



Modeling and Effects Review Applicability (MERA) Updates

Cheryl Covone
Air Permits Division
Texas Commission on Environmental Quality
Environmental Trade Fair 2018



Background

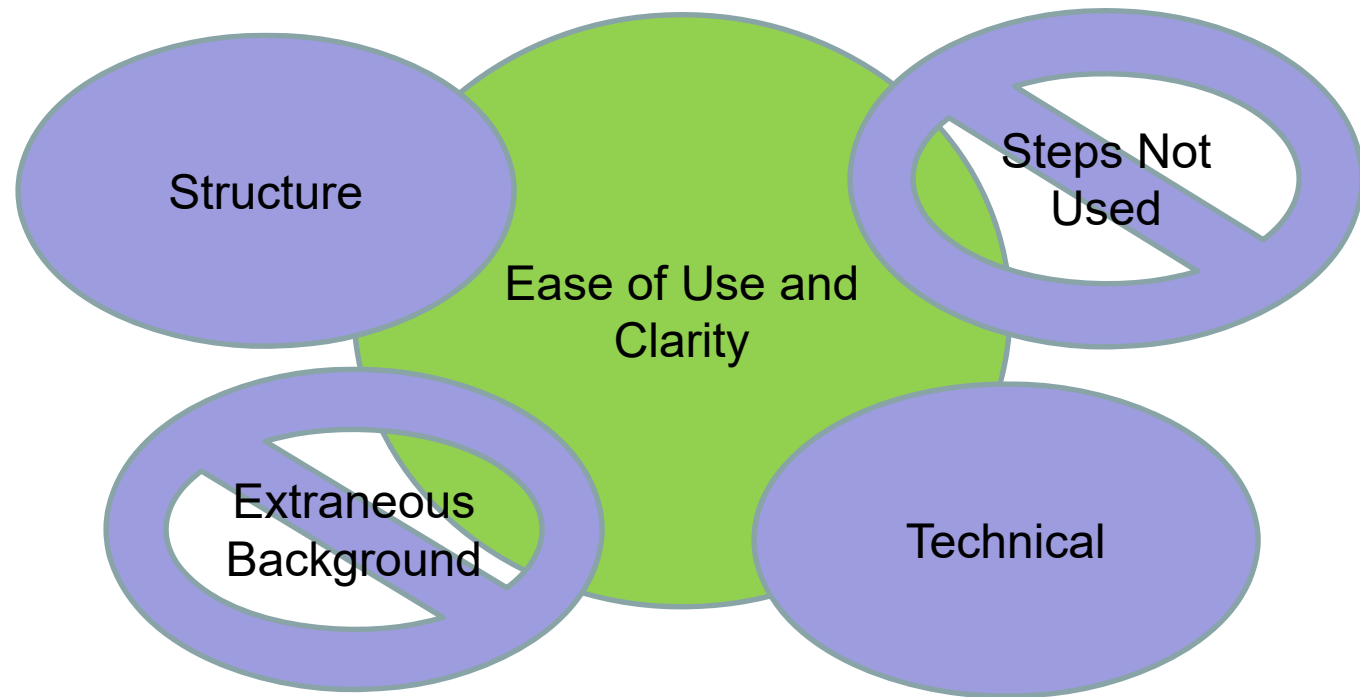


Purpose

History

Update

Changes





Step Zero Applicability

Chemical Species

Without
State or
Federal
Standard

Not on Tox
Screening
List

With an
ESL



Step Zero General Procedures

When, How, What

When
long-term
analysis
needed

How to
determine
long-term
 GLC_{max}

When to
include
MSS and
PBRs

What to
do for
APWL



Structure of Steps Example

Step 6: Ratio Test

- Sum emission increases from the project to obtain the total project increase.
- Sum currently authorized emissions with the new and increased emissions from the project to get the site wide emissions.

