 T.Fuse FMU-139A/B	TEST OD-16 T Fuse FMU-54A/B	TEST OD-18 HBX Surrog.	TEST OD-19 Claymore mine M18A1	TEST OD-22 Adapter Booster T45E7	TEST OD-23 TNT (ACC1)	TEST OD-24 TNT (ACC2)	TEST OD-26 Tritonal Surrog.	TEST OD-27 Tritonal Surrog. CaStear	1 Pound TNT Demo Block with M6 Blasting Cap	1/2 POUND PAX-11	1/4 POUND PAX-11
		BangBox												**Exploding Ordnance Study**		
Benzene	VOC	6.4E-05	2.6E-06	2.5E-05	1.2E-04	1.1E-04	7.2E-06	8.1E-04	5.6E-05	4.1E-06	4.1E-06	1.5E-06	3.1E-06	1.58E-07	1.10E-06	0.00E+00
Benzene, (2-nitroethenyl)-	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Benzene, (epoxyethyl)-, R,	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Benzene, 1,3,5-trimethyl-	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Benzene, 1-ethenyl-3-methyl-	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Benzene, 1-ethyl-2methyl-	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Benzene, 2-methyl- 1,3,5-trinitro	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Benzene, propyl-	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Benzenecarbothioic acid, 2,6-dic	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Benzo(a)anthracene	TO-13 (PAHs)	a	a	a	a	a	a	a	a	a	a	a	a	5.87E-11	0.00E+00	0.00E+00
Benzo(a)pyrene	TO-13 (PAHs)	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Benzo(b)fluoranthene	TO-13 (PAHs)	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	6.20E-09	0.00E+00
Benzo(e)pyrene	TO-13 (PAHs)	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Benzo(g,h,i)perylene	TO-13 (PAHs)	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Benzo(k)fluoranthene	TO-13 (PAHs)	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Benzofuran	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Benzoic acid	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Benzonitrile	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Benzyl alcohol	SVOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Benzyl chloride	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Bicyclo [2.2.1] heptan-2-one, 1,3,3-trimethyl-	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Bicyclo [2.2.1] heptan-2-one, 5,5,6-trimethyl-, ex	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Bicyclo[2.2.1]heptan-2-one, 1,7,7-trimethyl-, (1S	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Bicyclo[2.2.1]heptan-2-one, 5,5,6-trimethyl-, end	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Biphenyl	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Bis(2-ethylhexyl)phthalate	SVOC	a	a	a	a	a	a	a	a	a	a	a	a	9.55E-06	0.00E+00	4.86E-05
Borneol	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Bromomethane	VOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Butanal	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Butyl acrylate	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Butylbenzylphthalate	SVOC	a	a	a	a	a	a	a	a	a	a	a	a	1.71E-06	0.00E+00	0.00E+00
Butyraldehyde	TO-11 Carbonyls	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Cadmium	METAL	1.4E-03	a	1.1E-05	3.2E-03	3.1E-04	a	b	2.5E-03	a	a	a	a	0.00E+00	3.15E-05	0.00E+00
Calcium	METAL	a	a	a	a	a	a	a	a	a	a	a	a	3.43E-04	3.39E-04	0.00E+00
Camphene	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Camphor	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Camphor & Benzoic Acid	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Carbon dioxide	Permanent Gases	8.5E-01	1.1E+00	9.1E-01	1.4E+00	9.4E-01	1.0E+00	5.0E+00	2.1E+00	1.5E+00	1.4E+00	1.2E+00	1.3E+00	1.08E+00	6.48E-01	7.13E-01
Carbon Disulfide	VOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Carbon monoxide	Permanent Gases	1.4E-02	4.2E-03	9.4E-03	2.3E-02	1.8E-02	5.2E-03	3.0E-02	1.2E-02	1.0E-02	6.7E-03	2.9E-03	2.7E-03	4.88E-03	5.13E-02	2.19E-02
Carbon tetrachloride	VOC	0.0E+00	3.6E-07	0.0E+00	2.7E-06	0.0E+00	3.9E-07	0.0E+00	1.4E-06	0.0E+00	0.0E+00	3.7E-07	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Chlorobenzene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Chloroethane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.8E-07	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.6E-07	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Chloromethane	VOC	a	a	a	a	a	a	a	a	a	a	a	a	1.02E-07	0.00E+00	0.00E+00
Chlorotoluenes	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Chromium	METAL	3.3E-05	a	a	1.4E-04	3.9E-05	a	3.8E-05	4.0E-05	a	b	a	a	8.49E-06	6.84E-06	0.00E+00
Chrysene	TO-13 (PAHs)	a	a	a	a	a	a	a	a	a	a	a	a	7.08E-09	1.05E-08	0.00E+00
cis-2-Butene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
cis-2-Pentene	VOC	2.6E-07	0.0E+00	3.9E-07	6.5E-07	7.4E-07	3.9E-07	0.0E+00	1.2E-06	4.6E-07	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	TEST OD-11 Im. Cart. MK-107	TEST OD-12 CompB Surrog.	TEST OD-13 Det. Train	TEST OD-15 T.Fuse FMU-139A/B	TEST OD-16 T Fuse FMU-54A/B	TEST OD-18 HBX Surrog.	TEST OD-19 Claymore mine M18A1	TEST OD-22 Adapter Booster T45E7	TEST OD-23 TNT (ACC1)	TEST OD-24 TNT (ACC2)	TEST OD-26 Tritonal Surrog.	TEST OD-27 Tritonal Surrog. CaStear	1 Pound TNT Demo Block with M6 Blasting Cap	1/2 POUND PAX-11	1/4 POUND PAX-11
		BangBox												**Exploding Ordnance Study**		
Cobalt	METAL	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Copper	METAL	1.4E-03	a	a	6.8E-03	5.1E-04	b	4.7E-03	1.2E-03	b	b	b	b	5.12E-04	1.12E-03	0.00E+00
Cumene	VOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Cyclohexane	VOC	0.0E+00	0.0E+00	7.3E-07	4.9E-07	0.0E+00	0.0E+00	1.3E-06	9.9E-07	1.6E-06	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Cyclohexanone	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Cyclopentane, methylene- isomer	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Cyclopentene	VOC	9.7E-07	0.0E+00	3.7E-06	8.1E-07	1.3E-06	3.9E-07	4.9E-07	1.6E-06	4.6E-07	3.7E-07	7.3E-07	3.6E-07	0.00E+00	0.00E+00	0.00E+00
Decanal	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Dibenz(a,h)anthracene	TO-13 (PAHs)	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Dibenzofuran	SVOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Dichlorodiflouromethane	VOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Diethyl ether	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Diethylphthalate	SVOC	3.0E-04	a	a	1.5E-03	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Dimethylbenzene isomer	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Di-n-butylphthalate	SVOC	a	a	a	a	a	a	a	a	a	a	a	a	2.84E-06	0.00E+00	0.00E+00
Di-n-octylphthalate	SVOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Diphenylamine	ENERGETIC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Docosane	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	1.77E-06	0.00E+00	0.00E+00
Dodecanoic acid	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Eicosane	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	4.06E-06	0.00E+00	0.00E+00
Elemental Carbon	Carbon	a	a	a	a	a	a	a	a	a	a	a	a	7.37E-03	8.43E-03	3.71E-05
Ethane	VOC	1.6E-06	1.3E-06	4.4E-06	9.8E-06	1.1E-05	1.6E-06	5.3E-06	1.1E-05	0.0E+00	7.4E-07	3.6E-07	7.4E-07	0.00E+00	0.00E+00	0.00E+00
Ethanedinitrile	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Ethanol	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Ethanol, 2-butoxy-	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Ethanone, 1-(4-ethylphenyl)-	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	5.53E-07	0.00E+00	0.00E+00
Ethanone, 1,1'-(1,4-phenylene)bi	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	2.65E-06	0.00E+00
Ethyl chloride	VOC	0.0E+00	0.0E+00	6.9E-07	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Ethylbenzene	VOC	9.7E-07	2.0E-06	6.0E-07	3.2E-06	2.4E-06	1.8E-06	3.8E-05	4.0E-06	4.7E-07	0.0E+00	2.3E-06	1.6E-06	0.00E+00	0.00E+00	0.00E+00
Ethylbenzoic acid	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	3.55E-06	0.00E+00
Ethylene	VOC	1.8E-04	1.4E-05	3.9E-04	3.4E-04	1.9E-04	3.2E-05	2.4E-04	2.5E-04	2.2E-05	1.6E-05	2.5E-05	2.5E-05	0.00E+00	1.04E-05	2.86E-05
Ethylmethylbenzene isomer	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Filterable particulate matter 10 micron	Particulates	2.5E-01	1.2E-02	3.6E-02	6.0E-01	3.3E-01	1.8E-01	2.3E-01	1.1E-01	7.3E-02	9.3E-02	2.2E-01	2.6E-01	2.43E-02	3.02E-02	3.55E-04
Filterable particulate matter 2.5 micron	Particulates	a	a	a	a	a	a	a	a	a	a	a	a	1.37E-02	1.62E-02	3.46E-04
Fluoranthene	TO-13 (PAHs)	a	a	a	a	a	a	a	a	a	a	a	a	2.77E-08	5.83E-08	0.00E+00
Fluorene	TO-13 (PAHs)	a	a	a	a	a	a	a	a	a	a	a	a	2.07E-08	4.05E-08	0.00E+00
Formaldehyde	TO-11 Carbonyls	a	a	a	a	a	a	a	a	a	a	a	a	5.66E-05	0.00E+00	0.00E+00
Freon 113	VOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Furan	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Furan 2,3-dihydro-	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Furan, 2,5-dihydro	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Furan, tetrahydro-	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Heptane	VOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Heptane, 3-methylene-	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Hexachloro-1,3-butadiene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Hexachlorobenzene	SVOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Hexadecane	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	1.57E-06	0.00E+00	0.00E+00
Hexanal	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Hexane	VOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	4.82E-06
Hexanedioic acid isomer	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	3.44E-05	0.00E+00

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	TEST OD-11 Im. Cart. MK-107	TEST OD-12 CompB Surrog.	TEST OD-13 Det. Train	TEST OD-15 T.Fuse FMU-139A/B	TEST OD-16 T Fuse FMU-54A/B	TEST OD-18 HBX Surrog.	TEST OD-19 Claymore mine M18A1	TEST OD-22 Adapter Booster T45E7	TEST OD-23 TNT (ACC1)	TEST OD-24 TNT (ACC2)	TEST OD-26 Tritonal Surrog.	TEST OD-27 Tritonal Surrog. CaStear	1 Pound TNT Demo Block with M6 Blasting Cap	1/2 POUND PAX-11	1/4 POUND PAX-11
		BangBox												**Exploding Ordnance Study**		
Hexanedioic acid, Bis (2-ethylhexyl)	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	5.13E-06	0.00E+00	0.00E+00
Hexatriacontane	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Hexavalent Chromium	CrVI	a	a	a	a	a	a	a	a	a	a	a	a	2.05E-06	0.00E+00	0.00E+00
HMX	ENERGETIC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Hydrogen Chloride	Acid Gases	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Hydrogen Cyanide	Cyanide	a	a	a	a	a	a	a	a	a	a	a	a	4.28E-05	3.43E-04	4.38E-05
Hydrogen Fluoride	Acid Gases	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Indeno(1,2,3-cd)pyrene	TO-13 (PAHs)	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Iron	METAL	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Isoborneol	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Isobutane	VOC	1.1E-06	3.7E-07	0.0E+00	2.3E-06	3.0E-07	5.5E-07	7.3E-07	7.3E-07	4.6E-07	0.0E+00	5.5E-07	7.3E-07	0.00E+00	0.00E+00	0.00E+00
Isobutene	VOC	4.9E-06	9.8E-07	2.4E-05	5.3E-06	4.8E-06	3.5E-06	3.7E-06	1.3E-05	3.6E-06	1.5E-06	7.3E-07	2.0E-06	0.00E+00	0.00E+00	0.00E+00
Isobutyl phthlate	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	2.90E-06	0.00E+00	0.00E+00
Isobutylene	Hydrocarbons	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Isoheptane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Isopentane	VOC	0.0E+00	3.7E-07	0.0E+00	4.8E-07	2.7E-06	0.0E+00	3.9E-06	2.7E-06	1.4E-06	7.4E-07	1.1E-06	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Isopropylbenzene	VOC	5.2E-07	0.0E+00	0.0E+00	0.0E+00	3.0E-07	5.5E-07	0.0E+00	0.0E+00	0.0E+00	0.0E+00	6.1E-07	7.3E-07	0.00E+00	0.00E+00	0.00E+00
Lead	METAL	a	a	b	2.6E-03	3.0E-05	b	3.0E-05	b	a	b	b	b	1.85E-04	4.33E-04	3.37E-05
m/p-Xylene	VOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	2.98E-06	0.00E+00
Magnesium	METAL	a	a	a	a	a	a	a	a	a	a	a	a	3.71E-04	7.59E-05	0.00E+00
Manganese	METAL	a	a	a	a	a	a	a	a	a	a	a	a	4.19E-05	5.93E-05	0.00E+00
m-Dichlorobenzene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Mercury (filter)	METAL	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Methacrylic acid, isopropyl ester	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Methane	VOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	1.22E-04	6.92E-05
Methane, nitro-	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Methenamine	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Methyl chloride	VOC	9.6E-07	0.0E+00	7.0E-07	4.7E-06	3.1E-06	6.3E-07	4.4E-06	9.5E-07	0.0E+00	0.0E+00	5.6E-07	3.7E-07	0.00E+00	0.00E+00	0.00E+00
Methyl chloroform	VOC	0.0E+00	0.0E+00	0.0E+00	1.6E-05	0.0E+00	3.8E-07	2.3E-06	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Methyl Methacrylate	VOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Methyl t-Butyl Ether	VOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Methylcyclohexane	VOC	5.2E-07	2.3E-06	0.0E+00	0.0E+00	0.0E+00	6.1E-06	5.3E-06	1.2E-06	5.1E-06	0.0E+00	1.0E-05	4.4E-07	0.00E+00	0.00E+00	0.00E+00
Methylcyclopentane	VOC	5.3E-07	3.6E-07	2.9E-07	4.9E-07	3.0E-07	6.4E-07	1.6E-05	1.2E-06	7.0E-07	3.7E-07	5.6E-07	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Methylene chloride	VOC	2.3E-04	1.4E-04	4.2E-05	1.1E-04	7.4E-04	2.7E-04	1.1E-04	2.2E-04	1.8E-04	0.0E+00	2.5E-06	1.6E-04	0.00E+00	0.00E+00	2.24E-05
Nanocosane	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Naphthalene	TO-13 (PAHs)	a	a	a	a	a	a	a	a	a	a	a	a	2.48E-07	1.60E-07	6.18E-09
n-Butane	VOC	6.6E-07	0.0E+00	3.1E-06	2.4E-06	2.5E-06	5.0E-07	1.8E-06	3.9E-06	0.0E+00	0.0E+00	3.6E-07	3.6E-07	0.00E+00	0.00E+00	0.00E+00
n-Decane	VOC	2.6E-07	3.6E-07	6.0E-07	1.1E-06	0.0E+00	3.7E-07	1.0E-05	5.2E-07	0.0E+00	0.0E+00	3.7E-07	3.6E-07	0.00E+00	0.00E+00	0.00E+00
n-Heptane	VOC	1.0E-06	7.3E-07	1.4E-06	6.5E-07	5.9E-07	5.5E-07	3.7E-06	1.4E-06	9.5E-07	3.7E-07	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
n-Hexane	VOC	5.3E-07	5.5E-07	1.8E-06	6.5E-07	4.4E-07	5.5E-07	1.3E-06	2.5E-06	9.3E-07	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Nickel	METAL	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Nitric Acid	Acid Gases	a	a	a	a	a	a	a	a	a	a	a	a	4.42E-04	9.81E-05	0.00E+00
Nitric oxide	INORGANIC	1.5E-02	9.3E-03	4.9E-03	9.9E-03	7.0E-03	9.9E-03	a	a	a	9.2E-03	5.9E-03	6.6E-03	0.00E+00	0.00E+00	0.00E+00
Nitrobenzene	ENERGETIC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Nitrogen dioxide	INORGANIC	6.1E-04	1.9E-04	4.4E-03	1.7E-02	2.5E-03	4.4E-05	a	a	a	6.6E-05	1.8E-05	4.5E-05	0.00E+00	0.00E+00	0.00E+00
Nitrogen Oxides	INORGANIC	2.3E-02	1.4E-02	1.2E-02	3.2E-02	1.3E-02	1.5E-02	a	a	a	1.4E-02	9.3E-03	9.7E-03	8.58E-03	1.25E-02	1.22E-02
Nitroglycerine	ENERGETIC	5.0E-08	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Nitromethane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
N-Nitrosodiphenylamine	SVOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	a	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
n-Nonane	VOC	5.2E-07	1.3E-06	7.9E-07	4.9E-07	1.2E-06	0.0E+00	1.3E-06	6.0E-07	0.0E+00	0.0E+00	3.6E-07	0.0E+00	0.00E+00	0.00E+00	0.00E+00