Is the following inequality true?

$$\frac{GLC_{max}}{ESL} \leq \frac{ER_P}{ER_S}$$

If “No” → Step 7. If “Yes” → End.



Steps Removed

Step 2 Toxicology Screening List

Step 3 APWL

Step 6 Chemical Substitution

Step 7 Annual Reduction

Step 8 Permit or Project Modeling

Steps 9B and 9C Permit Modeling



Technical Change 10% Step

$$E_{i-n} = 0.1 \left[\frac{ER_1}{E_{total}} \times \left(\frac{ESL}{X_1} \right) + \frac{ER_2}{E_{total}} \times \left(\frac{ESL}{X_2} \right) \right]$$

$$\sum_{i=1}^n (X_i * ER_i) \leq 0.1 * ESL$$




References/Contacts



MERA Guidance ([APDG 5874](#))

Cheryl Covone: cheryl.covone@tceq.texas.gov

Beth Akers: beth.akers@tceq.texas.gov

The background of the slide is a close-up photograph of several green leaves with serrated edges, likely from a tree. The leaves are layered, with some in sharp focus and others blurred in the background, creating a sense of depth. The lighting is bright, highlighting the veins on the leaves.

TCEQ Toxicology Division Updates

Tiffany Bredfeldt, Ph.D.
Toxicology Division
Texas Commission on Environmental Quality
Environmental Trade Fair 2018





UPDATES

Streamline Air Permits Process

TCEQ
Toxicology
Division has
modified the way
it approaches
some chemical
species during
air permits

PM

Particulate
Matter

No ESLs

Chemicals
without Effects
Screening
Levels (ESLs)
in the available
online database



NAAQS

PM

For chemicals that are particulate matter that are considered of relatively low toxicity, evaluation can occur in the site-wide NAAQS evaluation

ESL
database

The chemical will be listed in the ESL database as must meet NAAQS

No ESL

If the chemical does not have an ESL, contact Toxicology



Chemicals Without ESLs

No ESL

If the chemical does not have an ESL, contact Toxicology

Chemicals for which an ESL is not listed in the Toxicity Factor Database must satisfy BACT requirements

If the applicant desires an ESL, it is possible to have one generated by the TCEQ Toxicology Division:

Product or chemical substitution would require an ESL

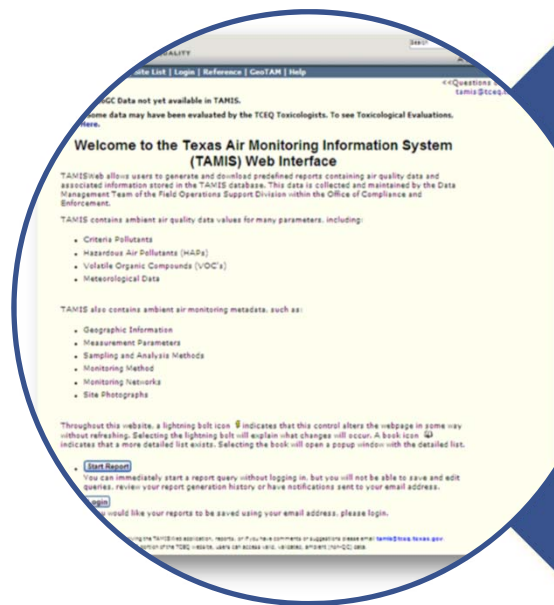


Navigating the New Toxicity Factor Database

Tracie Phillips, Ph.D.
Toxicology Division
Texas Commission on Environmental Quality
Environmental Trade Fair 2018



Toxicity Factor Database Overview



One Stop Shop -

- ESL List
- AMCV List
- Supporting Documentation



Shopping icon
created by JHON
from Noun Project

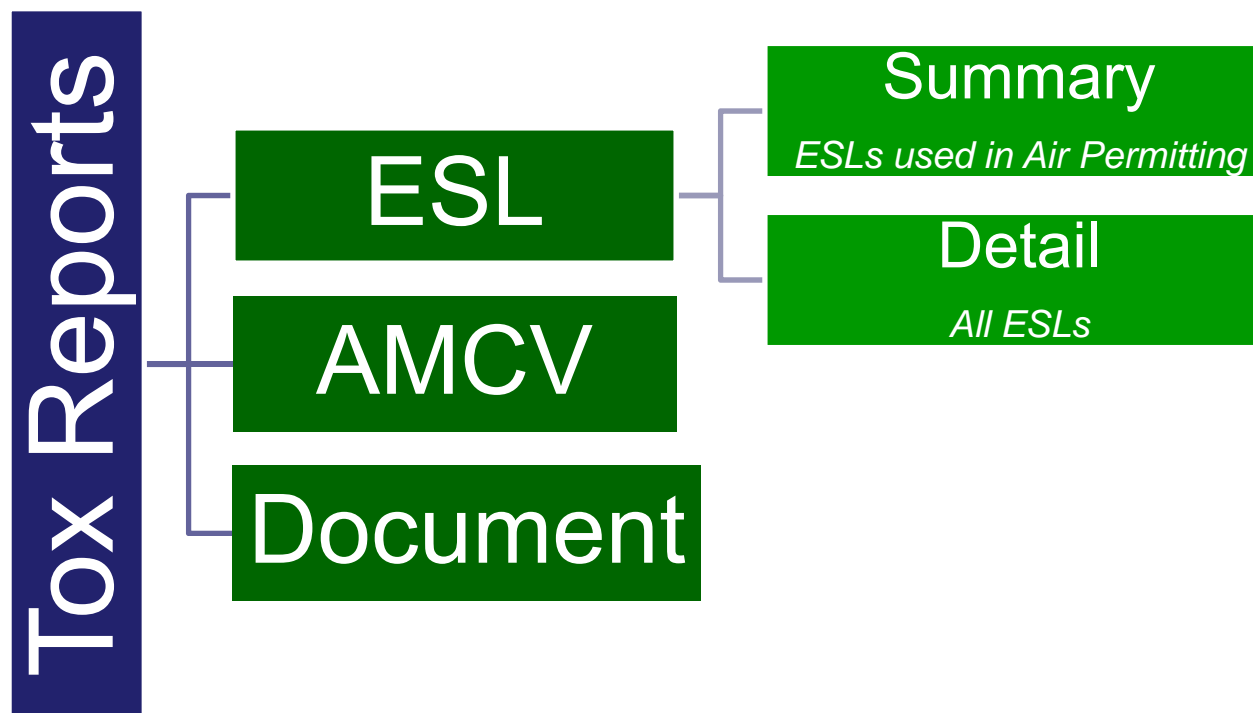
Dynamic Data



Data icon created by
Gregor Cresnar from
Noun Project



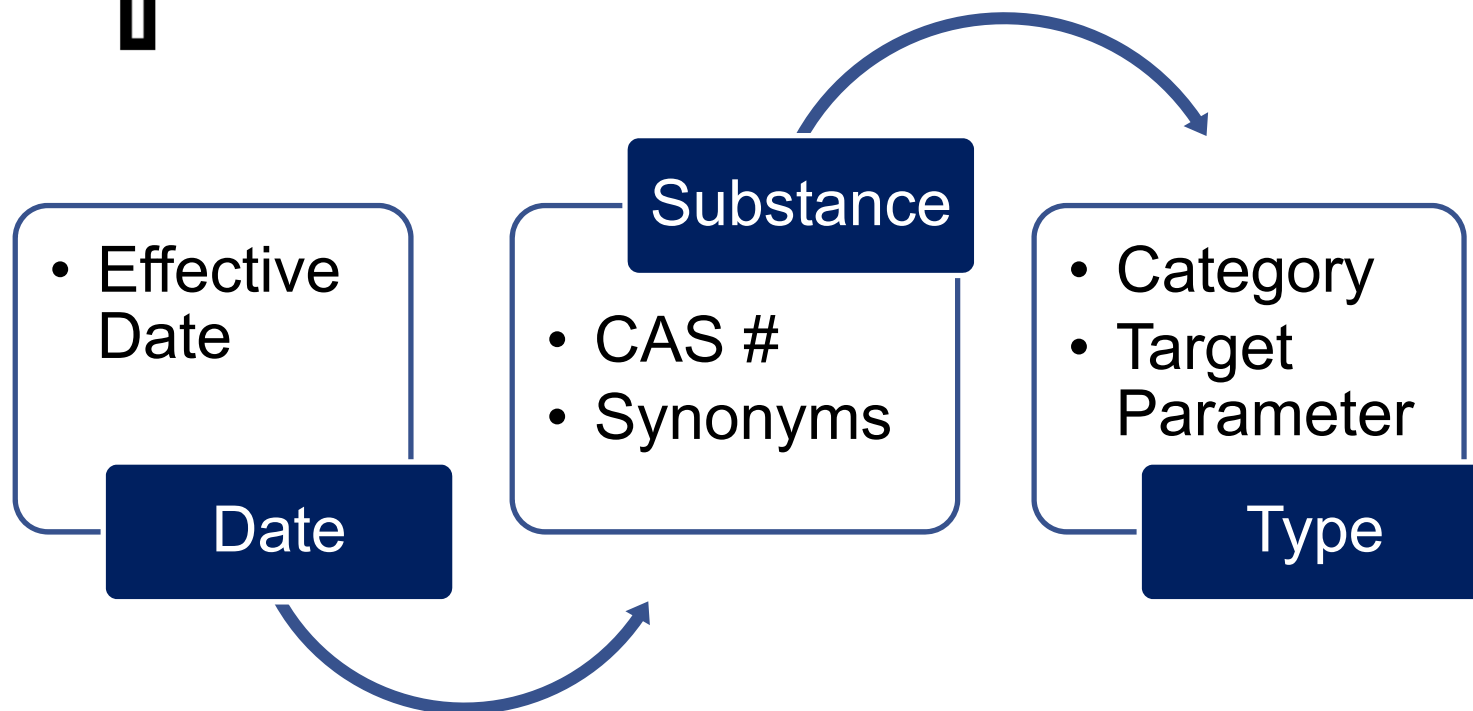
TAMIS Toxicology Reports



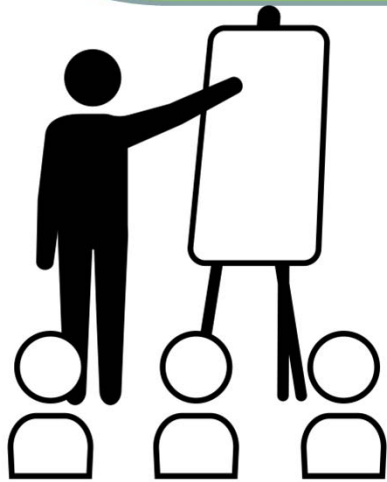
Spreadsheet icon
created by
heathersabrina from
Noun Project



More Search Options



DEMONSTRATION



<http://www17.tceq.texas.gov/tamis/index.cfm>

Demonstration icon
created by Claire
Jones from Noun
Project

Questions



E-mails: tracie.phillips@tceq.texas.gov
TOX@tceq.texas.gov



Question icon
created by Gan
Khoon Lay from
Noun Project



Backup Slides

Slides showing step-by-step instructions on how to download the entire ESL List

http://www37.tceq.texas.gov/tamis/index.cfm?fuseaction=hor... TAMISWeb v4.4.1 - About

File Edit View Favorites Tools Help

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Questions or Comments >>

About News **Reports** Site List Login Reference GeoTAM Help

NOTE: Some data may have been evaluated by the TCEQ Toxicologists. To see Toxicological Evaluations, [Click Here](#).