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	TEST OD-11 Im. Cart. MK-107	TEST OD-12 CompB Surrog.	TEST OD-13 Det. Train	TEST OD-15 T.Fuse FMU-139A/B	TEST OD-16 T Fuse FMU-54A/B	TEST OD-18 HBX Surrog.	TEST OD-19 Claymore mine M18A1	TEST OD-22 Adapter Booster T45E7	TEST OD-23 TNT (ACC1)	TEST OD-24 TNT (ACC2)	TEST OD-26 Tritonal Surrog.	TEST OD-27 Tritonal Surrog. CaStear	1 Pound TNT Demo Block with M6 Blasting Cap	1/2 POUND PAX-11	1/4 POUND PAX-11
		BangBox												**Exploding Ordnance Study**		
Noanal	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
n-Octane	VOC	4.4E-07	3.7E-07	1.5E-06	4.9E-07	4.0E-07	7.3E-07	7.2E-06	7.7E-07	2.9E-06	0.0E+00	2.6E-07	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Nonadecane	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Nonanoic acid	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
n-Pentane	VOC	2.6E-07	3.7E-07	1.0E-06	9.7E-07	4.4E-07	7.4E-07	9.1E-06	2.2E-06	3.3E-06	3.7E-07	7.3E-07	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Octacosane	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	2.76E-06	0.00E+00
Octane	VOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
o-Dichlorobenzene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Organic Carbon	Carbon	a	a	a	a	a	a	a	a	a	a	a	a	1.34E-03	6.79E-04	0.00E+00
o-Xylene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Particulate Cyanide	Cyanide	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Particulate Perchlorate	Perchlorate	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
p-Dichlorobenzene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Pentaerythritol tetranitrate	ENERGETIC	5.1E-05	a	5.6E-04	1.7E-05	9.6E-06	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Pentanal	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Pentane	VOC	a	a	a	a	a	a	a	a	a	a	a	a	6.69E-10	1.01E-06	0.00E+00
Pentatriacontane	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
p-Ethyltoluene	VOC	0.0E+00	9.8E-07	1.2E-06	1.1E-06	1.9E-06	7.3E-07	1.7E-05	4.7E-06	1.2E-06	0.0E+00	1.5E-06	7.3E-07	0.00E+00	0.00E+00	0.00E+00
Phenanthrene	TO-13 (PAHs)	a	a	a	a	a	a	a	a	a	a	a	a	1.26E-07	1.80E-07	2.82E-09
Phenol	SVOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Phenol, 2-ethyl-	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Phenylethyne	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Propanal	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Propane	VOC	1.4E-06	7.4E-07	4.7E-06	3.9E-06	1.5E-06	8.7E-07	3.6E-06	4.7E-06	0.0E+00	3.7E-07	7.3E-07	3.6E-07	0.00E+00	0.00E+00	0.00E+00
Propane, 2,2-dimethoxy-	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Propanoic acid, 3- ethoxy, ethyl e	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Propene	VOC	a	a	a	a	a	a	a	a	a	a	a	a	6.78E-07	8.78E-07	0.00E+00
Proprionaldehyde	TO-11 Carbonyls	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Propylene	VOC	2.6E-05	3.1E-06	7.3E-05	5.9E-05	4.3E-05	9.4E-06	2.4E-05	6.9E-05	7.2E-06	4.1E-06	7.3E-07	6.1E-06	0.00E+00	0.00E+00	0.00E+00
Propyne	Hydrocarbons	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Pyrene	TO-13 (PAHs)	a	a	a	a	a	a	a	a	a	a	a	a	4.68E-08	9.28E-08	0.00E+00
Pyridine	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
RDX	ENERGETIC	1.7E-04	5.0E-08	7.4E-03	3.4E-04	9.0E-05	5.0E-08	9.9E-06	1.0E-04	1.2E-06	9.6E-06	5.0E-08	5.0E-08	2.34E-06	0.00E+00	0.00E+00
Selenium	METAL	a	a	a	a	a	a	a	a	a	a	a	a	3.69E-06	0.00E+00	0.00E+00
Silane, difluorodimethyl-	VOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	1.94E-06	0.00E+00	0.00E+00
Silver	METAL	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	2.86E-06	0.00E+00
Strontium	METAL	a	a	a	a	a	a	a	a	a	a	a	a	3.71E-04	0.00E+00	0.00E+00
Styrene	VOC	9.4E-06	0.0E+00	4.1E-06	2.9E-05	7.8E-06	0.0E+00	1.7E-03	5.2E-05	0.0E+00	1.5E-06	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Sulfur dioxide	INORGANIC	2.6E-04	1.3E-04	4.6E-04	1.4E-03	4.1E-04	b	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Sulfuric Acid	Acid Gases	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
tert-Butyl Alcohol	VOC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
teterachlobenzene isomer	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	VOC	0.0E+00	1.8E-05	1.1E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.9E-06	3.7E-07	0.00E+00	0.00E+00	0.00E+00
Tetracosane	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
TETRYL	ENERGETIC	a	a	a	5.0E-08	5.0E-08	a	a	5.0E-08	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Thallium	METAL	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Titanium	METAL	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Toluene	VOC	9.0E-06	6.0E-06	4.2E-06	2.3E-05	3.2E-05	3.3E-06	2.5E-04	2.2E-05	5.1E-06	1.5E-06	1.8E-06	0.0E+00	0.00E+00	1.28E-06	0.00E+00
Total Carbon	Carbon	a	a	a	a	a	a	a	a	a	a	a	a	8.71E-03	9.11E-03	3.71E-05
Total HpCDD	PCDD	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	TEST OD-11 Im. Cart. MK-107	TEST OD-12 CompB Surrog.	TEST OD-13 Det. Train	TEST OD-15 T.Fuse FMU-139A/B	TEST OD-16 T Fuse FMU-54A/B	TEST OD-18 HBX Surrog.	TEST OD-19 Claymore mine M18A1	TEST OD-22 Adapter Booster T45E7	TEST OD-23 TNT (ACC1)	TEST OD-24 TNT (ACC2)	TEST OD-26 Tritonal Surrog.	TEST OD-27 Tritonal Surrog. CaStear	1 Pound TNT Demo Block with M6 Blasting Cap	1/2 POUND PAX-11	1/4 POUND PAX-11
			BangBox											**Exploding Ordnance Study**		
Total HpCDF	PCDF	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Total HxCDD	PCDD	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Total HxCDF	PCDF	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Total Non-methane Hydrocarbons	VOC	6.4E-04	1.1E-04	8.5E-04	1.4E-03	9.9E-04	1.8E-04	4.9E-03	8.2E-04	2.8E-05	4.0E-05	1.8E-04	4.0E-05	0.00E+00	0.00E+00	0.00E+00
Total PeCDD	PCDD	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Total PeCDF	PCDF	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Total TCDD	PCDD	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Total TCDF	PCDF	0.0E+00	a	a	0.0E+00	0.0E+00	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
trans-2-Butene	VOC	8.4E-06	0.0E+00	4.0E-06	1.3E-05	7.8E-06	4.5E-06	1.8E-05	8.6E-06	9.5E-07	7.4E-07	1.1E-06	1.8E-06	0.00E+00	0.00E+00	0.00E+00
trans-2-Hexene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
trans-2-Pentene	VOC	2.6E-07	0.0E+00	8.8E-07	1.9E-06	9.0E-07	3.7E-07	0.0E+00	1.8E-06	4.6E-07	0.0E+00	3.7E-07	3.6E-07	0.00E+00	0.00E+00	0.00E+00
Triacontane	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Trichloroethene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Trichloroflouromethane	VOC	a	a	a	a	a	a	a	a	a	a	a	a	5.31E-10	0.00E+00	0.00E+00
Trimethylbenzene isomer	SVOC TICs	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
Trinitrophenol (Picric Acid)	ENERGETIC	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00
TSP	Particulates	a	a	a	a	a	a	a	a	a	a	a	a	3.07E-02	3.50E-02	0.00E+00
Vanadium	METAL	a	a	a	a	a	a	a	a	a	a	a	a	2.52E-04	0.00E+00	0.00E+00
Vinyl acetate	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Vinyl chloride	VOC	2.4E-06	0.0E+00	1.3E-06	1.8E-06	6.8E-07	0.0E+00	1.1E-06	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.26E-07	0.00E+00	0.00E+00
Xylenes	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00	0.00E+00
Zinc	METAL	a	a	a	b	7.5E-05	b	a	1.2E-03	a	b	a	b	3.16E-04	6.43E-05	0.00E+00
Zirconium	METAL	a	a	a	a	a	a	a	a	a	a	a	a	0.00E+00	0.00E+00	0.00E+00

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	1/4 POUND TNT DEMO BLOCK	2 POUND TNT DEMO BLOCK	Burster, Field, Incendiary, M4	Cartridge, 105-mm TP-T,M490 (M13 Tracer Burn)	Cartridge, 60-mm Mortar HE, M720	Charge, Demolition Block 1/4-pound TNT	Charge, Demolition Block, M112	Fuze, Mine, Anti-Tank, Practice, M604	Fuze, Point Detonating, M557	Fuze, Point Detonating, M739A1	Grenade, Hand Fragmentation, M67	M18A1 Claymore Mine	M25 Target Hit Simulator, (Flash-Bang)	Military Dynamite, M1
		Exploding Ordnance Study													
1,3,5-Trinitrobenzene	ENERGETIC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.90E-06	1.45E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.18E-07	2.83E-06	2.56E-06
1,1,1-Trichloroethane	SVOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.24E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.68E-07	0.00E+00	3.74E-06	0.00E+00
1,2,3,4,6,7,8,9-Octachlorodibenzodioxin	PCDD	0.00E+00	0.00E+00	1.55E-10	4.56E-11	2.30E-11	3.41E-10	2.93E-10	5.58E-10	4.91E-11	3.78E-11	6.26E-10	1.52E-10	1.25E-10	3.70E-10
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	1.61E-11	2.27E-12	1.11E-11	6.65E-12	5.58E-12	1.68E-09	1.63E-11	9.27E-12	5.69E-12	4.00E-12	2.17E-11	8.46E-12
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	PCDD	0.00E+00	0.00E+00	2.01E-11	7.20E-12	5.82E-12	2.72E-11	2.60E-11	3.07E-11	9.59E-12	5.73E-12	6.09E-11	1.60E-11	1.23E-11	2.85E-11
1,2,3,4,6,7,8-Heptachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	7.42E-12	4.14E-13	5.89E-12	4.16E-12	2.68E-12	5.18E-10	1.28E-11	5.99E-12	6.42E-12	2.01E-12	2.28E-12	3.78E-12
1,2,3,4,7,8,9-Heptachlorodibenzofuran	PCDD	0.00E+00	0.00E+00	2.96E-12	3.52E-12	0.00E+00	5.50E-13	3.03E-13	1.22E-10	6.22E-12	3.25E-12	7.23E-13	2.73E-13	0.00E+00	4.97E-13
1,2,3,4,7,8-hexachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	3.02E-12	6.56E-12	5.37E-12	8.31E-13	7.16E-13	1.50E-10	1.24E-11	6.03E-12	1.50E-12	6.79E-13	0.00E+00	5.58E-13
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	PCDD	0.00E+00	0.00E+00	1.08E-12	0.00E+00	0.00E+00	0.00E+00	1.78E-13	3.56E-12	1.40E-12	1.89E-12	4.53E-13	0.00E+00	0.00E+00	4.18E-13
1,2,3,6,7,8-hexachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	1.35E-12	0.00E+00	0.00E+00	7.91E-13	2.56E-13	5.65E-11	5.37E-12	2.69E-12	7.23E-13	4.06E-13	0.00E+00	5.09E-13
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	PCDD	0.00E+00	0.00E+00	1.52E-12	0.00E+00	1.82E-12	1.42E-12	6.90E-13	6.16E-12	3.01E-12	1.42E-12	1.84E-12	5.76E-13	0.00E+00	9.00E-13
1,2,3,7,8,9-Hexachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.15E-12	1.88E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	PCDD	0.00E+00	0.00E+00	2.04E-12	0.00E+00	1.79E-12	1.03E-12	5.14E-13	1.21E-11	3.44E-12	2.18E-12	1.44E-12	6.15E-13	0.00E+00	7.23E-13
1,2,3,7,8-Pentachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	1.79E-12	0.00E+00	0.00E+00	9.13E-13	1.79E-13	3.27E-11	4.27E-12	3.21E-12	5.35E-13	3.13E-13	0.00E+00	0.00E+00
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	PCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.89E-12	0.00E+00	0.00E+00	4.32E-11	1.51E-12	1.29E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,2,4-Trichlorobenzene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.51E-04	0.00E+00
1,2,4-Trimethylbenzene	VOC	0.00E+00	0.00E+00	4.46E-06	0.00E+00	0.00E+00	6.81E-06	1.71E-06	0.00E+00	0.00E+00	3.94E-06	1.87E-06	4.74E-06	0.00E+00	1.36E-06
1,2-Dichloroethane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.23E-05	0.00E+00	0.00E+00
1,2-Dichloropropane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,2-Propadiene	VOC TICs	0.00E+00	0.00E+00	0.00E+00	4.06E-06	1.58E-06	0.00E+00	9.09E-07	1.55E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,3 Butadiyne	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-06	0.00E+00	0.00E+00
1,3,5-Trimethylbenzene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.53E-06	4.43E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.45E-06	0.00E+00	0.00E+00
1,3,5-Trinitrobenzene	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,3-Butadiene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.15E-06	0.00E+00	0.00E+00	0.00E+00
1,3-dichlorobenzene	SVOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,3-Dinitrobenzene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,4-Dichlorobenzene	VOC	0.00E+00	0.00E+00	1.11E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,4-Dioxane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1-Butanol	VOC	0.00E+00	0.00E+00	5.58E-06	0.00E+00	0.00E+00	2.49E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1-Butanol 3-methyl-acetate	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	5.14E-04	4.07E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1-Butanol, 2-methyl-	SVOC TICs	0.00E+00	0.00E+00	3.53E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1-Butanol, 3-methyl-	SVOC TICs	0.00E+00	0.00E+00	4.14E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1-Butanol, 3-methyl-, acetate	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1-Buten-3-yne	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1-Butene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1-Butene / Isobutylene	Hydrocarbons	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.60E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1-Heptene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1-Hexene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.46E-06	2.02E-06	0.00E+00	0.00E+00
1-Nitropryene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1-Pentanol,2-methyl-, acetate	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.36E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1-Pentene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1-Propanol	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1-Propene, 2-methyl-	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.94E-06	0.00E+00	0.00E+00	0.00E+00
1-Propene,2-methyl-Isomer	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.18E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1-Propyne	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.21E-07	0.00E+00	0.00E+00	0.00E+00	7.02E-07	0.00E+00	0.00E+00	0.00E+00
2,3,4,6,7,8-Hexachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	1.51E-12	0.00E+00	0.00E+00	4.28E-13	1.63E-13	4.94E-11	4.85E-12	3.06E-12	5.40E-13	0.00E+00	0.00E+00	3.35E-13
2,3,4,7,8-Pentachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	2.15E-12	0.00E+00	0.00E+00	1.01E-12	3.10E-13	4.14E-11	7.43E-12	3.90E-12	9.05E-13	5.85E-13	0.00E+00	0.00E+00
2,3,7,8-Tetrachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	3.62E-12	7.21E-12	5.00E-12	2.85E-12	9.94E-13	7.92E-11	3.25E-12	1.53E-12	2.32E-12	9.04E-13	0.00E+00	1.47E-12
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	PCDD	0.00E+00	0.00E+00	0.00E+00	6.24E-12	2.26E-12	5.87E-13	0.00E+00	2.84E-10	0.00E+00	1.15E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2,4,6-Trinitrotoluene	ENERGETIC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.08E-05	5.38E-07	0.00E+00	0.00E+00	0.00E+00	1.55E-06	6.97E-07	0.00E+00	2.60E-05
2,4-Dinitrophenol	SVOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	1/4 POUND TNT DEMO BLOCK	2 POUND TNT DEMO BLOCK	Burster, Field, Incendiary, M4	Cartridge, 105-mm TP-T,M490 (M13 Tracer Burn)	Cartridge, 60-mm Mortar HE, M720	Charge, Demolition Block 1/4-pound TNT	Charge, Demolition Block, M112	Fuze, Mine, Anti-Tank, Practice, M604	Fuze, Point Detonating, M557	Fuze, Point Detonating, M739A1	Grenade, Hand Fragmentation, M67	M18A1 Claymore Mine	M25 Target Hit Simulator, (Flash-Bang)	Military Dynamite, M1
		Exploding Ordnance Study													
2,4-dinitrotoluene	SVOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2,6-Dinitrotoluene	ENERGETIC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2-Amino-4,6-Dinitrotoluene	ENERGETIC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.93E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.79E-07	0.00E+00	0.00E+00	4.22E-07
2-Butanone	VOC	0.00E+00	0.00E+00	4.07E-06	0.00E+00	3.55E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.53E-06	0.00E+00	0.00E+00
2-Butenal	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2-Butyne	Hydrocarbons	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2-Hexanol	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2-methyl-2,3-pentanediol	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.54E-05	0.00E+00
2-Methylnaphthalene	SVOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2-methylphenol	SVOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.98E-07	0.00E+00	0.00E+00
2-Nitrodiphenylamine	SVOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2-Nitronaphthalene	SVOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2-Nitrophenol	SVOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.87E-06	0.00E+00	0.00E+00
2-Nitrotoluene	ENERGETIC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2-Pentanol, 4-methyl-	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2-Propanol	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2-Propenal, 2-methyl-	VOC TICs	0.00E+00	0.00E+00	2.64E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.33E-06	0.00E+00	6.73E-07	0.00E+00	0.00E+00
3-Buten-2-one	VOC TICs	0.00E+00	0.00E+00	3.96E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.65E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3-Chloropropene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3-Ethyltoluene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3-Nitrotoluene	ENERGETIC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.04E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4-Amino-2,6-Dinitrotoluene	ENERGETIC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.40E-07	0.00E+00	0.00E+00	4.39E-07
4-Chloro-3-methylphenol	SVOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4-Ethyltoluene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.40E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.14E-06	3.37E-06	0.00E+00
4-Nitrophenol	SVOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.06E-06	0.00E+00	0.00E+00
4-Nitrotoluene	ENERGETIC	0.0E+00	0.0E+00	0.0E+00	2.0E-05	4.1E-06	0.0E+00	0.0E+00	4.7E-06	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Acenaphthene	TO-13 (PAHs)	0.00E+00	0.00E+00	2.01E-08	4.72E-08	8.03E-08	2.11E-08	2.85E-08	0.00E+00	1.38E-08	0.00E+00	3.21E-08	4.39E-08	0.00E+00	1.81E-08
Acenaphthylene	TO-13 (PAHs)	0.00E+00	0.00E+00	1.45E-07	0.00E+00	1.82E-06	1.63E-07	3.09E-07	0.00E+00	5.13E-08	3.31E-08	2.07E-07	1.11E-06	0.00E+00	8.28E-08
Acetaldehyde	TO-11 Carbonyls	0.00E+00	0.00E+00	6.99E-05	0.00E+00	2.58E-05	2.82E-05	7.96E-06	0.00E+00	1.16E-05	1.37E-05	0.00E+00	1.55E-05	0.00E+00	1.94E-05
Acetic Acid	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acetic Acid, butyl ester	VOC TICs	0.00E+00	0.00E+00	1.22E-04	0.00E+00	0.00E+00	1.34E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acetic Acid, hexyl ester	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.20E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acetone	TO-11 Carbonyls	0.00E+00	0.00E+00	1.03E-04	2.02E-06	6.44E-06	1.50E-04	2.76E-06	7.68E-07	1.29E-06	3.61E-06	1.57E-05	1.06E-05	1.01E-04	2.03E-05
Acetonitrile	VOC	0.00E+00	0.00E+00	1.76E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.00E-05	8.81E-06	8.15E-05	2.92E-05	1.47E-06	3.41E-05
Acetophenone	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acetylene	VOC	2.88E-05	2.95E-06	3.72E-05	1.23E-04	1.04E-04	3.63E-05	4.27E-05	2.32E-05	0.00E+00	0.00E+00	1.87E-05	1.16E-04	8.86E-05	1.90E-05
Acrolein	VOC	0.00E+00	0.00E+00	9.70E-05	2.15E-04	0.00E+00	5.04E-06	3.50E-06	0.00E+00	6.43E-06	6.48E-06	6.31E-06	4.31E-05	7.04E-06	1.21E-05
Acrylonitrile	VOC	0.00E+00	0.00E+00	6.99E-06	6.52E-05	0.00E+00	4.58E-06	7.38E-06	9.22E-06	2.36E-05	1.05E-05	3.21E-06	6.37E-06	0.00E+00	0.00E+00
Aliphatic with triple C-N bond	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.63E-06	0.00E+00	0.00E+00
Allyl Chloride	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Alpha Methyl Styrene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Aluminum	METAL	0.00E+00	0.00E+00	8.54E-04	6.86E-05	2.38E-03	1.14E-03	1.86E-07	1.03E-02	2.04E-02	2.03E-02	7.13E-07	4.42E-04	4.11E-04	4.10E-07
Ammonia	Permanent Gases	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.18E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Anthracene	TO-13 (PAHs)	0.00E+00	0.00E+00	4.47E-08	0.00E+00	1.48E-07	3.01E-08	4.45E-08	8.52E-08	2.18E-08	2.41E-08	3.94E-08	1.38E-07	0.00E+00	2.09E-08
Antimony	METAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.85E-09	2.38E-04	1.34E-04	4.77E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Arsenic	METAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.52E-08	0.00E+00	0.00E+00	0.00E+00
Barium	METAL	0.00E+00	0.00E+00	4.60E-05	6.51E-03	9.72E-05	6.33E-04	1.94E-06	4.32E-05	9.76E-04	1.93E-04	1.84E-07	1.71E-04	9.83E-03	3.02E-08
Benzaldehyde	TO-11 Carbonyls	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.51E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-04	0.00E+00	0.00E+00
Benzaldehyde, 4-ethyl-	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzaldehyde,ethyl-	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.81E-05	0.00E+00	0.00E+00

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	1/4 POUND TNT DEMO BLOCK	2 POUND TNT DEMO BLOCK	Burster, Field, Incendiary, M4	Cartridge, 105-mm TP-T,M490 (M13 Tracer Burn)	Cartridge, 60-mm Mortar HE, M720	Charge, Demolition Block 1/4-pound TNT	Charge, Demolition Block, M112	Fuze, Mine, Anti-Tank, Practice, M604	Fuze, Point Detonating, M557	Fuze, Point Detonating, M739A1	Grenade, Hand Fragmentation, M67	M18A1 Claymore Mine	M25 Target Hit Simulator, (Flash-Bang)	Military Dynamite, M1
		Exploding Ordnance Study													
Benzene	VOC	0.00E+00	0.00E+00	2.94E-05	1.84E-04	4.24E-06	0.00E+00	0.00E+00	0.00E+00	4.49E-06	9.03E-06	9.78E-06	8.80E-05	1.35E-05	1.63E-06
Benzene, (2-nitroethenyl)-	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.70E-05	0.00E+00	0.00E+00
Benzene, (epoxyethyl)-, R,	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.10E-05	0.00E+00	0.00E+00
Benzene, 1,3,5-trimethyl-	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene, 1-ethenyl-3-methyl-	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene, 1-ethyl-2methyl-	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene, 2-methyl- 1,3,5-trinitro	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.83E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.94E-06	0.00E+00	0.00E+00	0.00E+00
Benzene, propyl-	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.15E-06	0.00E+00	0.00E+00
Benzenecarbothioic acid, 2,6-dic	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo(a)anthracene	TO-13 (PAHs)	0.00E+00	0.00E+00	2.50E-08	7.41E-08	1.01E-07	1.74E-08	0.00E+00	1.49E-07	0.00E+00	0.00E+00	8.40E-09	3.59E-08	0.00E+00	8.60E-09
Benzo(a)pyrene	TO-13 (PAHs)	0.00E+00	0.00E+00	0.00E+00	7.13E-08	6.39E-08	0.00E+00	0.00E+00	1.50E-07	0.00E+00	0.00E+00	0.00E+00	1.09E-08	0.00E+00	0.00E+00
Benzo(b)fluoranthene	TO-13 (PAHs)	0.00E+00	0.00E+00	1.00E-08	4.99E-08	9.48E-08	0.00E+00	0.00E+00	3.86E-07	2.18E-08	2.16E-08	0.00E+00	1.82E-08	0.00E+00	0.00E+00
Benzo(e)pyrene	TO-13 (PAHs)	0.00E+00	0.00E+00	1.50E-08	7.13E-08	9.27E-08	0.00E+00	0.00E+00	1.60E-07	0.00E+00	0.00E+00	0.00E+00	1.73E-08	0.00E+00	0.00E+00
Benzo(g,h,i)perylene	TO-13 (PAHs)	0.00E+00	0.00E+00	1.67E-08	9.22E-08	4.94E-08	0.00E+00	0.00E+00	2.91E-07	0.00E+00	0.00E+00	0.00E+00	5.58E-09	0.00E+00	0.00E+00
Benzo(k)fluoranthene	TO-13 (PAHs)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.62E-07	0.00E+00	0.00E+00	1.38E-06	0.00E+00	0.00E+00	0.00E+00	1.82E-08	0.00E+00	0.00E+00
Benzofuran	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.86E-06	0.00E+00	0.00E+00
Benzoic acid	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.33E-06	2.54E-05	0.00E+00	0.00E+00
Benzonitrile	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzyl alcohol	SVOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.21E-06	0.00E+00	0.00E+00
Benzyl chloride	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.13E-06	0.00E+00	0.00E+00
Bicyclo [2.2.1] heptan-2-one, 1,3,3-trimethyl-	VOC TICs	0.00E+00	0.00E+00	1.72E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bicyclo [2.2.1] heptan-2-one, 5,5,6-trimethyl-, e	VOC TICs	0.00E+00	0.00E+00	5.73E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bicyclo[2.2.1]heptan-2-one, 1,7,7-trimethyl-, (1S	SVOC TICs	0.00E+00	0.00E+00	7.74E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bicyclo[2.2.1]heptan-2-one, 5,5,6-trimethyl-, en	SVOC TICs	0.00E+00	0.00E+00	5.16E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biphenyl	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bis(2-ethylhexyl)phthalate	SVOC	0.00E+00	0.00E+00	3.88E-05	1.25E-04	0.00E+00	0.00E+00	1.31E-05	0.00E+00	1.06E-04	1.81E-04	3.00E-05	4.37E-06	2.32E-04	0.00E+00
Borneol	SVOC TICs	0.00E+00	0.00E+00	2.81E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bromomethane	VOC	0.00E+00	0.00E+00	0.00E+00	1.92E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Butanal	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.93E-07	0.00E+00	0.00E+00
Butyl acrylate	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Butylbenzylphthalate	SVOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.35E-05	3.09E-06	0.00E+00	0.00E+00	0.00E+00	6.21E-06	1.92E-06	0.00E+00	1.02E-05
Butyraldehyde	TO-11 Carbonyls	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.99E-06	1.21E-04	5.91E-05	0.00E+00	0.00E+00	0.00E+00	1.83E-04	0.00E+00	0.00E+00	0.00E+00
Cadmium	METAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.54E-03	9.25E-04	1.05E-03	0.00E+00	7.73E-05	0.00E+00	0.00E+00
Calcium	METAL	0.00E+00	0.00E+00	4.77E-04	7.82E-06	2.85E-04	8.04E-04	8.72E-05	0.00E+00	2.35E-04	1.49E-04	3.77E-07	1.09E-03	0.00E+00	6.06E-07
Camphene	VOC TICs	0.00E+00	0.00E+00	6.41E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Camphor	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.18E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Camphor & Benzoic Acid	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon dioxide	Permanent Gases	1.46E+00	1.38E+00	2.02E+00	2.57E-01	6.62E-01	1.43E+00	6.04E-01	1.32E-01	6.38E-01	6.60E-01	5.17E-01	1.04E+00	7.39E-01	8.41E-01
Carbon Disulfide	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.19E-05	0.00E+00
Carbon monoxide	Permanent Gases	2.19E-02	4.85E-03	2.70E-02	2.23E-03	7.52E-02	1.99E-02	2.00E-02	6.77E-03	1.86E-02	9.27E-03	4.07E-02	1.31E-02	2.42E-02	1.44E-02
Carbon tetrachloride	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chlorobenzene	VOC	0.00E+00	0.00E+00	0.00E+00	1.32E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.16E-07	0.00E+00	0.00E+00
Chloroethane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloromethane	VOC	0.00E+00	0.00E+00	0.00E+00	8.51E-05	9.93E-07	0.00E+00	0.00E+00	0.00E+00	1.45E-06	1.68E-06	0.00E+00	8.51E-07	8.02E-07	0.00E+00
Chlorotoluenes	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chromium	METAL	0.00E+00	0.00E+00	8.53E-05	0.00E+00	9.11E-05	2.31E-05	3.89E-06	0.00E+00	6.24E-05	2.39E-05	2.95E-08	6.96E-05	0.00E+00	6.72E-09
Chrysene	TO-13 (PAHs)	0.00E+00	0.00E+00	2.80E-08	3.50E-08	1.59E-07	1.61E-08	0.00E+00	2.67E-07	0.00E+00	0.00E+00	1.57E-08	4.68E-08	0.00E+00	1.97E-08
cis-2-Butene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
cis-2-Pentene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	1/4 POUND TNT DEMO BLOCK	2 POUND TNT DEMO BLOCK	Burster, Field, Incendiary, M4	Cartridge, 105-mm TP-T,M490 (M13 Tracer Burn)	Cartridge, 60-mm Mortar HE, M720	Charge, Demolition Block 1/4-pound TNT	Charge, Demolition Block, M112	Fuze, Mine, Anti-Tank, Practice, M604	Fuze, Point Detonating, M557	Fuze, Point Detonating, M739A1	Grenade, Hand Fragmentation, M67	M18A1 Claymore Mine	M25 Target Hit Simulator, (Flash-Bang)	Military Dynamite, M1
		Exploding Ordnance Study													
Cobalt	METAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.70E-05	0.00E+00	0.00E+00	0.00E+00	1.32E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Copper	METAL	0.00E+00	0.00E+00	5.85E-04	6.67E-05	1.30E-03	4.97E-04	3.20E-05	1.29E-04	6.76E-03	4.99E-03	1.54E-07	9.27E-05	0.00E+00	7.89E-08
Cumene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.15E-06	0.00E+00	0.00E+00
Cyclohexane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cyclohexanone	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.43E-07	0.00E+00	0.00E+00
Cyclopentane, methylene- isomer	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cyclopentene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Decanal	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.33E-07	0.00E+00	0.00E+00	0.00E+00
Dibenz(a,h)anthracene	TO-13 (PAHs)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.17E-09	0.00E+00	0.00E+00	1.49E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dibenzofuran	SVOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dichlorodiflouromethane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.08E-08	0.00E+00	0.00E+00	0.00E+00	2.59E-07	0.00E+00	1.08E-06	1.27E-07
Diethyl ether	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Diethylphthalate	SVOC	0.00E+00	0.00E+00	1.59E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylbenzene isomer	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-05
Di-n-butylphthalate	SVOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-05	3.83E-06	0.00E+00	0.00E+00	0.00E+00	7.27E-06	4.61E-06	0.00E+00	1.22E-05
Di-n-octylphthalate	SVOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.30E-06	0.00E+00	0.00E+00
Diphenylamine	ENERGETIC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Docosane	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.56E-05	0.00E+00
Dodecanoic acid	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.67E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Eicosane	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.81E-05	0.00E+00
Elemental Carbon	Carbon	0.00E+00	0.00E+00	6.91E-03	1.08E-03	2.21E-02	0.00E+00	0.00E+00	1.07E-03	2.54E-04	1.06E-04	0.00E+00	3.79E-03	9.03E-03	0.00E+00
Ethane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.44E-05	0.00E+00	7.30E-05	0.00E+00	0.00E+00	0.00E+00	1.95E-05	1.39E-05	0.00E+00	0.00E+00
Ethanedinitrile	VOC TICs	0.00E+00	0.00E+00	1.57E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.90E-04	2.25E-05	0.00E+00	0.00E+00	5.06E-05
Ethanol	VOC	0.00E+00	0.00E+00	1.73E-06	1.17E-07	0.00E+00	1.12E-04	0.00E+00	0.00E+00	1.32E-06	1.53E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethanol, 2-butoxy-	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.60E-06
Ethanone, 1-(4-ethylphenyl)-	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethanone, 1,1'-(1,4-phenylene)bi	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethyl chloride	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylbenzene	VOC	0.00E+00	0.00E+00	3.99E-06	3.23E-05	0.00E+00	3.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.63E-06	2.97E-06	1.70E-06
Ethylbenzoic acid	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene	VOC	2.86E-05	5.67E-06	6.06E-05	0.00E+00	9.70E-05	2.31E-05	1.04E-04	4.10E-05	2.39E-05	1.98E-05	5.56E-05	8.15E-05	0.00E+00	2.04E-05
Ethylmethylbenzene isomer	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-05
Filterable particulate matter 10 micron	Particulates	0.00E+00	0.00E+00	2.24E-01	4.25E-01	8.04E-02	5.31E-02	2.27E-02	5.25E-01	2.37E-01	3.19E-01	8.02E-02	3.39E-02	7.08E-01	2.56E-02
Filterable particulate matter 2.5 micron	Particulates	0.00E+00	0.00E+00	7.48E-02	1.10E+00	3.79E-02	1.98E-02	1.67E-02	4.13E-01	1.45E-01	1.95E-01	4.55E-02	1.80E-02	5.89E-01	9.95E-03
Fluoranthene	TO-13 (PAHs)	0.00E+00	0.00E+00	7.78E-08	1.08E-07	7.96E-07	5.19E-08	6.29E-08	1.10E-06	2.33E-08	3.65E-08	1.04E-07	2.77E-07	8.15E-08	8.88E-08
Fluorene	TO-13 (PAHs)	0.00E+00	0.00E+00	8.60E-08	0.00E+00	8.94E-08	6.42E-08	1.62E-08	1.62E-08	8.59E-09	9.83E-09	3.54E-08	4.04E-07	9.28E-09	3.06E-08
Formaldehyde	TO-11 Carbonyls	0.00E+00	0.00E+00	2.26E-04	7.51E-06	3.35E-05	7.25E-05	1.21E-04	0.00E+00	0.00E+00	2.05E-05	8.04E-05	9.71E-05	0.00E+00	5.64E-05
Freon 113	VOC	0.00E+00	0.00E+00	0.00E+00	9.57E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Furan	VOC	0.00E+00	0.00E+00	2.56E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Furan 2,3-dihydro-	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.73E-07	0.00E+00	0.00E+00
Furan, 2,5-dihydro	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.73E-07	0.00E+00	0.00E+00
Furan, tetrahydro-	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-05	0.00E+00
Heptane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.45E-07	0.00E+00	0.00E+00
Heptane, 3-methylene-	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexachloro-1,3-butadiene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexachlorobenzene	SVOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.28E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexadecane	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexanal	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.62E-07	0.00E+00	0.00E+00
Hexane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.00E-06	0.00E+00	0.00E+00	0.00E+00	2.86E-06	1.49E-06	4.37E-07	0.00E+00	1.71E-06
Hexanedioic acid isomer	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	1/4 POUND TNT DEMO BLOCK	2 POUND TNT DEMO BLOCK	Burster, Field, Incendiary, M4	Cartridge, 105-mm TP-T,M490 (M13 Tracer Burn)	Cartridge, 60-mm Mortar HE, M720	Charge, Demolition Block 1/4-pound TNT	Charge, Demolition Block, M112	Fuze, Mine, Anti-Tank, Practice, M604	Fuze, Point Detonating, M557	Fuze, Point Detonating, M739A1	Grenade, Hand Fragmentation, M67	M18A1 Claymore Mine	M25 Target Hit Simulator, (Flash-Bang)	Military Dynamite, M1
		Exploding Ordnance Study													
Hexanedioic acid, Bis (2-ethylhexyl)	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.15E-05	0.00E+00	0.00E+00
Hexatriacontane	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	3.97E-05	3.00E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexavalent Chromium	CrVI	0.00E+00	0.00E+00	7.37E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.35E-06	0.00E+00	0.00E+00	2.05E-06	3.68E-06	0.00E+00
HMX	ENERGETIC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.49E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrogen Chloride	Acid Gases	0.00E+00	0.00E+00	0.00E+00	4.96E-03	3.63E-05	0.00E+00	0.00E+00	5.39E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.18E-03	0.00E+00
Hydrogen Cyanide	Cyanide	0.00E+00	0.00E+00	5.52E-04	0.00E+00	9.87E-04	5.50E-04	4.64E-04	0.00E+00	3.07E-04	4.49E-05	1.09E-03	2.51E-04	0.00E+00	3.95E-04
Hydrogen Fluoride	Acid Gases	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.19E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Indeno(1,2,3-cd)pyrene	TO-13 (PAHs)	0.00E+00	0.00E+00	0.00E+00	3.84E-08	3.42E-08	0.00E+00	0.00E+00	4.96E-07	0.00E+00	0.00E+00	0.00E+00	5.18E-09	0.00E+00	0.00E+00
Iron	METAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isoborneol	SVOC TICs	0.00E+00	0.00E+00	3.11E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isobutane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isobutene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isobutyl phthlate	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isobutylene	Hydrocarbons	0.00E+00	4.01E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isoheptane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopentane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropylbenzene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lead	METAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.58E-04	5.93E-04	1.53E-04	7.79E-04	5.60E-03	2.11E-03	1.30E-06	3.68E-05	4.09E-04	4.32E-07
m/p-Xylene	VOC	0.00E+00	0.00E+00	9.99E-06	7.02E-05	0.00E+00	9.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.35E-07	2.61E-06	4.08E-06	5.60E-06
Magnesium	METAL	0.00E+00	0.00E+00	1.70E-04	1.45E-01	1.54E-04	1.29E-04	1.23E-05	2.61E-05	4.68E-05	4.24E-04	6.25E-08	8.12E-04	1.38E-01	9.68E-08
Manganese	METAL	0.00E+00	0.00E+00	7.20E-04	2.81E-05	2.85E-04	8.32E-05	1.10E-05	2.21E-05	1.31E-04	2.53E-04	1.00E-07	5.12E-05	7.00E-05	5.93E-08
m-Dichlorobenzene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury (filter)	METAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methacrylic acid, isopropyl ester	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methane	VOC	6.92E-05	0.00E+00	8.44E-06	3.47E-04	1.84E-03	6.14E-05	1.25E-03	0.00E+00	1.95E-04	0.00E+00	7.48E-04	2.46E-04	5.16E-04	1.71E-04
Methane, nitro-	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.93E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.76E-06	0.00E+00	0.00E+00
Methenamine	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.59E-05	0.00E+00
Methyl chloride	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl chloroform	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl Methacrylate	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.94E-07	0.00E+00	0.00E+00
Methyl t-Butyl Ether	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.93E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylcyclohexane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylcyclopentane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene chloride	VOC	0.00E+00	0.00E+00	1.08E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.50E-07	0.00E+00	5.47E-06
Nanocosane	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	5.79E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Naphthalene	TO-13 (PAHs)	0.00E+00	0.00E+00	7.41E-07	9.66E-07	3.65E-06	3.37E-07	1.93E-06	0.00E+00	1.50E-07	3.02E-07	2.01E-06	3.78E-06	5.59E-08	2.55E-06
n-Butane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
n-Decane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
n-Heptane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
n-Hexane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.03E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.35E-04
Nickel	METAL	0.00E+00	0.00E+00	1.39E-04	0.00E+00	1.51E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nitric Acid	Acid Gases	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.14E-05	4.30E-04	1.09E-03	0.00E+00	0.00E+00	0.00E+00	1.52E-04	5.85E-04	1.90E-04	2.27E-04
Nitric oxide	INORGANIC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nitrobenzene	ENERGETIC	0.00E+00	0.00E+00	0.00E+00	8.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nitrogen dioxide	INORGANIC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nitrogen Oxides	INORGANIC	1.07E-02	7.76E-03	1.68E-02	1.07E-02	5.36E-03	6.32E-03	4.03E-03	0.00E+00	1.15E-02	8.98E-03	1.57E-03	7.61E-03	2.31E-02	4.17E-03
Nitroglycerine	ENERGETIC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nitromethane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
N-Nitrosodiphenylamine	SVOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
n-Nonane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	1/4 POUND TNT DEMO BLOCK	2 POUND TNT DEMO BLOCK	Burster, Field, Incendiary, M4	Cartridge, 105-mm TP-T,M490 (M13 Tracer Burn)	Cartridge, 60-mm Mortar HE, M720	Charge, Demolition Block 1/4-pound TNT	Charge, Demolition Block, M112	Fuze, Mine, Anti-Tank, Practice, M604	Fuze, Point Detonating, M557	Fuze, Point Detonating, M739A1	Grenade, Hand Fragmentation, M67	M18A1 Claymore Mine	M25 Target Hit Simulator, (Flash-Bang)	Military Dynamite, M1
		Exploding Ordnance Study													
Noanal	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.46E-06	0.00E+00	0.00E+00	0.00E+00
n-Octane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nonadecane	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nonanoic acid	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.22E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
n-Pentane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Octacosane	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	6.59E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Octane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.47E-07	0.00E+00	0.00E+00
o-Dichlorobenzene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Organic Carbon	Carbon	0.00E+00	0.00E+00	3.07E-03	6.23E-03	3.75E-04	0.00E+00	0.00E+00	5.10E-04	0.00E+00	0.00E+00	0.00E+00	1.18E-03	2.08E-02	0.00E+00
o-Xylene	VOC	0.00E+00	0.00E+00	7.99E-06	3.23E-05	0.00E+00	6.01E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.67E-07	1.28E-06	4.46E-06	2.70E-06
Particulate Cyanide	Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.58E-05	0.00E+00	0.00E+00	0.00E+00
Particulate Perchlorate	Perchlorate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
p-Dichlorobenzene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pentaerythritol tetranitrate	ENERGETIC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pentanal	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pentane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.01E-06	2.66E-07	0.00E+00	0.00E+00	0.00E+00	9.99E-07	5.53E-08	0.00E+00	0.00E+00
Pentatriacontane	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	5.75E-05	9.90E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
p-Ethyltoluene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phenanthrene	TO-13 (PAHs)	0.00E+00	0.00E+00	3.17E-07	5.03E-08	1.27E-06	2.07E-07	2.54E-07	8.72E-07	6.93E-08	6.99E-08	2.56E-07	1.23E-06	2.32E-09	1.88E-07
Phenol	SVOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.69E-06	0.00E+00	0.00E+00
Phenol, 2-ethyl-	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phenylethyne	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-05	0.00E+00	0.00E+00
Propanal	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Propane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.13E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Propane, 2,2-dimethoxy-	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Propanoic acid, 3- ethoxy, ethyl e	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.35E-05	3.46E-06	0.00E+00	0.00E+00	0.00E+00	6.67E-06	0.00E+00	0.00E+00	0.00E+00
Propene	VOC	0.00E+00	0.00E+00	1.98E-05	7.34E-05	1.66E-06	4.69E-06	3.18E-05	0.00E+00	4.83E-06	6.25E-06	2.12E-05	1.50E-05	5.87E-06	0.00E+00
Proprionaldehyde	TO-11 Carbonyls	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.49E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Propylene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.59E-05	0.00E+00	1.92E-05	0.00E+00	0.00E+00	0.00E+00	1.53E-05	1.43E-05	0.00E+00	0.00E+00
Propyne	Hydrocarbons	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.77E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.18E-06	0.00E+00	0.00E+00
Pyrene	TO-13 (PAHs)	0.00E+00	0.00E+00	1.41E-07	1.18E-07	8.81E-07	9.52E-08	1.52E-07	6.58E-07	3.80E-08	1.65E-08	1.94E-07	2.84E-07	1.16E-08	1.08E-07
Pyridine	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RDX	ENERGETIC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.41E-06	1.58E-06	0.00E+00	0.00E+00	0.00E+00	2.31E-06	1.46E-06	3.72E-06	3.88E-06
Selenium	METAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Silane, difluorodimethyl-	VOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Silver	METAL	0.00E+00	0.00E+00	3.94E-05	0.00E+00	1.62E-05	0.00E+00	0.00E+00	0.00E+00	2.66E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Strontium	METAL	0.00E+00	0.00E+00	0.00E+00	3.92E-02	1.64E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.12E-04	1.38E-01	0.00E+00
Styrene	VOC	0.00E+00	0.00E+00	3.92E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.21E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sulfur dioxide	INORGANIC	0.00E+00	4.47E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sulfuric Acid	Acid Gases	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.21E-03	1.20E-04
tert-Butyl Alcohol	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.07E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
teterachlobenzene isomer	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.59E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetracosane	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.64E-05	3.42E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TETRYL	ENERGETIC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Thallium	METAL	0.00E+00	0.00E+00	1.94E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Titanium	METAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.73E-05	0.00E+00	0.00E+00
Toluene	VOC	0.00E+00	0.00E+00	1.39E-05	3.30E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.06E-06	1.10E-06	1.31E-05	4.19E-06	1.81E-07
Total Carbon	Carbon	0.00E+00	0.00E+00	9.98E-03	7.31E-03	2.25E-02	0.00E+00	0.00E+00	1.58E-03	0.00E+00	0.00E+00	0.00E+00	4.97E-03	2.98E-02	0.00E+00
Total HpCDD	PCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	1/4 POUND TNT DEMO BLOCK	2 POUND TNT DEMO BLOCK	Burster, Field, Incendiary, M4	Cartridge, 105-mm TP-T,M490 (M13 Tracer Burn)	Cartridge, 60-mm Mortar HE, M720	Charge, Demolition Block 1/4-pound TNT	Charge, Demolition Block, M112	Fuze, Mine, Anti-Tank, Practice, M604	Fuze, Point Detonating, M557	Fuze, Point Detonating, M739A1	Grenade, Hand Fragmentation, M67	M18A1 Claymore Mine	M25 Target Hit Simulator, (Flash-Bang)	Military Dynamite, M1
		Exploding Ordnance Study													
Total HpCDF	PCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total HxCDD	PCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total HxCDF	PCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total Non-methane Hydrocarbons	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total PeCDD	PCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total PeCDF	PCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total TCDD	PCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total TCDF	PCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
trans-2-Butene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
trans-2-Hexene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
trans-2-Pentene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triacontane	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	7.32E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Trichloroethene	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Trichloroflouromethane	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.68E-09	0.00E+00	0.00E+00	0.00E+00	7.13E-07	2.41E-09	0.00E+00	0.00E+00
Trimethylbenzene isomer	SVOC TICs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.59E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.31E-05
Trinitrophenol (Picric Acid)	ENERGETIC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TSP	Particulates	0.00E+00	0.00E+00	2.71E-01	4.24E-01	9.12E-02	6.92E-02	2.80E-02	5.17E-01	2.73E-01	3.47E-01	9.66E-02	3.69E-02	7.26E-01	4.22E-02
Vanadium	METAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.44E-05	9.54E-06	0.00E+00	3.75E-04	3.53E-04	0.00E+00
Vinyl acetate	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.40E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Vinyl chloride	VOC	0.00E+00	0.00E+00	0.00E+00	5.11E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.95E-06	0.00E+00	0.00E+00
Xylenes	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Zinc	METAL	0.00E+00	0.00E+00	3.20E-04	3.06E-04	4.62E-04	6.18E-05	1.04E-05	3.51E-02	1.11E-02	6.37E-02	9.87E-06	5.76E-04	0.00E+00	4.65E-08
Zirconium	METAL	0.00E+00	0.00E+00	1.70E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	MK3A2 Grenade	Simulator, Target, Kill, M26	Bombs (metal emissions from casing, coatings and metal bands)	Projectiles (metal emissions from casing, coatings and metal bands)
				China Lake	
1,3,5-Trinitrobenzene	ENERGETIC	8.90E-06	0.00E+00	a	a
1,1,1-Trichloroethane	SVOC	0.00E+00	0.00E+00	a	a
1,2,3,4,6,7,8,9-Octachlorodibenzodioxin	PCDD	5.43E-10	3.73E-13	a	a
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	PCDF	1.86E-11	1.07E-12	a	a
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	PCDD	4.38E-11	1.42E-13	a	a
1,2,3,4,6,7,8-Heptachlorodibenzofuran	PCDF	5.98E-12	5.51E-13	a	a
1,2,3,4,7,8,9-Heptachlorodibenzofuran	PCDD	0.00E+00	2.03E-13	a	a
1,2,3,4,7,8-hexachlorodibenzofuran	PCDF	1.45E-12	3.64E-13	a	a
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	PCDD	0.00E+00	0.00E+00	a	a
1,2,3,6,7,8-hexachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	a	a
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	PCDD	1.48E-12	0.00E+00	a	a
1,2,3,7,8,9-Hexachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	a	a
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	PCDD	1.80E-12	0.00E+00	a	a
1,2,3,7,8-Pentachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	a	a
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	PCDD	0.00E+00	0.00E+00	a	a
1,2,4-Trichlorobenzene	VOC	0.00E+00	0.00E+00	a	a
1,2,4-Trimethylbenzene	VOC	1.08E-06	0.00E+00	a	a
1,2-Dichloroethane	VOC	1.42E-06	1.13E-05	a	a
1,2-Dichloropropane	VOC	0.00E+00	0.00E+00	a	a
1,2-Propadiene	VOC TICs	0.00E+00	0.00E+00	a	a
1,3 Butadiyne	VOC TICs	4.89E-06	0.00E+00	a	a
1,3,5-Trimethylbenzene	VOC	0.00E+00	0.00E+00	a	a
1,3,5-Trinitrobenzene	SVOC TICs	0.00E+00	0.00E+00	a	a
1,3-Butadiene	VOC	0.00E+00	7.98E-05	a	a
1,3-dichlorobenzene	SVOC	0.00E+00	0.00E+00	a	a
1,3-Dinitrobenzene	VOC	0.00E+00	0.00E+00	a	a
1,4-Dichlorobenzene	VOC	0.00E+00	0.00E+00	a	a
1,4-Dioxane	VOC	0.00E+00	0.00E+00	a	a
1-Butanol	VOC	0.00E+00	0.00E+00	a	a
1-Butanol 3-methyl-acetate	SVOC TICs	0.00E+00	0.00E+00	a	a
1-Butanol, 2-methyl-	SVOC TICs	0.00E+00	0.00E+00	a	a
1-Butanol, 3-methyl-	SVOC TICs	0.00E+00	0.00E+00	a	a
1-Butanol, 3-methyl-, acetate	SVOC TICs	0.00E+00	0.00E+00	a	a
1-Buten-3-yne	VOC TICs	2.52E-06	0.00E+00	a	a
1-Butene	VOC	4.17E-05	0.00E+00	a	a
1-Butene / Isobutylene	Hydrocarbons	0.00E+00	0.00E+00	a	a
1-Heptene	VOC	1.20E-05	0.00E+00	a	a
1-Hexene	VOC	2.54E-05	0.00E+00	a	a
1-Nitropryene	VOC	0.00E+00	0.00E+00	a	a
1-Pentanol,2-methyl-, acetate	VOC TICs	0.00E+00	0.00E+00	a	a
1-Pentene	VOC	0.00E+00	0.00E+00	a	a
1-Propanol	VOC	0.00E+00	0.00E+00	a	a
1-Propene, 2-methyl-	VOC TICs	0.00E+00	0.00E+00	a	a
1-Propene,2-methyl-Isomer	VOC TICs	0.00E+00	0.00E+00	a	a
1-Propyne	VOC TICs	0.00E+00	0.00E+00	a	a
2,3,4,6,7,8-Hexachlorodibenzofuran	PCDF	0.00E+00	0.00E+00	a	a
2,3,4,7,8-Pentachlorodibenzofuran	PCDF	0.00E+00	1.91E-13	a	a
2,3,7,8-Tetrachlorodibenzofuran	PCDF	2.68E-12	7.05E-13	a	a
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	PCDD	0.00E+00	0.00E+00	a	a
2,4,6-Trinitrotoluene	ENERGETIC	5.79E-05	0.00E+00	a	a
2,4-Dinitrophenol	SVOC	0.00E+00	0.00E+00	a	a