Welcome to the Texas Air Monitoring Information System (TAMIS) Web Interface

TAMISWeb allows users to generate and download predefined reports containing air quality data and associated information stored in the TAMIS database. This data is collected and maintained by the Data Collection Team of the Monitoring Division within the Office of Compliance and Enforcement.

TAMIS contains ambient air quality data values for many parameters, including:

- Criteria Pollutants
- Hazardous Air Pollutants (HAPs)
- Volatile Organic Compounds (VOC's)
- Meteorological Data

TAMIS also contains ambient air monitoring metadata, such as:

- Geographic Information
- Measurement Parameters
- Sampling and Analysis Methods
- Monitoring Method
- Monitoring Networks
- Site Photographs

Throughout this website, a lightning bolt icon ⚡ indicates that this control alters the webpage in some way without refreshing. Selecting the lightning bolt will explain what changes will occur. A book icon 📖 indicates that a more detailed list exists. Selecting the book will open a popup window with the detailed list.

- **Start Report**
You can immediately start a report query without logging in, but you will not be able to save and edit queries, review your report generation history or have notifications sent to your email address.
- **Login**
If you would like your reports to be saved using your email address, please login.

For questions involving the TAMISWeb application, reports, or if you have comments or suggestions please email TAMIS@tceq.texas.gov.

NOTE: Throughout the TAMIS portion of the TCEQ website, users can access valid, validated, ambient (non-QC) data.

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1) Click one to go to Reports Screen


http://www17.tceq.texas.gov/tamis/index.cfm?fuseaction=rep... TAMSWeb v4.4.0 - Report S... TAMSWeb v4.4.0 - Report Sele...

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NOTE: Some data may have been evaluated by the TCEQ Toxicologists. To see Toxicological Evaluations, [Click Here](#).

Select Report  [Descriptions](#)

Tox ESL-Summary Report

Criteria Selection  [Details](#)

☐ Wizard Mode ☒ Expert Mode

Report used to obtain the Effects Screening Levels (ESLs) used for air permitting. This list is the most similar to the archived ESL Published Lists. ESLs are screening levels used in TCEQ's air permitting process to evaluate air dispersion modeling's predicted impacts. ESLs are set to protect human health and welfare. For more information on ESLs, please visit the TCEQ Toxicology webpage.


Tox Air Monitoring Information


2) Choose Tox ESL-Summary Report

3) Select Expert Mode

Next

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 indicates that a more detailed list exists. Selecting the book will open a popup window with the detailed list.

4) Click Next

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5) Enter Date

6) Leave As Is,
DO NOT:

- select substances
- select filter criteria
- un-select Optional Columns
- change Delimiter

7) Click
Create
Report

The screenshot shows the TAMSWeb v4.4.0 - Report E... interface. The main heading is "Tox ESL-Summary Report". Below this, there is a form with several sections:

- Effective Date:** A date field set to 02/05/2018.
- Substance Information:** Fields for Load Substance Name, Load CAS #, Category, Substance/Typonym, and CAS #.
- Substance List:** A list of chemical substances with checkboxes for selection. The list includes: ((2-(2-hydroxyethyl)phosphonomethyl)amino)ethyl(mino)bis(methylene)it, ((phosphonomethyl)amino)bis(2,1-ethanedithiobis(methylene))tetraakis, ((tetrahydro-2-hydroxy-2-oxido-4m-1,4,2-oxazaphosphorin-4-yl)methyl)phor, (-)-bis(2-ethylhexyl) sebacate, ((2-ethylhexyl)oxy)methyl)oxirane reaction products with polyethylene glycol, 1,2-ethanedithiobis(oxymethyl)dimethanol, 1,3-dimethylbutylbenzene, and 1,6-hexanedithiobis(mino)bis(methylene))tetraakis-phosphonic acid, hexaammonium.
- Filter Criteria:** A section with various dropdown menus and checkboxes for filtering results. The criteria include: BLT Duration/Basis (Odor, Short-term Health, Short-term Vegetation, Long-term Health), BLT Status (Interim, Final), BLT Basis (Animal, Health, Odor, Vegetation), Interim Source (A1HA, A1HA-Cell, ATSDR, AUSTRI), Odor Source (Ammonia, Cornetto-Muniz, Drawniers, Helman), Remedial Condition (Not Defined, Agricultural and Cattle, Agricultural), and Phase (Not Defined, Vapor, PM, PM4).
- Optional Columns:** A section with checkboxes for selecting or deselecting columns. The columns are: Exposure Comments, Defined Date, BLT Basis, Interim Code, and Status.
- Select File Delimiter:** A dropdown menu for selecting the file delimiter.
- Create Report:** A button at the bottom right of the form.