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	MK3A2 Grenade	Simulator, Target, Kill, M26	Bombs (metal emissions from casing, coatings and metal bands)	Projectiles (metal emissions from casing, coatings and metal bands)
				China Lake	
2,4-dinitrotoluene	SVOC	2.65E-05	0.00E+00	a	a
2,6-Dinitrotoluene	ENERGETIC	0.00E+00	0.00E+00	a	a
2-Amino-4,6-Dinitrotoluene	ENERGETIC	9.82E-07	0.00E+00	a	a
2-Butanone	VOC	3.11E-06	0.00E+00	a	a
2-Butenal	VOC TICs	2.52E-06	0.00E+00	a	a
2-Butyne	Hydrocarbons	0.00E+00	2.42E-05	a	a
2-Hexanol	SVOC TICs	0.00E+00	0.00E+00	a	a
2-methyl-2,3-pentanediol	SVOC TICs	0.00E+00	0.00E+00	a	a
2-Methylnaphthalene	SVOC	0.00E+00	0.00E+00	a	a
2-methylphenol	SVOC	0.00E+00	0.00E+00	a	a
2-Nitrodiphenylamine	SVOC	0.00E+00	0.00E+00	a	a
2-Nitronaphthalene	SVOC	0.00E+00	0.00E+00	a	a
2-Nitrophenol	SVOC	0.00E+00	0.00E+00	a	a
2-Nitrotoluene	ENERGETIC	0.00E+00	0.00E+00	a	a
2-Pentanol, 4-methyl-	SVOC TICs	2.37E-06	0.00E+00	a	a
2-Propanol	VOC	0.00E+00	0.00E+00	a	a
2-Propenal, 2-methyl-	VOC TICs	4.03E-06	0.00E+00	a	a
3-Buten-2-one	VOC TICs	7.05E-06	0.00E+00	a	a
3-Chloropropene	VOC	0.00E+00	0.00E+00	a	a
3-Ethyltoluene	VOC	0.00E+00	0.00E+00	a	a
3-Nitrotoluene	ENERGETIC	0.00E+00	0.00E+00	a	a
4-Amino-2,6-Dinitrotoluene	ENERGETIC	7.00E-07	0.00E+00	a	a
4-Chloro-3-methylphenol	SVOC	0.00E+00	0.00E+00	a	a
4-Ethyltoluene	VOC	1.28E-07	0.00E+00	a	a
4-Nitrophenol	SVOC	0.00E+00	0.00E+00	a	a
4-Nitrotoluene	ENERGETIC	0.0E+00	0.0E+00	a	a
Acenaphthene	TO-13 (PAHs)	1.83E-07	1.47E-06	a	a
Acenaphthylene	TO-13 (PAHs)	2.41E-06	2.49E-04	a	a
Acetaldehyde	TO-11 Carbonyls	1.51E-04	7.10E-06	a	a
Acetic Acid	VOC	0.00E+00	0.00E+00	a	a
Acetic Acid, butyl ester	VOC TICs	0.00E+00	0.00E+00	a	a
Acetic Acid, hexyl ester	VOC TICs	0.00E+00	0.00E+00	a	a
Acetone	TO-11 Carbonyls	4.07E-05	3.06E-06	a	a
Acetonitrile	VOC	4.10E-05	1.06E-06	a	a
Acetophenone	SVOC TICs	0.00E+00	0.00E+00	a	a
Acetylene	VOC	4.00E-04	1.95E-03	a	a
Acrolein	VOC	7.29E-05	1.31E-05	a	a
Acrylonitrile	VOC	7.62E-06	0.00E+00	a	a
Aliphatic with triple C-N bond	VOC TICs	0.00E+00	0.00E+00	a	a
Allyl Chloride	VOC	0.00E+00	0.00E+00	a	a
Alpha Methyl Styrene	VOC	0.00E+00	4.89E-06	a	a
Aluminum	METAL	6.53E-04	0.00E+00	a	3.58E-05
Ammonia	Permanent Gases	0.00E+00	0.00E+00	a	a
Anthracene	TO-13 (PAHs)	3.14E-07	5.85E-06	a	a
Antimony	METAL	0.00E+00	0.00E+00	a	9.08E-06
Arsenic	METAL	0.00E+00	0.00E+00	a	a
Barium	METAL	6.86E-04	0.00E+00	a	1.45E-05
Benzaldehyde	TO-11 Carbonyls	0.00E+00	3.61E-05	a	a
Benzaldehyde, 4-ethyl-	SVOC TICs	0.00E+00	0.00E+00	a	a
Benzaldehyde,ethyl-	SVOC TICs	0.00E+00	0.00E+00	a	a

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	MK3A2 Grenade	Simulator, Target, Kill, M26	Bombs (metal emissions from casing, coatings and metal bands)	Projectiles (metal emissions from casing, coatings and metal bands)
				China Lake	
Benzene	VOC	7.38E-05	2.77E-03	a	a
Benzene, (2-nitroethenyl)-	SVOC TICs	0.00E+00	0.00E+00	a	a
Benzene, (epoxyethyl)-, R,	SVOC TICs	0.00E+00	0.00E+00	a	a
Benzene, 1,3,5-trimethyl-	SVOC TICs	0.00E+00	0.00E+00	a	a
Benzene, 1-ethenyl-3-methyl-	SVOC TICs	0.00E+00	0.00E+00	a	a
Benzene, 1-ethyl-2methyl-	SVOC TICs	0.00E+00	0.00E+00	a	a
Benzene, 2-methyl- 1,3,5-trinitro	SVOC TICs	0.00E+00	0.00E+00	a	a
Benzene, propyl-	VOC TICs	0.00E+00	0.00E+00	a	a
Benzenecarbothioic acid, 2,6-dic	SVOC TICs	0.00E+00	0.00E+00	a	a
Benzo(a)anthracene	TO-13 (PAHs)	2.24E-07	5.09E-06	a	a
Benzo(a)pyrene	TO-13 (PAHs)	1.72E-07	6.83E-06	a	a
Benzo(b)fluoranthene	TO-13 (PAHs)	1.68E-07	2.06E-05	a	a
Benzo(e)pyrene	TO-13 (PAHs)	2.47E-07	4.34E-06	a	a
Benzo(g,h,i)perylene	TO-13 (PAHs)	1.86E-07	6.50E-06	a	a
Benzo(k)fluoranthene	TO-13 (PAHs)	1.40E-07	2.71E-05	a	a
Benzofuran	SVOC TICs	0.00E+00	0.00E+00	a	a
Benzoic acid	SVOC TICs	0.00E+00	0.00E+00	a	a
Benzonitrile	VOC	0.00E+00	0.00E+00	a	a
Benzyl alcohol	SVOC	0.00E+00	0.00E+00	a	a
Benzyl chloride	VOC	0.00E+00	0.00E+00	a	a
Bicyclo [2.2.1] heptan-2-one, 1,3,3-trimethyl-	VOC TICs	0.00E+00	0.00E+00	a	a
Bicyclo [2.2.1] heptan-2-one, 5,5,6-trimethyl-, e	VOC TICs	0.00E+00	0.00E+00	a	a
Bicyclo[2.2.1]heptan-2-one, 1,7,7-trimethyl-, (1	SVOC TICs	0.00E+00	0.00E+00	a	a
Bicyclo[2.2.1]heptan-2-one, 5,5,6-trimethyl-, en	SVOC TICs	0.00E+00	0.00E+00	a	a
Biphenyl	VOC	0.00E+00	0.00E+00	a	a
Bis(2-ethylhexyl)phthalate	SVOC	1.50E-05	0.00E+00	a	a
Borneol	SVOC TICs	0.00E+00	0.00E+00	a	a
Bromomethane	VOC	0.00E+00	0.00E+00	a	a
Butanal	VOC TICs	0.00E+00	0.00E+00	a	a
Butyl acrylate	VOC	0.00E+00	0.00E+00	a	a
Butylbenzylphthalate	SVOC	4.13E-06	0.00E+00	a	a
Butyraldehyde	TO-11 Carbonyls	0.00E+00	0.00E+00	a	a
Cadmium	METAL	3.73E-05	0.00E+00	6.60E-06	a
Calcium	METAL	1.00E-03	3.17E-05	a	a
Camphene	VOC TICs	0.00E+00	0.00E+00	a	a
Camphor	VOC TICs	0.00E+00	0.00E+00	a	a
Camphor & Benzoic Acid	SVOC TICs	0.00E+00	0.00E+00	a	a
Carbon dioxide	Permanent Gases	1.37E+00	3.18E-01	a	a
Carbon Disulfide	VOC	3.28E-06	1.78E-06	a	a
Carbon monoxide	Permanent Gases	2.99E-02	1.69E-01	a	a
Carbon tetrachloride	VOC	0.00E+00	0.00E+00	a	a
Chlorobenzene	VOC	0.00E+00	0.00E+00	a	a
Chloroethane	VOC	0.00E+00	0.00E+00	a	a
Chloroform	VOC	0.00E+00	0.00E+00	a	a
Chloromethane	VOC	3.26E-07	1.70E-06	a	a
Chlorotoluenes	VOC	0.00E+00	0.00E+00	a	a
Chromium	METAL	5.81E-05	0.00E+00	8.25E-08	a
Chrysene	TO-13 (PAHs)	2.73E-07	6.82E-06	a	a
cis-2-Butene	VOC	0.00E+00	0.00E+00	a	a
cis-2-Pentene	VOC	0.00E+00	0.00E+00	a	a

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	MK3A2 Grenade	Simulator, Target, Kill, M26	Bombs (metal emissions from casing, coatings and metal bands)	Projectiles (metal emissions from casing, coatings and metal bands)
				China Lake	
Cobalt	METAL	0.00E+00	0.00E+00	a	a
Copper	METAL	4.83E-04	0.00E+00	a	3.54E-02
Cumene	VOC	0.00E+00	0.00E+00	a	a
Cyclohexane	VOC	0.00E+00	0.00E+00	a	a
Cyclohexanone	VOC TICs	0.00E+00	0.00E+00	a	a
Cyclopentane, methylene- isomer	VOC TICs	2.36E-06	0.00E+00	a	a
Cyclopentene	VOC	0.00E+00	0.00E+00	a	a
Decanal	VOC TICs	0.00E+00	0.00E+00	a	a
Dibenz(a,h)anthracene	TO-13 (PAHs)	6.39E-08	5.10E-07	a	a
Dibenzofuran	SVOC	0.00E+00	0.00E+00	a	a
Dichlorodiflouromethane	VOC	0.00E+00	0.00E+00	a	a
Diethyl ether	VOC	0.00E+00	0.00E+00	a	a
Diethylphthalate	SVOC	0.00E+00	0.00E+00	a	a
Dimethylbenzene isomer	SVOC TICs	0.00E+00	0.00E+00	a	a
Di-n-butylphthalate	SVOC	6.68E-06	0.00E+00	a	a
Di-n-octylphthalate	SVOC	0.00E+00	0.00E+00	a	a
Diphenylamine	ENERGETIC	0.00E+00	0.00E+00	a	a
Docosane	SVOC TICs	0.00E+00	0.00E+00	a	a
Dodecanoic acid	SVOC TICs	0.00E+00	0.00E+00	a	a
Eicosane	SVOC TICs	1.47E-05	0.00E+00	a	a
Elemental Carbon	Carbon	1.01E-02	1.45E-02	a	a
Ethane	VOC	4.02E-05	1.82E-05	a	a
Ethanedinitrile	VOC TICs	0.00E+00	0.00E+00	a	a
Ethanol	VOC	0.00E+00	0.00E+00	a	a
Ethanol, 2-butoxy-	SVOC TICs	0.00E+00	0.00E+00	a	a
Ethanone, 1-(4-ethylphenyl)-	SVOC TICs	0.00E+00	0.00E+00	a	a
Ethanone, 1,1'-(1,4-phenylene)bi	SVOC TICs	0.00E+00	0.00E+00	a	a
Ethyl chloride	VOC	0.00E+00	0.00E+00	a	a
Ethylbenzene	VOC	1.75E-06	2.75E-06	a	a
Ethylbenzoic acid	SVOC TICs	0.00E+00	0.00E+00	a	a
Ethylene	VOC	6.69E-04	8.23E-04	a	a
Ethylmethylbenzene isomer	SVOC TICs	0.00E+00	0.00E+00	a	a
Filterable particulate matter 10 micron	Particulates	7.32E-02	3.83E-02	a	a
Filterable particulate matter 2.5 micron	Particulates	4.20E-02	2.03E-02	a	a
Fluoranthene	TO-13 (PAHs)	6.69E-07	3.14E-05	a	a
Fluorene	TO-13 (PAHs)	4.16E-07	3.46E-06	a	a
Formaldehyde	TO-11 Carbonyls	8.95E-05	1.58E-06	a	a
Freon 113	VOC	0.00E+00	0.00E+00	a	a
Furan	VOC	0.00E+00	0.00E+00	a	a
Furan 2,3-dihydro-	VOC TICs	0.00E+00	0.00E+00	a	a
Furan, 2,5-dihydro	VOC TICs	0.00E+00	0.00E+00	a	a
Furan, tetrahydro-	VOC TICs	0.00E+00	0.00E+00	a	a
Heptane	VOC	1.29E-06	0.00E+00	a	a
Heptane, 3-methylene-	VOC TICs	0.00E+00	0.00E+00	a	a
Hexachloro-1,3-butadiene	VOC	0.00E+00	0.00E+00	a	a
Hexachlorobenzene	SVOC	0.00E+00	0.00E+00	a	a
Hexadecane	SVOC TICs	0.00E+00	0.00E+00	a	a
Hexanal	VOC TICs	0.00E+00	0.00E+00	a	a
Hexane	VOC	1.39E-06	0.00E+00	a	a
Hexanedioic acid isomer	SVOC TICs	0.00E+00	0.00E+00	a	a

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	MK3A2 Grenade	Simulator, Target, Kill, M26	Bombs (metal emissions from casing, coatings and metal bands)	Projectiles (metal emissions from casing, coatings and metal bands)
				China Lake	
Hexanedioic acid, Bis (2-ethylhexyl)	SVOC TICs	0.00E+00	0.00E+00	a	a
Hexatriacontane	SVOC TICs	1.59E-05	0.00E+00	a	a
Hexavalent Chromium	CrVI	1.72E-06	0.00E+00	a	a
HMX	ENERGETIC	0.00E+00	0.00E+00	a	a
Hydrogen Chloride	Acid Gases	0.00E+00	5.74E-06	a	a
Hydrogen Cyanide	Cyanide	5.39E-04	0.00E+00	a	a
Hydrogen Fluoride	Acid Gases	0.00E+00	0.00E+00	a	a
Indeno(1,2,3-cd)pyrene	TO-13 (PAHs)	8.72E-08	1.28E-05	a	a
Iron	METAL	0.00E+00	0.00E+00	6.90E-05	1.02E-04
Isoborneol	SVOC TICs	0.00E+00	0.00E+00	a	a
Isobutane	VOC	0.00E+00	0.00E+00	a	a
Isobutene	VOC	0.00E+00	0.00E+00	a	a
Isobutyl phthlate	SVOC TICs	0.00E+00	0.00E+00	a	a
Isobutylene	Hydrocarbons	2.83E-05	0.00E+00	a	a
Isoheptane	VOC	0.00E+00	0.00E+00	a	a
Isopentane	VOC	0.00E+00	0.00E+00	a	a
Isopropylbenzene	VOC	0.00E+00	0.00E+00	a	a
Lead	METAL	7.00E-04	0.00E+00	a	1.38E-05
m/p-Xylene	VOC	1.71E-06	5.22E-06	a	a
Magnesium	METAL	6.15E-03	0.00E+00	a	a
Manganese	METAL	1.30E-04	0.00E+00	6.28E-07	1.03E-06
m-Dichlorobenzene	VOC	0.00E+00	0.00E+00	a	a
Mercury (filter)	METAL	0.00E+00	0.00E+00	a	a
Methacrylic acid, isopropyl ester	SVOC TICs	7.25E-06	0.00E+00	a	a
Methane	VOC	6.66E-04	8.48E-05	a	a
Methane, nitro-	VOC TICs	4.38E-06	0.00E+00	a	a
Methenamine	SVOC TICs	0.00E+00	0.00E+00	a	a
Methyl chloride	VOC	0.00E+00	0.00E+00	a	a
Methyl chloroform	VOC	0.00E+00	0.00E+00	a	a
Methyl Methacrylate	VOC	0.00E+00	0.00E+00	a	a
Methyl t-Butyl Ether	VOC	0.00E+00	0.00E+00	a	a
Methylcyclohexane	VOC	0.00E+00	0.00E+00	a	a
Methylcyclopentane	VOC	0.00E+00	0.00E+00	a	a
Methylene chloride	VOC	2.59E-06	1.74E-06	a	a
Nanocosane	SVOC TICs	0.00E+00	0.00E+00	a	a
Naphthalene	TO-13 (PAHs)	4.58E-06	8.01E-04	a	a
n-Butane	VOC	0.00E+00	0.00E+00	a	a
n-Decane	VOC	0.00E+00	0.00E+00	a	a
n-Heptane	VOC	0.00E+00	0.00E+00	a	a
n-Hexane	VOC	0.00E+00	0.00E+00	a	a
Nickel	METAL	3.09E-05	6.37E-06	a	a
Nitric Acid	Acid Gases	2.25E-04	0.00E+00	a	a
Nitric oxide	INORGANIC	0.00E+00	0.00E+00	a	a
Nitrobenzene	ENERGETIC	0.00E+00	0.00E+00	a	a
Nitrogen dioxide	INORGANIC	0.00E+00	0.00E+00	a	a
Nitrogen Oxides	INORGANIC	9.27E-03	2.33E-04	a	a
Nitroglycerine	ENERGETIC	0.00E+00	0.00E+00	a	a
Nitromethane	VOC	0.00E+00	0.00E+00	a	a
N-Nitrosodiphenylamine	SVOC	0.00E+00	0.00E+00	a	a
n-Nonane	VOC	0.00E+00	0.00E+00	a	a

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	MK3A2 Grenade	Simulator, Target, Kill, M26	Bombs (metal emissions from casing, coatings and metal bands)	Projectiles (metal emissions from casing, coatings and metal bands)
				China Lake	
Noanal	VOC TICs	0.00E+00	0.00E+00	a	a
n-Octane	VOC	0.00E+00	0.00E+00	a	a
Nonadecane	SVOC TICs	0.00E+00	0.00E+00	a	a
Nonanoic acid	SVOC TICs	0.00E+00	0.00E+00	a	a
n-Pentane	VOC	0.00E+00	0.00E+00	a	a
Octacosane	SVOC TICs	0.00E+00	0.00E+00	a	a
Octane	VOC	1.31E-06	1.18E-06	a	a
o-Dichlorobenzene	VOC	0.00E+00	0.00E+00	a	a
Organic Carbon	Carbon	3.64E-03	6.02E-04	a	a
o-Xylene	VOC	5.52E-07	1.92E-06	a	a
Particulate Cyanide	Cyanide	0.00E+00	0.00E+00	a	a
Particulate Perchlorate	Perchlorate	0.00E+00	0.00E+00	a	a
p-Dichlorobenzene	VOC	0.00E+00	0.00E+00	a	a
Pentaerythritol tetranitrate	ENERGETIC	0.00E+00	0.00E+00	a	a
Pentanal	VOC TICs	2.47E-06	0.00E+00	a	a
Pentane	VOC	2.41E-06	0.00E+00	a	a
Pentatriacontane	SVOC TICs	0.00E+00	0.00E+00	a	a
p-Ethyltoluene	VOC	0.00E+00	0.00E+00	a	a
Phenanthrene	TO-13 (PAHs)	1.49E-06	3.25E-05	a	a
Phenol	SVOC	3.60E-06	0.00E+00	a	a
Phenol, 2-ethyl-	SVOC TICs	0.00E+00	0.00E+00	a	a
Phenylethyne	SVOC TICs	0.00E+00	0.00E+00	a	a
Propanal	VOC TICs	0.00E+00	0.00E+00	a	a
Propane	VOC	0.00E+00	0.00E+00	a	a
Propane, 2,2-dimethoxy-	VOC TICs	0.00E+00	0.00E+00	a	a
Propanoic acid, 3- ethoxy, ethyl e	SVOC TICs	0.00E+00	0.00E+00	a	a
Propene	VOC	2.39E-04	1.12E-04	a	a
Proprionaldehyde	TO-11 Carbonyls	0.00E+00	0.00E+00	a	a
Propylene	VOC	1.65E-04	5.97E-05	a	a
Propyne	Hydrocarbons	2.84E-05	4.90E-05	a	a
Pyrene	TO-13 (PAHs)	1.01E-06	1.95E-05	a	a
Pyridine	VOC	0.00E+00	0.00E+00	a	a
RDX	ENERGETIC	1.64E-05	0.00E+00	a	a
Selenium	METAL	0.00E+00	0.00E+00	a	a
Silane, difluorodimethyl-	VOC TICs	0.00E+00	0.00E+00	a	a
Silver	METAL	0.00E+00	0.00E+00	a	a
Strontium	METAL	6.15E-03	0.00E+00	a	a
Styrene	VOC	0.00E+00	1.75E-04	a	a
Sulfur dioxide	INORGANIC	0.00E+00	3.63E-05	a	a
Sulfuric Acid	Acid Gases	1.15E-04	0.00E+00	a	a
tert-Butyl Alcohol	VOC	0.00E+00	0.00E+00	a	a
teterachlobenzene isomer	SVOC TICs	0.00E+00	0.00E+00	a	a
Tetrachloroethylene	VOC	0.00E+00	0.00E+00	a	a
Tetracosane	SVOC TICs	0.00E+00	0.00E+00	a	a
TETRYL	ENERGETIC	0.00E+00	0.00E+00	a	a
Thallium	METAL	0.00E+00	0.00E+00	a	a
Titanium	METAL	3.73E-05	0.00E+00	a	a
Toluene	VOC	1.67E-05	1.53E-04	a	a
Total Carbon	Carbon	1.37E-02	1.51E-02	a	a
Total HpCDD	PCDD	0.00E+00	0.00E+00	a	a

Table B.2-2
OD Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	Classification	MK3A2 Grenade	Simulator, Target, Kill, M26	Bombs (metal emissions from casing, coatings and metal bands)	Projectiles (metal emissions from casing, coatings and metal bands)
				China Lake	
Total HpCDF	PCDF	0.00E+00	0.00E+00	a	a
Total HxCDD	PCDD	0.00E+00	0.00E+00	a	a
Total HxCDF	PCDF	0.00E+00	0.00E+00	a	a
Total Non-methane Hydrocarbons	VOC	0.00E+00	0.00E+00	a	a
Total PeCDD	PCDD	0.00E+00	0.00E+00	a	a
Total PeCDF	PCDF	0.00E+00	0.00E+00	a	a
Total TCDD	PCDD	0.00E+00	0.00E+00	a	a
Total TCDF	PCDF	0.00E+00	0.00E+00	a	a
trans-2-Butene	VOC	0.00E+00	0.00E+00	a	a
trans-2-Hexene	VOC	0.00E+00	0.00E+00	a	a
trans-2-Pentene	VOC	0.00E+00	0.00E+00	a	a
Triacontane	SVOC TICs	0.00E+00	0.00E+00	a	a
Trichloroethene	VOC	0.00E+00	0.00E+00	a	a
Trichloroflouromethane	VOC	0.00E+00	0.00E+00	a	a
Trimethylbenzene isomer	SVOC TICs	0.00E+00	0.00E+00	a	a
Trinitrophenol (Picric Acid)	ENERGETIC	0.00E+00	0.00E+00	a	a
TSP	Particulates	8.18E-02	5.01E-02	a	a
Vanadium	METAL	8.28E-03	0.00E+00	a	a
Vinyl acetate	VOC	0.00E+00	0.00E+00	a	a
Vinyl chloride	VOC	0.00E+00	0.00E+00	a	a
Xylenes	VOC	0.00E+00	0.00E+00	a	a
Zinc	METAL	1.38E-02	0.00E+00	3.03E-04	1.52E-02
Zirconium	METAL	0.00E+00	0.00E+00	a	3.36E-05

Table B.2-3
OD + Donor Emission Factors - TEAD
(mass emission product/mass of NEW Treated)

CHEMNAME	Classification	OD Treatment EF 95% UCL	Donor EF C-4 Demolition Block	Max of OD Treatment and Donor EF
1,3,5-Trinitrobenzene	ENERGETIC	1.1E-05	1.45E-06	1.10E-05
1,1,1-Trichloroethane	SVOC	2.2E-05	0.00E+00	2.24E-05
1,2,3,4,6,7,8,9-Octachlorodibenzodioxin	PCDD	3.2E-10	2.93E-10	3.20E-10
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	PCDF	1.2E-09	5.58E-12	1.15E-09
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	PCDD	2.7E-11	2.60E-11	2.71E-11
1,2,3,4,6,7,8-Heptachlorodibenzofuran	PCDF	3.6E-10	2.68E-12	3.56E-10
1,2,3,4,7,8,9-Heptachlorodibenzofuran	PCDD	3.6E-11	3.03E-13	3.65E-11
1,2,3,4,7,8-hexachlorodibenzofuran	PCDF	1.1E-10	7.16E-13	1.11E-10
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	PCDD	2.1E-12	1.78E-13	2.14E-12
1,2,3,6,7,8-hexachlorodibenzofuran	PCDF	2.4E-11	2.56E-13	2.41E-11
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	PCDD	2.9E-12	6.90E-13	2.85E-12
1,2,3,7,8,9-Hexachlorodibenzofuran	PCDF	5.2E-12	0.00E+00	5.15E-12
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	PCDD	5.3E-12	5.14E-13	5.28E-12
1,2,3,7,8-Pentachlorodibenzofuran	PCDF	2.8E-11	1.79E-13	2.81E-11
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	PCDD	1.2E-10	0.00E+00	1.24E-10
1,2,4-Trichlorobenzene	VOC	1.5E-04	0.00E+00	1.51E-04
1,2,4-Trimethylbenzene	VOC	4.6E-06	1.71E-06	4.62E-06
1,2-Dichloroethane	VOC	2.1E-05	2.25E-07	2.09E-05
1,2-Dichloropropane	VOC	.	0.00E+00	0.00E+00
1,2-Propadiene	VOC TICs	3.7E-06	9.09E-07	3.66E-06
1,3 Butadiyne	VOC TICs	4.9E-06	0.00E+00	4.89E-06
1,3,5-Trimethylbenzene	VOC	1.5E-06	4.43E-07	1.53E-06
1,3,5-Trinitrobenzene	SVOC TICs	5.7E-06	0.00E+00	5.67E-06
1,3-Butadiene	VOC	1.7E-05	0.00E+00	1.68E-05
1,3-dichlorobenzene	SVOC	.	0.00E+00	0.00E+00
1,3-Dinitrobenzene	VOC	.	0.00E+00	0.00E+00
1,4-Dichlorobenzene	VOC	1.1E-05	0.00E+00	1.11E-05
1,4-Dioxane	VOC	.	0.00E+00	0.00E+00
1-Butanol	VOC	2.5E-05	0.00E+00	2.49E-05
1-Butanol 3-methyl-acetate	SVOC TICs	4.1E-03	0.00E+00	4.07E-03
1-Butanol, 2-methyl-	SVOC TICs	3.5E-05	0.00E+00	3.53E-05
1-Butanol, 3-methyl-	SVOC TICs	4.1E-05	0.00E+00	4.14E-05
1-Butanol, 3-methyl-, acetate	SVOC TICs	.	0.00E+00	0.00E+00
1-Buten-3-yne	VOC TICs	2.5E-06	0.00E+00	2.52E-06
1-Butene	VOC	1.7E-05	0.00E+00	1.73E-05
1-Butene / Isobutylene	Hydrocarbons	8.6E-06	8.60E-06	8.60E-06
1-Heptene	VOC	1.2E-05	0.00E+00	1.20E-05
1-Hexene	VOC	2.6E-05	0.00E+00	2.61E-05
1-Nitropryene	VOC	.	0.00E+00	0.00E+00
1-Pentanol,2-methyl-, acetate	VOC TICs	8.4E-06	0.00E+00	8.36E-06
1-Pentene	VOC	1.0E-05	0.00E+00	9.97E-06
1-Propanol	VOC		0.00E+00	0.00E+00
1-Propene, 2-methyl-	VOC TICs	1.9E-06	0.00E+00	1.94E-06
1-Propene,2-methyl-Isomer	VOC TICs	2.2E-06	0.00E+00	2.18E-06
1-Propyne	VOC TICs	9.2E-07	9.21E-07	9.21E-07
2,3,4,6,7,8-Hexachlorodibenzofuran	PCDF	3.3E-11	1.63E-13	3.30E-11
2,3,4,7,8-Pentachlorodibenzofuran	PCDF	2.1E-11	3.10E-13	2.09E-11

Table B.2-3
OD + Donor Emission Factors - TEAD
(mass emission product/mass of NEW Treated)