At the bottom of the page, there are several notes and a disclaimer:

- NOTE:** Throughout the TAMS portion of the TCEQ website, users can access valid, verifiable, ambient (non-GC) data.
- NOTE:** Report generator can timeout if the scope is too broad. Narrowing date ranges and selecting specific sites or parameters may be needed to complete a report generation.
- NOTE:** Indicates that this control alters the webpage in some way without refreshing. Selecting the lightning bolt will explain what changes will occur.
- NOTE:** Indicates that a more detailed list exists. Selecting the book will open a popup window with the detailed list.

http://www17.tceq.texas.gov/tamis/index.cfm

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NOTE: Some data may have been evaluated by the TCEQ Toxicologists. To see Toxicological Evaluations, [Click Here](#).

Tox ESL-Summary Report [More...](#)

Total Time To Generate Report: 0.17 minutes.
Total Good Records: 7176
Total Bad Records: 0

Report File: [389220180205113630940.txt](#)

[Edit Query](#)

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Do you want to open or save 389220180205113630940.txt (1.72 MB) from www17.tceq.texas.gov?

[Open](#) [Save](#) [Cancel](#)

8) Click link

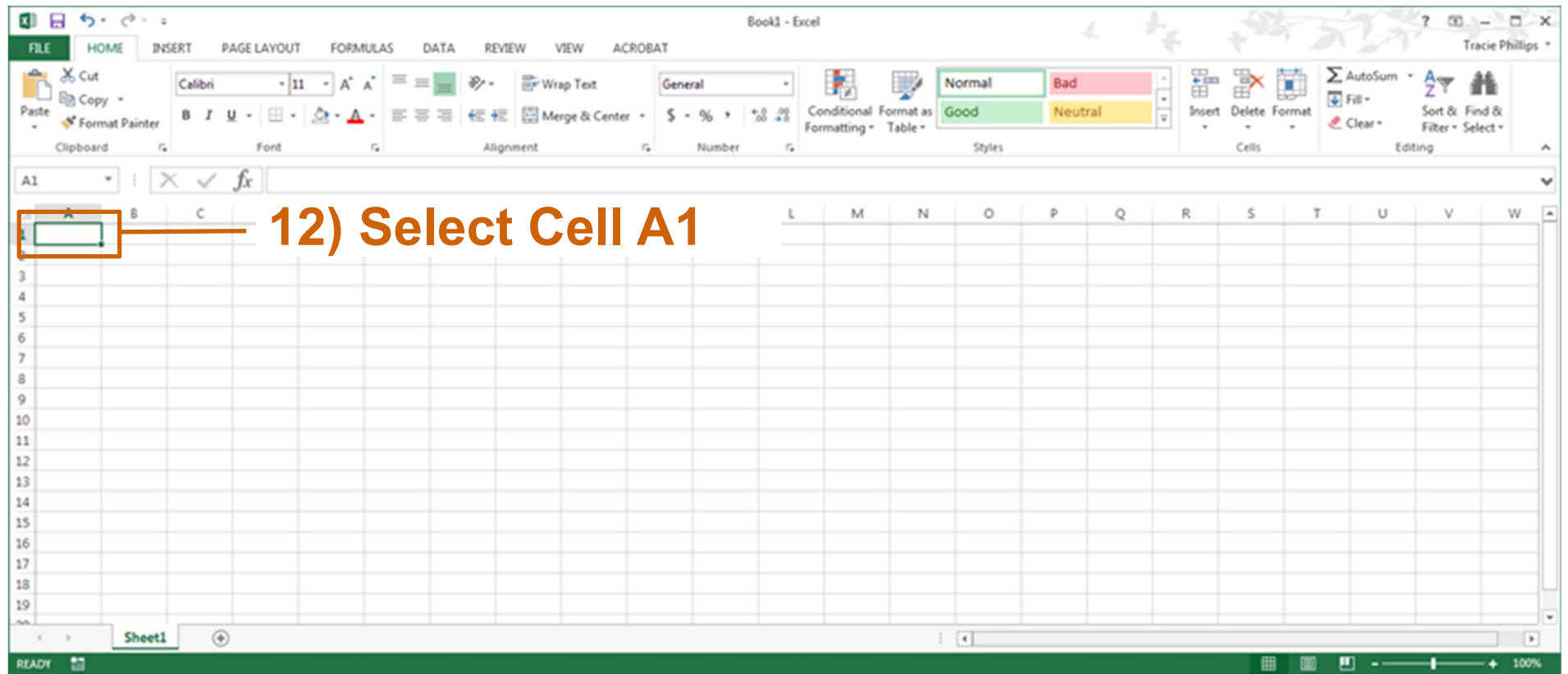
9) Click Open

389220180205113722645.txt - Notepad

File Edit Format View Help