CHEMNAME	Classification	OD Treatment EF 95% UCL	Donor EF C-4 Demolition Block	Max of OD Treatment and Donor EF
2,3,7,8-Tetrachlorodibenzofuran	PCDF	5.9E-11	9.94E-13	5.87E-11
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	PCDD	2.8E-10	0.00E+00	2.77E-10
2,4,6-Trinitrotoluene	ENERGETIC	7.1E-05	5.38E-07	7.07E-05
2,4-Dinitrophenol	SVOC	.	0.00E+00	0.00E+00
2,4-dinitrotoluene	SVOC	2.6E-05	0.00E+00	2.65E-05
2,6-Dinitrotoluene	ENERGETIC	4.1E-08	0.00E+00	4.10E-08
2-Amino-4,6-Dinitrotoluene	ENERGETIC	1.1E-06	0.00E+00	1.11E-06
2-Butanone	VOC	8.6E-06	0.00E+00	8.59E-06
2-Butenal	VOC TICs	2.5E-06	0.00E+00	2.52E-06
2-Butyne	Hydrocarbons	2.4E-05	0.00E+00	2.42E-05
2-Hexanol	SVOC TICs	.	0.00E+00	0.00E+00
2-methyl-2,3-pentanediol	SVOC TICs	7.5E-05	0.00E+00	7.54E-05
2-Methylnaphthalene	SVOC	.	0.00E+00	0.00E+00
2-methylphenol	SVOC	1.0E-06	0.00E+00	9.98E-07
2-Nitrodiphenylamine	SVOC	.	0.00E+00	0.00E+00
2-Nitronaphthalene	SVOC	8.6E-08	0.00E+00	8.60E-08
2-Nitrophenol	SVOC	3.9E-06	0.00E+00	3.87E-06
2-Nitrotoluene	ENERGETIC	.	0.00E+00	0.00E+00
2-Pentanol, 4-methyl-	SVOC TICs	2.4E-06	0.00E+00	2.37E-06
2-Propanol	VOC	.	0.00E+00	0.00E+00
2-Propenal, 2-methyl-	VOC TICs	4.0E-06	0.00E+00	4.04E-06
3-Buten-2-one	VOC TICs	7.0E-06	0.00E+00	7.05E-06
3-Chloropropene	VOC	.	0.00E+00	0.00E+00
3-Ethyltoluene	VOC	3.1E-06	0.00E+00	3.08E-06
3-Nitrotoluene	ENERGETIC	4.0E-07	0.00E+00	4.04E-07
4-Amino-2,6-Dinitrotoluene	ENERGETIC	1.0E-06	0.00E+00	1.01E-06
4-Chloro-3-methylphenol	SVOC	.	0.00E+00	0.00E+00
4-Ethyltoluene	VOC	4.1E-06	0.00E+00	4.07E-06
4-Nitrophenol	SVOC	5.1E-06	0.00E+00	5.06E-06
4-Nitrotoluene	ENERGETIC	2.0E-05	0.0E+00	2.04E-05
Acenaphthene	TO-13 (PAHs)	1.3E-06	2.85E-08	1.25E-06
Acenaphthylene	TO-13 (PAHs)	2.1E-04	3.09E-07	2.10E-04
Acetaldehyde	TO-11 Carbonyls	6.1E-05	7.96E-06	6.05E-05
Acetic Acid	VOC	.	0.00E+00	0.00E+00
Acetic Acid, butyl ester	VOC TICs	1.2E-04	0.00E+00	1.22E-04
Acetic Acid, hexyl ester	VOC TICs	8.2E-06	0.00E+00	8.20E-06
Acetone	TO-11 Carbonyls	8.0E-05	2.76E-06	8.00E-05
Acetonitrile	VOC	4.0E-05	0.00E+00	4.00E-05
Acetophenone	SVOC TICs	7.9E-06	0.00E+00	7.90E-06
Acetylene	VOC	4.3E-04	4.27E-05	4.33E-04
Acrolein	VOC	2.1E-04	3.50E-06	2.09E-04
Acrylonitrile	VOC	2.5E-05	7.38E-06	2.48E-05
Aliphatic with triple C-N bond	VOC TICs	1.6E-06	0.00E+00	1.63E-06
Allyl Chloride	VOC	2.8E-05	0.00E+00	2.77E-05
Alpha Methyl Styrene	VOC	4.9E-06	0.00E+00	4.89E-06
Aluminum	METAL	1.4E-02	1.86E-07	1.44E-02
Ammonia	Permanent Gases	3.2E-03	0.00E+00	3.18E-03

Table B.2-3
OD + Donor Emission Factors - TEAD
(mass emission product/mass of NEW Treated)

CHEMNAME	Classification	OD Treatment EF 95% UCL	Donor EF C-4 Demolition Block	Max of OD Treatment and Donor EF
Anthracene	TO-13 (PAHs)	4.6E-06	4.45E-08	4.60E-06
Antimony	METAL	1.8E-04	3.85E-09	1.81E-04
Arsenic	METAL	1.5E-08	0.00E+00	1.52E-08
Barium	METAL	3.7E-03	1.94E-06	3.74E-03
Benzaldehyde	TO-11 Carbonyls	1.0E-04	0.00E+00	1.00E-04
Benzaldehyde, 4-ethyl-	SVOC TICs	.	0.00E+00	0.00E+00
Benzaldehyde,ethyl-	SVOC TICs	1.8E-05	0.00E+00	1.81E-05
Benzene	VOC	4.8E-04	0.00E+00	4.82E-04
Benzene, (2-nitroethenyl)-	SVOC TICs	1.7E-05	0.00E+00	1.70E-05
Benzene, (epoxyethyl)-, R,	SVOC TICs	2.1E-05	0.00E+00	2.10E-05
Benzene, 1,3,5-trimethyl-	SVOC TICs	.	0.00E+00	0.00E+00
Benzene, 1-ethenyl-3-methyl-	SVOC TICs	.	0.00E+00	0.00E+00
Benzene, 1-ethyl-2methyl-	SVOC TICs	.	0.00E+00	0.00E+00
Benzene, 2-methyl- 1,3,5-trinitro	SVOC TICs	9.8E-05	0.00E+00	9.83E-05
Benzene, propyl-	VOC TICs	1.1E-06	0.00E+00	1.15E-06
Benzenecarbothioic acid, 2,6-dic	SVOC TICs		0.00E+00	0.00E+00
Benzo(a)anthracene	TO-13 (PAHs)	5.5E-06	0.00E+00	5.55E-06
Benzo(a)pyrene	TO-13 (PAHs)	5.7E-06	0.00E+00	5.73E-06
Benzo(b)fluoranthene	TO-13 (PAHs)	5.0E-06	0.00E+00	5.00E-06
Benzo(e)pyrene	TO-13 (PAHs)	3.4E-06	0.00E+00	3.44E-06
Benzo(g,h,i)perylene	TO-13 (PAHs)	1.1E-05	0.00E+00	1.13E-05
Benzo(k)fluoranthene	TO-13 (PAHs)	2.5E-04	0.00E+00	2.45E-04
Benzofuran	SVOC TICs	7.9E-06	0.00E+00	7.86E-06
Benzoic acid	SVOC TICs	2.5E-05	0.00E+00	2.54E-05
Benzonitrile	VOC	.	0.00E+00	0.00E+00
Benzyl alcohol	SVOC	1.2E-06	0.00E+00	1.21E-06
Benzyl chloride	VOC	2.1E-06	0.00E+00	2.13E-06
Bicyclo [2.2.1] heptan-2-one, 1,3,3-trimethyl-	VOC TICs	1.7E-05	0.00E+00	1.72E-05
Bicyclo [2.2.1] heptan-2-one, 5,5,6-trimethyl-, exo-	VOC TICs	5.7E-06	0.00E+00	5.73E-06
Bicyclo[2.2.1]heptan-2-one, 1,7,7-trimethyl-, (1S)-	SVOC TICs	7.7E-04	0.00E+00	7.74E-04
Bicyclo[2.2.1]heptan-2-one, 5,5,6-trimethyl-, endo-	SVOC TICs	5.2E-05	0.00E+00	5.16E-05
Biphenyl	VOC	.	0.00E+00	0.00E+00
Bis(2-ethylhexyl)phthalate	SVOC	1.5E-04	1.31E-05	1.48E-04
Borneol	SVOC TICs	2.8E-05	0.00E+00	2.81E-05
Bromomethane	VOC	1.9E-05	0.00E+00	1.92E-05
Butanal	VOC TICs	6.9E-07	0.00E+00	6.93E-07
Butyl acrylate	VOC	.	0.00E+00	0.00E+00
Butylbenzylphthalate	SVOC	1.6E-05	3.09E-06	1.64E-05
Butyraldehyde	TO-11 Carbonyls	1.8E-04	5.91E-05	1.83E-04
Cadmium	METAL	2.8E-03	0.00E+00	2.76E-03
Calcium	METAL	9.0E-04	8.72E-05	9.03E-04
Camphene	VOC TICs	6.4E-05	0.00E+00	6.41E-05
Camphor	VOC TICs	1.2E-05	0.00E+00	1.18E-05
Camphor & Benzoic Acid	SVOC TICs	.	0.00E+00	0.00E+00
Carbon dioxide	Permanent Gases	1.3E+00	6.04E-01	1.27E+00
Carbon Disulfide	VOC	3.2E-05	0.00E+00	3.19E-05
Carbon monoxide	Permanent Gases	3.0E-02	2.00E-02	2.96E-02

Table B.2-3
OD + Donor Emission Factors - TEAD
(mass emission product/mass of NEW Treated)

CHEMNAME	Classification	OD Treatment EF 95% UCL	Donor EF C-4 Demolition Block	Max of OD Treatment and Donor EF
Carbon tetrachloride	VOC	7.5E-06	0.00E+00	7.49E-06
Chlorobenzene	VOC	1.3E-04	0.00E+00	1.32E-04
Chloroethane	VOC	.	0.00E+00	0.00E+00
Chloroform	VOC	3.8E-07	0.00E+00	3.80E-07
Chloromethane	VOC	3.3E-05	0.00E+00	3.31E-05
Chlorotoluenes	VOC	.	0.00E+00	0.00E+00
Chromium	METAL	5.6E-05	3.89E-06	5.64E-05
Chrysene	TO-13 (PAHs)	1.9E-06	0.00E+00	1.89E-06
cis-2-Butene	VOC	.	0.00E+00	0.00E+00
cis-2-Pentene	VOC	7.3E-07	0.00E+00	7.34E-07
Cobalt	METAL	2.7E-05	0.00E+00	2.70E-05
Copper	METAL	7.9E-03	3.20E-05	7.94E-03
Cumene	VOC	1.2E-06	0.00E+00	1.15E-06
Cyclohexane	VOC	4.5E-06	0.00E+00	4.53E-06
Cyclohexanone	VOC TICs	9.4E-07	0.00E+00	9.43E-07
Cyclopentane, methylene- isomer	VOC TICs	2.4E-06	0.00E+00	2.36E-06
Cyclopentene	VOC	1.9E-06	0.00E+00	1.92E-06
Decanal	VOC TICs	3.3E-07	0.00E+00	3.33E-07
Dibenz(a,h)anthracene	TO-13 (PAHs)	4.5E-07	0.00E+00	4.48E-07
Dibenzofuran	SVOC	2.0E-06	0.00E+00	2.00E-06
Dichlorodiflouromethane	VOC	9.4E-07	4.08E-08	9.38E-07
Diethyl ether	VOC	.	0.00E+00	0.00E+00
Diethylphthalate	SVOC	1.3E-03	0.00E+00	1.32E-03
Dimethylbenzene isomer	SVOC TICs	1.8E-05	0.00E+00	1.75E-05
Di-n-butylphthalate	SVOC	1.0E-05	3.83E-06	1.01E-05
Di-n-octylphthalate	SVOC	1.3E-06	0.00E+00	1.30E-06
Diphenylamine	ENERGETIC	.	0.00E+00	0.00E+00
Docosane	SVOC TICs	5.6E-05	0.00E+00	5.56E-05
Dodecanoic acid	SVOC TICs	1.7E-05	0.00E+00	1.67E-05
Eicosane	SVOC TICs	4.8E-05	0.00E+00	4.81E-05
Elemental Carbon	Carbon	9.8E-03	0.00E+00	9.77E-03
Ethane	VOC	2.5E-05	7.30E-05	7.30E-05
Ethanedinitrile	VOC TICs	2.0E-04	0.00E+00	2.00E-04
Ethanol	VOC	1.3E-04	0.00E+00	1.29E-04
Ethanol, 2-butoxy-	SVOC TICs	8.6E-06	0.00E+00	8.60E-06
Ethanone, 1-(4-ethylphenyl)-	SVOC TICs	5.5E-07	0.00E+00	5.53E-07
Ethanone, 1,1'-(1,4-phenylene)bi	SVOC TICs	2.7E-06	0.00E+00	2.65E-06
Ethyl chloride	VOC	6.9E-07	0.00E+00	6.90E-07
Ethylbenzene	VOC	2.5E-05	0.00E+00	2.51E-05
Ethylbenzoic acid	SVOC TICs	3.6E-06	0.00E+00	3.55E-06
Ethylene	VOC	2.8E-04	1.04E-04	2.84E-04
Ethylmethylbenzene isomer	SVOC TICs	1.1E-05	0.00E+00	1.11E-05
Filterable particulate matter 10 micron	Particulates	2.6E-01	2.27E-02	2.61E-01
Filterable particulate matter 2.5 micron	Particulates	1.6E+01	1.67E-02	1.55E+01
Fluoranthene	TO-13 (PAHs)	2.2E-05	6.29E-08	2.16E-05
Fluorene	TO-13 (PAHs)	1.1E-06	1.62E-08	1.07E-06
Formaldehyde	TO-11 Carbonyls	1.0E-04	1.21E-04	1.21E-04

Table B.2-3
OD + Donor Emission Factors - TEAD
(mass emission product/mass of NEW Treated)

CHEMNAME	Classification	OD Treatment EF 95% UCL	Donor EF C-4 Demolition Block	Max of OD Treatment and Donor EF
Freon 113	VOC	9.6E-05	0.00E+00	9.57E-05
Furan	VOC	2.6E-06	0.00E+00	2.56E-06
Furan 2,3-dihydro-	VOC TICs	6.7E-07	0.00E+00	6.73E-07
Furan, 2,5-dihydro	VOC TICs	6.7E-07	0.00E+00	6.73E-07
Furan, tetrahydro-	VOC TICs	1.0E-05	0.00E+00	1.01E-05
Heptane	VOC	1.3E-06	0.00E+00	1.29E-06
Heptane, 3-methylene-	VOC TICs	.	0.00E+00	0.00E+00
Hexachloro-1,3-butadiene	VOC	.	0.00E+00	0.00E+00
Hexachlorobenzene	SVOC	2.3E-04	0.00E+00	2.28E-04
Hexadecane	SVOC TICs	1.6E-06	0.00E+00	1.57E-06
Hexanal	VOC TICs	9.6E-07	0.00E+00	9.62E-07
Hexane	VOC	4.2E-06	0.00E+00	4.16E-06
Hexanedioic acid isomer	SVOC TICs	3.4E-05	0.00E+00	3.44E-05
Hexanedioic acid, Bis (2-ethylhexyl)	SVOC TICs	2.2E-05	0.00E+00	2.15E-05
Hexatriacontane	SVOC TICs	4.0E-05	0.00E+00	3.97E-05
Hexavalent Chromium	CrVI	4.0E-06	0.00E+00	3.96E-06
HMX	ENERGETIC	1.5E-07	0.00E+00	1.49E-07
Hydrogen Chloride	Acid Gases	4.8E-03	0.00E+00	4.85E-03
Hydrogen Cyanide	Cyanide	5.9E-04	4.64E-04	5.94E-04
Hydrogen Fluoride	Acid Gases	5.2E-05	0.00E+00	5.19E-05
Indeno(1,2,3-cd)pyrene	TO-13 (PAHs)	5.0E-05	0.00E+00	4.97E-05
Iron	METAL	1.0E-04	0.00E+00	1.02E-04
Isoborneol	SVOC TICs	3.1E-05	0.00E+00	3.11E-05
Isobutane	VOC	1.2E-06	0.00E+00	1.21E-06
Isobutene	VOC	1.3E-05	0.00E+00	1.26E-05
Isobutyl phthlate	SVOC TICs	2.9E-06	0.00E+00	2.90E-06
Isobutylene	Hydrocarbons	2.8E-05	0.00E+00	2.83E-05
Isoheptane	VOC	.	0.00E+00	0.00E+00
Isopentane	VOC	4.0E-06	0.00E+00	4.02E-06
Isopropylbenzene	VOC	7.8E-07	0.00E+00	7.77E-07
Lead	METAL	1.6E-03	1.53E-04	1.63E-03
m/p-Xylene	VOC	2.5E-05	0.00E+00	2.54E-05
Magnesium	METAL	8.3E-01	1.23E-05	8.32E-01
Manganese	METAL	2.8E-04	1.10E-05	2.77E-04
m-Dichlorobenzene	VOC	.	0.00E+00	0.00E+00
Mercury (filter)	METAL	.	0.00E+00	0.00E+00
Methacrylic acid, isopropyl ester	SVOC TICs	7.2E-06	0.00E+00	7.25E-06
Methane	VOC	8.9E-04	1.25E-03	1.25E-03
Methane, nitro-	VOC TICs	4.4E-06	6.93E-07	4.38E-06
Methenamine	SVOC TICs	3.6E-05	0.00E+00	3.59E-05
Methyl chloride	VOC	3.1E-06	0.00E+00	3.05E-06
Methyl chloroform	VOC	2.4E-05	0.00E+00	2.42E-05
Methyl Methacrylate	VOC	1.9E-07	0.00E+00	1.94E-07
Methyl t-Butyl Ether	VOC	2.9E-06	0.00E+00	2.93E-06
Methylcyclohexane	VOC	5.0E-06	0.00E+00	4.96E-06
Methylcyclopentane	VOC	1.4E-05	0.00E+00	1.35E-05
Methylene chloride	VOC	3.3E-04	0.00E+00	3.26E-04

Table B.2-3
OD + Donor Emission Factors - TEAD
(mass emission product/mass of NEW Treated)

CHEMNAME	Classification	OD Treatment EF 95% UCL	Donor EF C-4 Demolition Block	Max of OD Treatment and Donor EF
Nanocosane	SVOC TICs	5.8E-05	0.00E+00	5.79E-05
Naphthalene	TO-13 (PAHs)	5.5E-04	1.93E-06	5.49E-04
n-Butane	VOC	2.6E-06	0.00E+00	2.60E-06
n-Decane	VOC	1.1E-05	0.00E+00	1.07E-05
n-Heptane	VOC	2.2E-06	0.00E+00	2.15E-06
n-Hexane	VOC	1.7E-04	3.03E-05	1.74E-04
Nickel	METAL	1.7E-04	0.00E+00	1.69E-04
Nitric Acid	Acid Gases	6.2E-04	1.09E-03	1.09E-03
Nitric oxide	INORGANIC	9.1E-03	0.00E+00	9.09E-03
Nitrobenzene	ENERGETIC	8.2E-06	0.00E+00	8.22E-06
Nitrogen dioxide	INORGANIC	5.0E-03	0.00E+00	5.01E-03
Nitrogen Oxides	INORGANIC	1.3E-02	4.03E-03	1.33E-02
Nitroglycerine	ENERGETIC	5.0E-08	0.00E+00	5.00E-08
Nitromethane	VOC	.	0.00E+00	0.00E+00
N-Nitrosodiphenylamine	SVOC	.	0.00E+00	0.00E+00
n-Nonane	VOC	1.6E-06	0.00E+00	1.56E-06
Noanal	VOC TICs	2.5E-06	0.00E+00	2.46E-06
n-Octane	VOC	3.1E-06	0.00E+00	3.09E-06
Nonadecane	SVOC TICs	.	0.00E+00	0.00E+00
Nonanoic acid	SVOC TICs	2.2E-05	0.00E+00	2.22E-05
n-Pentane	VOC	5.4E-06	0.00E+00	5.41E-06
Octacosane	SVOC TICs	6.6E-05	0.00E+00	6.59E-05
Octane	VOC	1.3E-06	0.00E+00	1.31E-06
o-Dichlorobenzene	VOC	.	0.00E+00	0.00E+00
Organic Carbon	Carbon	9.0E-03	0.00E+00	9.01E-03
o-Xylene	VOC	1.6E-05	0.00E+00	1.63E-05
Particulate Cyanide	Cyanide	5.6E-05	0.00E+00	5.58E-05
Particulate Perchlorate	Perchlorate	.	0.00E+00	0.00E+00
p-Dichlorobenzene	VOC	.	0.00E+00	0.00E+00
Pentaerythritol tetranitrate	ENERGETIC	3.5E-03	0.00E+00	3.50E-03
Pentanal	VOC TICs	2.5E-06	0.00E+00	2.47E-06
Pentane	VOC	1.7E-06	2.66E-07	1.66E-06
Pentatriacontane	SVOC TICs	9.9E-05	0.00E+00	9.90E-05
p-Ethyltoluene	VOC	6.2E-06	0.00E+00	6.20E-06
Phenanthrene	TO-13 (PAHs)	1.3E-05	2.54E-07	1.31E-05
Phenol	SVOC	3.6E-06	0.00E+00	3.60E-06
Phenol, 2-ethyl-	SVOC TICs	.	0.00E+00	0.00E+00
Phenylethyne	SVOC TICs	1.1E-05	0.00E+00	1.11E-05
Propanal	VOC TICs	.	0.00E+00	0.00E+00
Propane	VOC	3.7E-06	7.13E-06	7.13E-06
Propane, 2,2-dimethoxy-	VOC TICs	.	0.00E+00	0.00E+00
Propanoic acid, 3- ethoxy, ethyl e	SVOC TICs	2.4E-05	3.46E-06	2.35E-05
Propene	VOC	8.7E-05	3.18E-05	8.65E-05
Proprionaldehyde	TO-11 Carbonyls	2.5E-06	0.00E+00	2.49E-06
Propylene	VOC	5.3E-05	1.92E-05	5.26E-05
Propyne	Hydrocarbons	4.7E-05	3.77E-06	4.68E-05
Pyrene	TO-13 (PAHs)	4.3E-06	1.52E-07	4.26E-06

Table B.2-3
OD + Donor Emission Factors - TEAD
(mass emission product/mass of NEW Treated)

CHEMNAME	Classification	OD Treatment EF 95% UCL	Donor EF C-4 Demolition Block	Max of OD Treatment and Donor EF
Pyridine	VOC	.	0.00E+00	0.00E+00
RDX	ENERGETIC	5.2E-03	1.58E-06	5.17E-03
Selenium	METAL	3.7E-06	0.00E+00	3.69E-06
Silane, difluorodimethyl-	VOC TICs	1.9E-06	0.00E+00	1.94E-06
Silver	METAL	4.0E-05	0.00E+00	3.95E-05
Strontium	METAL	6.4E-01	0.00E+00	6.38E-01
Styrene	VOC	5.3E-04	0.00E+00	5.26E-04
Sulfur dioxide	INORGANIC	7.0E-04	0.00E+00	6.97E-04
Sulfuric Acid	Acid Gases	3.2E-03	0.00E+00	3.21E-03
tert-Butyl Alcohol	VOC	2.1E-06	0.00E+00	2.07E-06
teterachlobenzene isomer	SVOC TICs	1.6E-05	0.00E+00	1.59E-05
Tetrachloroethylene	VOC	3.7E-05	0.00E+00	3.70E-05
Tetracosane	SVOC TICs	1.6E-05	3.42E-06	1.64E-05
TETRYL	ENERGETIC	5.0E-08	0.00E+00	5.00E-08
Thallium	METAL	1.9E-03	0.00E+00	1.94E-03
Titanium	METAL	7.7E-05	0.00E+00	7.73E-05
Toluene	VOC	6.9E-05	0.00E+00	6.86E-05
Total Carbon	Carbon	1.6E-02	0.00E+00	1.60E-02
Total HpCDD	PCDD	.	0.00E+00	0.00E+00
Total HpCDF	PCDF	.	0.00E+00	0.00E+00
Total HxCDD	PCDD	.	0.00E+00	0.00E+00
Total HxCDF	PCDF	.	0.00E+00	0.00E+00
Total Non-methane Hydrocarbons	VOC	1.8E-03	0.00E+00	1.84E-03
Total PeCDD	PCDD	.	0.00E+00	0.00E+00
Total PeCDF	PCDF	.	0.00E+00	0.00E+00
Total TCDD	PCDD	.	0.00E+00	0.00E+00
Total TCDF	PCDF	.	0.00E+00	0.00E+00
trans-2-Butene	VOC	9.5E-06	0.00E+00	9.45E-06
trans-2-Hexene	VOC	.	0.00E+00	0.00E+00
trans-2-Pentene	VOC	1.9E-06	0.00E+00	1.91E-06
Triacontane	SVOC TICs	7.3E-05	0.00E+00	7.32E-05
Trichloroethene	VOC	.	0.00E+00	0.00E+00
Trichloroflouromethane	VOC	7.1E-07	3.68E-09	7.13E-07
Trimethylbenzene isomer	SVOC TICs	2.3E-05	3.59E-06	2.31E-05
Trinitrophenol (Picric Acid)	ENERGETIC	.	0.00E+00	0.00E+00
TSP	Particulates	4.6E-01	2.80E-02	4.56E-01
Vanadium	METAL	2.5E-02	0.00E+00	2.47E-02
Vinyl acetate	VOC	2.4E-06	0.00E+00	2.40E-06
Vinyl chloride	VOC	2.8E-05	0.00E+00	2.82E-05
Xylenes	VOC	.	0.00E+00	0.00E+00
Zinc	METAL	2.1E-01	1.04E-05	2.14E-01
Zirconium	METAL	1.7E-04	0.00E+00	1.70E-04

Table B.2-4
SF Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME		Maximum	Minimum	Mean	Standard Deviation of Mean	95% UCL[1]	95% UCL / Mean	OB-9 Prop Double Base, DPG		
2,6-Dinitrotoluene	ENERGETIC	a	a	a	a	a	a	a	a	a
Diphenylamine	ENERGETIC	a	a	a	a	a	a	a	a	a
NG	ENERGETIC	a	a	a	a	a	a	a	a	a
Nitroguanidine (NQ)	ENERGETIC	a	a	a	a	a	a	a	a	a
RDX	ENERGETIC	a	a	a	a	a	a	a	a	a
Carbon dioxide	INORGANIC	a	a	a	a	a	a	a	a	a
Carbon monoxide	INORGANIC	a	a	a	a	a	a	a	a	a
CO	INORGANIC	1.5E-03	9.5E-04	1.3E-03	3.2E-04	1.5E-03	1.1E+00	1.5E-03	1.5E-03	a
CO2	INORGANIC	9.7E-01	6.7E-01	7.7E-01	1.7E-01	9.7E-01	1.3E+00	6.7E-01	6.7E-01	a
Nitric oxide	INORGANIC	a	a	a	a	a	a	a	a	a
Nitrogen dioxide	INORGANIC	a	a	a	a	a	a	a	a	a
Nitrogen Oxides	INORGANIC	a	a	a	a	a	a	a	a	a
NO	INORGANIC	2.4E-02	1.7E-03	9.1E-03	1.3E-02	2.4E-02	2.6E+00	1.7E-03	1.7E-03	a
NO2	INORGANIC	2.8E-03	9.0E-05	1.0E-03	1.6E-03	2.8E-03	2.8E+00	9.0E-05	1.0E-04	a
SO2	INORGANIC	3.2E-03	2.0E-05	1.1E-03	1.8E-03	3.2E-03	3.0E+00	3.0E-05	2.0E-05	
Aluminum	METAL	a	a	a	a	a	a	a	a	a
Antimony	METAL	a	a	a	a	a	a	a	a	a
Barium	METAL	0.0E+00	0.0E+00	0.0E+00		0.0E+00	.	a	a	a
Cadmium	METAL	0.0E+00	0.0E+00	0.0E+00		0.0E+00	.	a	a	a
Chromium	METAL	0.0E+00	0.0E+00	0.0E+00		0.0E+00	.	a	a	a
Copper	METAL	3.7E-02	0.0E+00	1.2E-02	2.1E-02	3.7E-02	3.0E+00	0.0E+00	3.2E-04	a
Lead	METAL	1.3E-02	5.5E-03	8.1E-03	4.2E-03	1.3E-02	1.6E+00	5.8E-03	5.5E-03	
Titanium	METAL	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
Zinc	METAL	1.0E-05	0.0E+00	5.0E-06	7.1E-06	1.0E-05	2.0E+00	0.0E+00	1.0E-05	a
Filterable particulate matter 2.5 micron	Particulates	a	a	a	a	a	a	a	a	a
PM10	Particulates	1.9E-02	1.9E-02	1.9E-02	0.0E+00	1.9E-02	1.0E+00	1.9E-02	1.9E-02	
1234678-HpCDF	PCDD	a	a	a	a	a	a	a	a	a
123478-HxCDF	PCDD	a	a	a	a	a	a	a	a	a
OCDF	PCDD	a	a	a	a	a	a	a	a	a
2,4-Dinitrotoluene	SVOC	a	a	a	a	a	a	a	a	a
Fluoranthene	TO-13 (PAHs)	a	a	a	a	a	a	a	a	a
Naphthalene	TO-13 (PAHs)	a	a	a	a	a	a	a	a	a
1,1-Dichloroethane	VOC	a	a	a	a	a	a	a	a	a

Table B.2-4
SF Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME		Maximum	Minimum	Mean	Standard Deviation of Mean	95% UCL[1]	95% UCL / Mean	OB-9 Prop Double Base, DPG		
2,6-Dinitrotoluene	ENERGETIC	a	a	a	a	a	a	a	a	a
1,3-Butadiene	VOC	a	a	a	a	a	a	a	a	a
1-Butene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
1-Hexene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
1-Pentene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
2,2-Dimethylpropane	VOC	a	a	a	a	a	a	a	a	a
2,3-Dimethylpentane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
2,4-Dimethylpentane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
2,5-Dimethylhexane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
2-Chlorophenol	VOC	a	a	a	a	a	a	a	a	a
2-Methylhexane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
Acetylene	VOC	2.0E-04	0.0E+00	5.0E-05	1.0E-04	2.0E-04	4.0E+00	0.0E+00	0.0E+00	0.0E+00
Acrolein	VOC	a	a	a	a	a	a	a	a	a
Acrylonitrile	VOC	a	a	a	a	a	a	a	a	a
Allylchloride	VOC	a	a	a	a	a	a	a	a	a
Benzene	VOC	1.2E-04	0.0E+00	3.0E-05	6.0E-05	1.2E-04	4.0E+00	0.0E+00	0.0E+00	0.0E+00
Carbon tetrachloride	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
Chloroform	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
cis-2-Pentene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
Cl2	VOC	0.0E+00	0.0E+00			0.0E+00	.	a	a	a
Cyclohexane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
Cyclopentane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
Cyclopentene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
Ethane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
Ethyl chloride	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
Ethylbenzene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
Ethylene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
HCl	VOC	a	a	a	a	a	a	a	a	a
i-Butane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
i-Butene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
i-Pentane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
i-Propylbenzene	VOC	a	a	a	a	a	a	a	a	a
Methane	VOC	a	a	a	a	a	a	a	a	a

Table B.2-4
SF Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME		Maximum	Minimum	Mean	Standard Deviation of Mean	95% UCL[1]	95% UCL / Mean	OB-9 Prop Double Base, DPG		
2,6-Dinitrotoluene	ENERGETIC	a	a	a	a	a	a	a	a	a
Methyl chloride	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
Methyl chloroform	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
Methylcyclohexane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
Methylcyclopentane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
Methylenechloride	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
m-Ethyltoluene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
n-Butane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
n-Decane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
n-Heptane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
n-Hexane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
n-Nonane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
n-Octane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
n-Pentane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
p-Ethyltoluene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
Propane	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
Propene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
Styrene	VOC	a	a	a	a	a	a	a	a	a
Tetrachloroethylene	VOC	a	a	a	a	a	a	a	a	a
Toluene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
Total Alkanes (Paraffins)	VOC	2.2E-04	0.0E+00	1.1E-04	1.6E-04	2.2E-04	2.0E+00	0.0E+00	a	a
Total Alkenes (Olefins)	VOC	7.3E-04	0.0E+00	2.5E-04	4.2E-04	7.3E-04	3.0E+00	0.0E+00	1.0E-05	a
Total Aromatics	VOC	4.4E-04	0.0E+00	1.5E-04	2.5E-04	4.4E-04	3.0E+00	0.0E+00	0.0E+00	a
Total Non-methane Hydrocarbons	VOC	1.0E-05	1.0E-05	1.0E-05	0.0E+00	1.0E-05	1.0E+00	1.0E-05	1.0E-05	a
Total Unidentified Hydrocarbons	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	a
trans-2-Butene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
trans-2-Hexene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
trans-2-Pentene	VOC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.	0.0E+00	0.0E+00	0.0E+00
Vinyl chloride	VOC	a	a	a	a	a	a	a	a	a

a = no sample collected or no result reported or sample invalid or result reported not a meaningful value

Highlighted values represent the maximum value since there are an insufficient number of samples to calculate 95% UCL.

Table B.2-4
SF Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	OB-10 Prop Double Base, Sandia
2,6-Dinitrotoluene	a
Diphenylamine	a
NG	a
Nitroguanidine (NQ)	a
RDX	a
Carbon dioxide	a
Carbon monoxide	a
CO	9.5E-04
CO2	9.7E-01
Nitric oxide	a
Nitrogen dioxide	a
Nitrogen Oxides	a
NO	2.4E-02
NO2	2.8E-03
SO2	3.2E-03
Aluminum	a
Antimony	a
Barium	0.0E+00
Cadmium	0.0E+00
Chromium	0.0E+00
Copper	3.7E-02
Lead	1.3E-02
Titanium	a
Zinc	a
Filterable particulate matter 2.5 micron	a
PM10	a
1234678-HpCDF	a
123478-HxCDF	a
OCDF	a
2,4-Dinitrotoluene	a
Fluoranthene	a
Naphthalene	a
1,1-Dichloroethane	a

Table B.2-4
SF Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	OB-10 Prop Double Base, Sandia
2,6-Dinitrotoluene	a
1,3-Butadiene	a
1-Butene	a
1-Hexene	a
1-Pentene	a
2,2-Dimethylpropane	a
2,3-Dimethylpentane	a
2,4-Dimethylpentane	a
2,5-Dimethylhexane	a
2-Chlorophenol	a
2-Methylhexane	a
Acetylene	2.0E-04
Acrolein	a
Acrylonitrile	a
Allylchloride	a
Benzene	1.2E-04
Carbon tetrachloride	a
Chloroform	a
cis-2-Pentene	a
Cl2	a
Cyclohexane	a
Cyclopentane	a
Cyclopentene	a
Ethane	a
Ethyl chloride	a
Ethylbenzene	a
Ethylene	a
HCl	a
i-Butane	a
i-Butene	a
i-Pentane	a
i-Propylbenzene	a
Methane	a

Table B.2-4
SF Emission Factors - TEAD
(mass of emission product/mass of NEW treated)

CHEMNAME	OB-10 Prop Double Base, Sandia
2,6-Dinitrotoluene	a
Methyl chloride	a
Methyl chloroform	a
Methylcyclohexane	a
Methylcyclopentane	a
Methylenechloride	a
m-Ethyltoluene	a
n-Butane	a
n-Decane	a
n-Heptane	a
n-Hexane	a
n-Nonane	a
n-Octane	a
n-Pentane	a
p-Ethyltoluene	a
Propane	a
Propene	a
Styrene	a
Tetrachloroethylene	a
Toluene	a
Total Alkanes (Paraffins)	2.2E-04
Total Alkenes (Olefins)	7.3E-04
Total Aromatics	4.4E-04
Total Non-methane Hydrocarbons	a
Total Unidentified Hydrocarbons	a
trans-2-Butene	a
trans-2-Hexene	a
trans-2-Pentene	a
Vinyl chloride	a

a = no sample collected or no result reported

Highlighted values represent the maximum va

Appendix B.3

Comparison of Emission Rates
(Based on UCLs versus RMP values)

TABLE B.3-1 COMPARISION OF ANNUAL EMISSION RATES
OB UNIT

CAS	Chemical	New Emission Rate (g/sec)	Old Emission Rate (g/sec)
121-14-2	2,4-Dinitrotoluene	1.56E-07	5.60E-08
606-20-2	2,6-Dinitrotoluene	1.56E-07	5.30E-08
74-86-2	Acetylene	3.53E-04	1.20E-04
7429-90-5	Aluminum	5.71E-02	3.20E-02
71-43-2	Benzene	6.23E-04	7.10E-05
124-38-9	Carbon dioxide	4.67E+00	4.00E+00
630-08-0	Carbon monoxide	2.08E-02	1.00E-02
56-23-5	Carbon tetrachloride	5.71E-06	6.90E-07
7782-50-5	Chlorine	4.77E-02	3.60E-02
67-66-3	Chloroform	2.18E-06	2.20E-07
122-39-4	Diphenylamine	5.71E-06	7.90E-08
74-84-0	Ethane	6.75E-06	1.20E-06
100-41-4	Ethylbenzene	4.15E-06	5.50E-07
74-85-1	Ethylene	4.10E-05	1.30E-05
2691-41-0	HMX	1.56E-07	1.60E-07
7647-01-0	Hydrogen chloride	1.14E+00	1.10E+00
115-11-7	Isobutene	5.19E-05	5.20E-06
7439-92-1	Lead	6.75E-02	4.80E-02
74-82-8	Methane	4.15E-02	2.10E-02
74-87-3	Methyl chloride	6.23E-06	6.10E-07
75-09-2	Methylene chloride	1.19E-04	1.20E-05
91-20-3	Naphthalene	4.72E-06	2.10E-06
110-54-3	n-Hexane	9.86E-05	9.90E-06
10102-43-9	Nitric oxide	4.52E-02	2.50E-02
10102-44-0	Nitrogen dioxide	9.86E-03	4.90E-03
55-63-0	Nitroglycerine	1.56E-07	1.20E-07
556-88-7	Nitroguanidine (NQ)	1.56E-07	7.90E-08
622-96-8	p-Ethyltoluene	2.65E-05	3.10E-06
115-07-1	Propylene	1.51E-05	4.00E-06
121-82-4	RDX	1.56E-07	1.60E-07
7446-09-5	Sulfur dioxide	1.25E-02	6.20E-03
108-88-3	Toluene	1.76E-05	3.00E-06
75-01-4	Vinyl chloride	7.79E-06	8.90E-07

Shaded cells indicate the higher of the new and old emission rates.