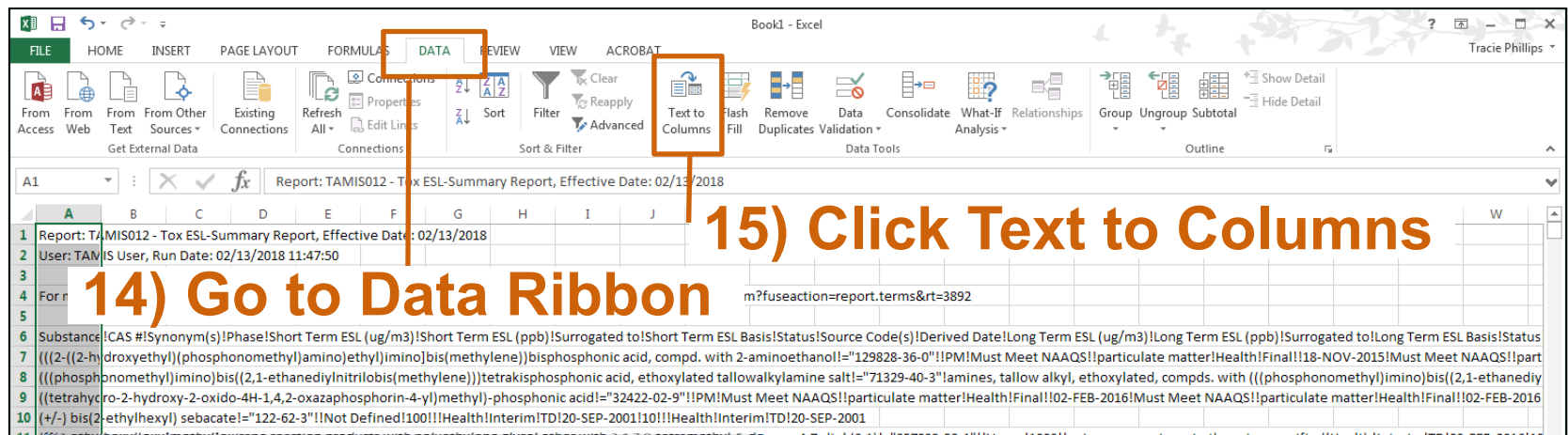
Report: TAMIS012 - Tox ESL-Summary Report, Effective Date: 02/05/2018 User: TAMIS User, Run Date: 02/05/2018 11:34:41
For more information about terminology and column definitions visit <http://tamis.tceq.texas.gov/tamis/index.cfm?fuseaction=report.terms&rt=3892>
Substance!CAS #!Synonym(s)!Phase!Short Term ESL (ug/m3)!Short Term ESL (ppb)!Surrogated to!Short Term ESL Basis!Status!Source Code(s)!Derived Dat
)bis((2,1-ethanediylnitrilobis(methylene)))tetrakisphosphonic acid!Not Defined!400!amine, tallow, not otherwise specified!Health!Interim!TD!10-F
2-58-1!!Vapor!1000!oxirane, generic, not otherwise specified!Health!Interim!TD!29-FEB-2016!100!oxirane, generic, not otherwise specified!Healt
!!!=HYPERLINK("http://tamis.tceq.texas.gov/tamis/index.cfm?fuseaction=toxicology.public_documents_open&docid=1322&fname=3586-55-8")! ! ! ! "(
l!!04-SEP-2015!Must Meet NAAQS!!particulate matter!Health!Final!!04-SEP-2015"(1-hydroxyethylidene)bis-phosphonic acid, compd. with 2,2-iminobis(e
ic_documents_open&docid=2294&fname=163702-01-0")! ! ! ! "(1-methylethenyl)benzene homopolymer, ar-(2-hydroxy-2-methyl-1-oxopropyl) derivs!"=1637
t Defined!2000!alcohol, generic, not otherwise specified!Health!Interim!TD!01-MAR-2016!200!alcohol, generic, not otherwise specified!Health!Int