TABLE B.3-1 COMPARISION OF ANNUAL EMISSION RATES
OB UNIT

CAS	Chemical	New Emission Rate (g/sec)	Old Emission Rate (g/sec)
71-55-6	1,1,1-Trichloroethane	2.14E-04	1.40E-05
3268-87-9	1,2,3,4,6,7,8,9-Octachlorodibenzodioxin	3.11E-09	1.50E-09
39001-02-0	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	1.17E-08	4.00E-10
35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzodioxin	2.63E-10	1.30E-10
67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran	3.50E-09	1.30E-10
55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran	3.50E-10	5.70E-11
70648-26-9	1,2,3,4,7,8-hexachlorodibenzofuran	1.07E-09	4.20E-11
39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	2.04E-11	3.60E-12
57117-44-9	1,2,3,6,7,8-hexachlorodibenzofuran	2.34E-10	1.50E-11
57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	2.82E-11	8.40E-12
72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran	5.06E-11	2.80E-12
19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	5.16E-11	1.10E-11
57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran	2.72E-10	1.80E-11
40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	1.17E-09	1.90E-11
120-82-1	1,2,4-Trichlorobenzene	1.46E-03	7.90E-05
95-63-6	1,2,4-Trimethylbenzene	4.48E-05	7.20E-06
107-06-2	1,2-Dichloroethane	2.04E-04	1.30E-05
463-49-0	1,2-Propadiene	3.60E-05	4.10E-06
460-12-8	1,3 Butadiyne	4.77E-05	
108-67-8	1,3,5-Trimethylbenzene	1.46E-05	1.80E-06
99-35-4	1,3,5-Trinitrobenzene	1.07E-04	1.10E-05
99-35-4	1,3,5-Trinitrobenzene	5.55E-05	1.10E-05
106-99-0	1,3-Butadiene	1.65E-04	4.20E-05
106-46-7	1,4-Dichlorobenzene	1.07E-04	5.70E-06
71-36-3	1-Butanol	2.43E-04	8.50E-06
123-92-2	1-Butanol 3-methyl-acetate	3.99E-02	2.30E-03
137-32-6	1-Butanol, 2-methyl-	3.41E-04	1.80E-05
123-51-3	1-Butanol, 3-methyl-	3.99E-04	2.10E-05
689-97-4	1-Buten-3-yne	2.43E-05	1.30E-06
106-98-9	1-Butene	1.65E-04	4.70E-05
592-76-7	1-Heptene	1.17E-04	3.30E-06
592-41-6	1-Hexene	2.53E-04	4.00E-05
109-67-1	1-Pentene	9.73E-05	1.80E-05
74-99-7	1-Propyne	8.95E-06	4.50E-05
60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran	3.21E-10	2.50E-11
57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran	2.04E-10	2.40E-11
51207-31-9	2,3,7,8-Tetrachlorodibenzofuran	5.74E-10	4.60E-11
1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-Dioxin	2.72E-09	1.20E-10
118-96-7	2,4,6-Trinitrotoluene	6.91E-04	5.60E-05
121-14-2	2,4-dinitrotoluene	2.53E-04	1.50E-05
606-20-2	2,6-Dinitrotoluene	3.99E-07	2.40E-08

TABLE B.3-1 COMPARISION OF ANNUAL EMISSION RATES
OB UNIT

35572-78-2	2-Amino-4,6-Dinitrotoluene	1.07E-05	1.40E-06
78-93-3	2-Butanone	8.37E-05	5.60E-06
4170-30-3	2-Butenal	2.43E-05	1.30E-06
503-17-3	2-Butyne	2.34E-04	1.20E-05
95-48-7	2-methylphenol	9.73E-06	5.10E-07
581-89-5	2-Nitronaphthalene	8.37E-07	4.50E-08
88-75-5	2-Nitrophenol	3.79E-05	9.90E-07
108-11-2	2-Pentanol, 4-methyl-	2.34E-05	1.20E-06
78-85-3	2-Propenal, 2-methyl-	3.89E-05	5.00E-06
78-94-4	3-Buten-2-one	6.81E-05	8.00E-06
620-14-4	3-Ethyltoluene	3.02E-05	3.30E-06
99-08-1	3-Nitrotoluene	3.89E-06	2.10E-07
19406-51-0	4-Amino-2,6-Dinitrotoluene	9.73E-06	1.40E-06
622-96-8	4-Ethyltoluene	3.99E-05	1.30E-05
100-02-7	4-Nitrophenol	4.96E-05	1.30E-06
99-99-0	4-Nitrotoluene	1.95E-04	1.50E-05
83-32-9	Acenaphthene	1.26E-05	1.00E-06
208-96-8	Acenaphthylene	2.04E-03	1.30E-04
75-07-0	Acetaldehyde	5.94E-04	1.80E-04
123-86-4	Acetic Acid, butyl ester	1.17E-03	6.90E-05
142-92-7	Acetic Acid, hexyl ester	7.98E-05	4.20E-06
67-64-1	Acetone	7.78E-04	2.40E-04
75-05-8	Acetonitrile	3.89E-04	7.30E-05
98-86-2	Acetophenone	7.69E-05	4.00E-06
74-86-2	Acetylene	4.18E-03	1.80E-03
107-02-8	Acrolein	2.04E-03	1.20E-04
107-13-1	Acrylonitrile	2.43E-04	3.60E-05
107-05-1	Allyl Chloride	2.72E-04	1.70E-05
98-83-9	Alpha Methyl Styrene	4.77E-05	2.50E-06
7429-90-5	Aluminum	1.36E-01	6.20E-02
7664-41-7	Ammonia	3.11E-02	2.40E-03
120-12-7	Anthracene	4.48E-05	3.50E-06
7440-36-0	Antimony	1.75E-03	2.10E-04
7440-38-2	Arsenic	1.46E-07	7.80E-09
7440-39-3	Barium	3.60E-02	9.20E-03
100-52-7	Benzaldehyde	9.73E-04	7.10E-05
53951-50-1	Benzaldehyde,ethyl-	1.75E-04	9.20E-06
71-43-2	Benzene	4.67E-03	1.20E-03
102-96-5	Benzene, (2-nitroethenyl)-	1.65E-04	8.70E-06
96-09-3	Benzene, (epoxyethyl)-, R,	2.04E-04	1.10E-05
103-65-1	Benzene, propyl-	1.07E-05	5.90E-07
56-55-3	Benzo(a)anthracene	5.35E-05	2.90E-06
50-32-8	Benzo(a)pyrene	5.55E-05	3.70E-06
205-99-2	Benzo(b)fluoranthene	4.87E-05	1.10E-05
192-97-2	Benzo(e)pyrene	3.31E-05	2.50E-06

TABLE B.3-1 COMPARISION OF ANNUAL EMISSION RATES
OB UNIT

191-24-2	Benzo(g,h,i)perylene	1.07E-04	3.70E-06
207-08-9	Benzo(k)fluoranthene	2.43E-03	1.50E-05
271-89-6	Benzofuran	7.69E-05	4.00E-06
65-85-0	Benzoic acid	2.43E-04	1.70E-05
100-51-6	Benzyl alcohol	1.17E-05	6.20E-07
100-44-7	Benzyl chloride	2.04E-05	5.90E-07
1195-79-5	Bicyclo [2.2.1] heptan-2-one, 1,3,3-trimethyl-	1.65E-04	8.80E-06
10385-78-1	Bicyclo[2.2.1]heptan-2-one, 1,7,7-trimethyl-, (1S)-	7.49E-03	4.00E-04
117-81-7	Bis(2-ethylhexyl)phthalate	1.46E-03	4.10E-04
507-70-0	Borneol	2.72E-04	1.40E-05
74-83-9	Bromomethane	1.85E-04	9.80E-06
123-72-8	Butanal	6.71E-06	1.90E-04
85-68-7	Butylbenzylphthalate	1.56E-04	2.60E-05
123-72-8	Butyraldehyde	1.75E-03	1.90E-04
7440-43-9	Cadmium	2.72E-02	4.30E-03
7440-70-2	Calcium	8.76E-03	2.50E-03
79-92-5	Camphene	6.23E-04	3.30E-05
76-22-2	Camphor	1.17E-04	6.00E-06
124-38-9	Carbon dioxide	1.26E+01	1.00E+01
75-15-0	Carbon Disulfide	3.11E-04	1.90E-05
630-08-0	Carbon monoxide	2.92E-01	2.20E-01
56-23-5	Carbon tetrachloride	7.30E-05	2.80E-06
108-90-7	Chlorobenzene	1.26E-03	3.70E-05
67-66-3	Chloroform	3.70E-06	2.10E-07
74-87-3	Chloromethane	3.21E-04	4.80E-05
7440-47-3	Chromium	5.45E-04	3.00E-04
218-01-9	Chrysene	1.85E-05	3.90E-06
627-20-3	cis-2-Pentene	7.10E-06	1.60E-06
7440-48-4	Cobalt	2.63E-04	2.10E-05
7440-50-8	Copper	7.69E-02	2.80E-02
98-82-8	Cumene	1.17E-05	5.90E-07
110-82-7	Cyclohexane	4.38E-05	3.70E-06
108-94-1	Cyclohexanone	9.15E-06	4.80E-07
142-29-0	Cyclopentene	1.85E-05	4.90E-06
112-31-2	Decanal	3.21E-06	1.70E-07
53-70-3	Dibenz(a,h)anthracene	4.38E-06	3.70E-07
132-64-9	Dibenzofuran	1.95E-05	1.00E-06
75-71-8	Dichlorodiflouromethane	9.15E-06	7.70E-07
84-66-2	Diethylphthalate	1.26E-02	9.80E-04
1330-20-7	Dimethylbenzene isomer	1.75E-04	1.50E-05
84-74-2	Di-n-butylphthalate	9.73E-05	2.60E-05
117-84-0	Di-n-octylphthalate	1.26E-05	6.70E-07
629-97-0	Docosane	5.45E-04	2.90E-05
143-07-7	Dodecanoic acid	1.65E-04	8.60E-06
112-95-8	Eicosane	4.67E-04	3.40E-05

TABLE B.3-1 COMPARISION OF ANNUAL EMISSION RATES
OB UNIT

7440-44-0	Elemental Carbon	9.54E-02	4.30E-02
74-84-0	Ethane	7.10E-04	8.80E-05
460-19-5	Ethanedinitrile	1.95E-03	2.20E-04
64-17-5	Ethanol	1.26E-03	3.20E-05
111-76-2	Ethanol, 2-butoxy-	8.37E-05	4.40E-06
937-30-4	Ethanone, 1-(4-ethylphenyl)-	5.35E-06	2.80E-07
75-00-3	Ethyl chloride	6.71E-06	1.90E-07
100-41-4	Ethylbenzene	2.43E-04	3.30E-05
74-85-1	Ethylene	2.72E-03	1.30E-03
25550-14-5	Ethylmethylbenzene isomer	1.07E-04	5.70E-06
206-44-0	Fluoranthene	2.14E-04	1.80E-05
86-73-7	Fluorene	1.07E-05	2.40E-06
50-00-0	Formaldehyde	1.17E-03	4.40E-04
76-13-1	Freon 113	9.34E-04	4.90E-05
110-00-9	Furan	2.53E-05	7.10E-07
1191-99-7	Furan 2,3-dihydro-	6.52E-06	3.40E-07
1708-29-8	Furan, 2,5-dihydro	6.52E-06	3.40E-07
109-99-9	Furan, tetrahydro-	9.73E-05	5.20E-06
142-82-5	Heptane	1.26E-05	5.70E-06
118-74-1	Hexachlorobenzene	2.24E-03	1.20E-04
544-76-3	Hexadecane	1.56E-05	8.10E-07
66-25-1	Hexanal	9.34E-06	4.90E-07
110-54-3	Hexane	4.09E-05	8.30E-05
124-04-9	Hexanedioic acid isomer	3.31E-04	1.80E-05
630-06-8	Hexatriacontane	3.89E-04	4.40E-05
18540-29-9	Hexavalent Chromium	3.89E-05	8.00E-06
2691-41-0	HMX	1.46E-06	7.60E-08
7647-01-0	Hydrogen Chloride	4.67E-02	5.90E-03
74-90-8	Hydrogen Cyanide	5.74E-03	2.90E-03
7664-39-3	Hydrogen Fluoride	5.06E-04	2.70E-05
193-39-5	Indeno(1,2,3-cd)pyrene	4.87E-04	6.90E-06
7439-89-6	Iron	9.73E-04	7.90E-05
124-76-5	Isoborneol	3.02E-04	1.60E-05
75-28-5	Isobutane	1.17E-05	3.20E-06
115-11-7	Isobutene	1.26E-04	3.40E-05
84-69-5	Isobutyl phthlate	2.82E-05	1.50E-06
115-11-7	Isobutylene	2.72E-04	3.40E-05
78-78-4	Isopentane	3.89E-05	6.90E-06
98-82-8	Isopropylbenzene	7.59E-06	5.90E-07
7439-92-1	Lead	1.56E-02	6.00E-03
108-38-3	m/p-Xylene	2.43E-04	5.70E-05
7439-95-4	Magnesium	8.08E+00	1.50E-01
7439-96-5	Manganese	2.72E-03	8.70E-04
79-41-4	Methacrylic acid, isopropyl ester	7.01E-05	3.70E-06
74-82-8	Methane	1.26E-02	4.30E-03

TABLE B.3-1 COMPARISION OF ANNUAL EMISSION RATES
OB UNIT

75-52-5	Methane, nitro-	4.28E-05	3.50E-06
100-97-0	Methenamine	3.50E-04	1.80E-05
74-87-3	Methyl chloride	3.02E-05	4.80E-05
71-55-6	Methyl chloroform	2.34E-04	1.40E-05
80-62-6	Methyl Methacrylate	1.85E-06	9.90E-08
1634-04-4	Methyl t-Butyl Ether	2.82E-05	1.50E-06
108-87-2	Methylcyclohexane	4.87E-05	1.00E-05
96-37-7	Methylcyclopentane	1.36E-04	9.00E-06
75-09-2	Methylene chloride	3.21E-03	9.70E-04
630-03-5	Nanocosane	5.64E-04	3.00E-05
91-20-3	Naphthalene	5.35E-03	4.20E-04
106-97-8	n-Butane	2.53E-05	6.80E-06
124-18-5	n-Decane	1.07E-04	6.60E-06
142-82-5	n-Heptane	2.14E-05	5.70E-06
110-54-3	n-Hexane	1.65E-03	8.30E-05
7440-02-0	Nickel	1.65E-03	1.70E-04
7697-37-2	Nitric Acid	1.07E-02	1.80E-03
10102-43-9	Nitric oxide	8.85E-02	3.10E-02
98-95-3	Nitrobenzene	7.98E-05	4.20E-06
10102-44-0	Nitrogen dioxide	4.87E-02	9.30E-03
55-63-0	Nitroglycerine	4.87E-07	8.50E-08
111-84-2	n-Nonane	1.56E-05	3.50E-06
124-19-6	Noanal	2.43E-05	
111-65-9	n-Octane	3.02E-05	5.80E-06
112-05-0	Nonanoic acid	2.14E-04	1.10E-05
109-66-0	n-Pentane	5.25E-05	9.70E-06
630-02-4	Octacosane	6.42E-04	3.50E-05
111-65-9	Octane	1.26E-05	5.80E-06
95-47-6	o-Xylene	1.56E-04	1.60E-05
57-12-5	Particulate Cyanide	5.45E-04	
78-11-5	Pentaerythritol tetranitrate	3.41E-02	4.70E-04
110-62-3	Pentanal	2.43E-05	1.30E-06
109-66-0	Pentane	1.65E-05	9.70E-06
630-07-9	Pentatriacontane	9.63E-04	8.00E-05
622-96-8	p-Ethyltoluene	6.03E-05	1.30E-05
85-01-8	Phenanthrene	1.26E-04	2.00E-05
108-95-2	Phenol	3.50E-05	3.20E-06
536-74-3	Phenylethyne	1.07E-04	5.70E-06
74-98-6	Propane	6.91E-05	1.20E-05
115-07-1	Propene	8.47E-04	2.70E-04
123-38-6	Proprionaldehyde	2.43E-05	1.30E-06
115-07-1	Propylene	5.16E-04	2.70E-04
74-99-7	Propyne	4.57E-04	4.50E-05
129-00-0	Pyrene	4.18E-05	1.20E-05
121-82-4	RDX	5.06E-02	2.40E-03

TABLE B.3-1 COMPARISION OF ANNUAL EMISSION RATES
OB UNIT

7782-49-2	Selenium	3.60E-05	1.90E-06
353-66-2	Silane, difluorodimethyl-	1.85E-05	9.90E-07
7440-22-4	Silver	3.89E-04	4.40E-05
7440-24-6	Strontium	6.23E+00	9.40E-02
100-42-5	Styrene	5.16E-03	5.70E-04
7446-09-5	Sulfur dioxide	6.81E-03	1.30E-03
7664-93-9	Sulfuric Acid	3.11E-02	1.80E-03
75-65-0	tert-Butyl Alcohol	2.04E-05	1.10E-06
12408-10-5	teterachlobenzene isomer	1.56E-04	8.10E-06
127-18-4	Tetrachloroethylene	3.60E-04	2.00E-05
646-31-1	Tetracosane	1.56E-04	1.00E-05
479-45-8	TETRYL	4.87E-07	6.60E-08
7440-28-0	Thallium	1.85E-02	9.90E-04
7440-32-6	Titanium	7.49E-04	5.90E-05
108-88-3	Toluene	6.71E-04	1.80E-04
624-64-6	trans-2-Butene	9.24E-05	2.20E-05
646-04-8	trans-2-Pentene	1.85E-05	3.80E-06
638-68-6	Triacontane	7.10E-04	3.70E-05
75-69-4	Trichloroflouromethane	6.91E-06	3.70E-07
25551-13-7	Trimethylbenzene isomer	2.24E-04	1.40E-05
12789-66-1	TSP	4.48E+00	1.60E+00
7440-62-2	Vanadium	2.43E-01	4.80E-03
108-05-4	Vinyl acetate	2.34E-05	6.70E-07
75-01-4	Vinyl chloride	2.72E-04	1.70E-05
7440-66-6	Zinc	2.04E+00	5.40E-02
7440-67-7	Zirconium	1.65E-03	9.90E-05

Shaded cells indicate the higher of the new and old emission rates.

TABLE B.3-3 COMPARISION OF ANNUAL EMISSION RATES
SF UNIT

CAS	Chemical	New Emission Rate (g/sec)	Old Emission Rate (g/sec)
630-08-0	CO	7.83E-03	6.40E-03
124-38-9	CO2	5.06E+00	4.30E+00
10102-43-9	NO	1.25E-01	6.70E-02
10102-44-0	NO2	1.46E-02	7.60E-03
7446-09-5	SO2	1.67E-02	1.70E-02
7440-50-8	Copper	1.93E-01	
7439-92-1	Lead	6.79E-02	4.90E-02
7440-66-6	Zinc	5.22E-05	
74-86-2	Acetylene	1.04E-03	5.20E-04
71-43-2	Benzene	6.26E-04	3.10E-04

Shaded cells indicate the higher of the new and old emission rates.

Appendix B.4

Inclusion of Non-Detects for OD COCs 95 Percentile UCL Emission Factors

Table B.4-1 MQL/2 Equivalent Emission Factors (for non-detect, "0.0", data)

Source	COC	Non-detect EF (MQL/2 equivalent EF)
OD	Acrolein	2.2E-07
OD	Benzo(a)pyrene	1.0E-04
OD	Benzo(k)fluoranthene	1.0E-04
OD	Cadmium	2.0E-05
OD	Dibenz(a,b)anthracene	1.0E-04
OD	Hexachlorobenzene	1.0E-04
OD	Ideno(1,2,3-cd)pyrene	1.0E-04
OD	Lead	1.8E-04
OD	Nickel	2.0E-05
OD	Strontium	2.0E-05
OD	Total TCDD	1.0E-05
OD	Vanadium	2.0E-05

Table B.4-2 Comparison of UCL 95 Percentile Emission Factors for Alternative Treatment of Non-Detection (0.0) Data

		95 Percentile UCL Mean EFs		
Source	**COC**	**Non-Detects Excluded**	**Non-Detects Included (based on MQL/2 equivalent EFs)**	**Ratio[a]**
OD	Acrolein	2.1E-04	5.2E-05	2.5E-05
OD	Benzo(a)pyrene	5.7E-06	1.2E-05	21E-00
OD	Benzo(k)fluoranthene	5.0E-06	1.5E-05	3.0E+00
OD	Cadmium	2.8E-03	7.5E-14	2.7E-01
OD	Dibenz(a,b)anthracene	4.5E-07	9.1E-05	2.0E+2
OD	Hexachlorobenzene	2.3E-04	-	-
OD	Ideno(1,2,3-cd)pyrene	5.0E-05	5.9E-06	1.2E-01
OD	Lead	1.6E-03	1.7E-03	1.1E+01
OD	Nickel	1.7E-04	1.5E-04	8.8E-01
OD	Strontium	6.4E-01	2.3E-02	3.6E-02
OD	2,3,7,8 TCDD	2.8E-10	6.5E-10	2.2E+00
OD	Vanadium	2.5E-02	1.3E-03	5.2E-02

[a] Ratio of non-detects included/non-detected excluded UCL EFs.