dex.cfm?fuseaction=toxicology.public_documents_open&docid=651&fname=16883-48-0")! ! ! ! "(1E)-1,2-dichloro-3,3,3-trifluoro-1-propene!"=431-27-6"
40!!methylcyclohexanol!Health!Interim!NIOH; TLV!01-APR-2016!234!!methylcyclohexanol!Health!Interim!NIOH; TLV!01-APR-2016! ! ! ! !=HYPERLINK("
documents_open&docid=1215&fname=1678-80-4")! ! ! ! "(1Z,5E,9E)-1,5,9-cyclododecatriene!"=4904-61-4!!1,5,9-cyclododecatriene (Z,E,E)!Not Defined!
http://tamis.tceq.texas.gov/tamis/index.cfm?fuseaction=toxicology.public_documents_open&docid=808&fname=100-79-8")! ! ! ! "(2,4-dichlorophenoxy)a
open-1-yloxy)phenyl)phenyl-methanone, reaction products with silica-trimethoxymethylsilane hydrolysis products and triethoxysilane!"=96195-80-1"
56536-49-3"(2S)-2-chloro-butan-1-ol!Not Defined!40!!2-chloro-1-propanol!Health!Interim!TLV!30-MAR-2016!4!!2-chloro-1-propanol!Health!Interim!TLV
oxysilyl)propylamine!Not Defined!2200!!3-[(2-aminoethylamino) propyltrimethoxysilane]!Health!Interim!TD!10-MAY-2016!220!!3-[(2-aminoethylamino) p
fm?fuseaction=toxicology.public_documents_open&docid=1449&fname=7206-14-6")! ! ! ! "(3E)-3-methyl-3-penten-2-one!"=565-62-8!!3-methylpent-3-en-2
.tceq.texas.gov/tamis/index.cfm?fuseaction=toxicology.public_documents_open&docid=747&fname=77-54-3")! ! ! ! "(3R,5S)-3,5-dimethyltetrahydropyran
ified!Health!Interim!TD!18-APR-2016! ! ! ! !=HYPERLINK("http://tamis.tceq.texas.gov/tamis/index.cfm?fuseaction=toxicology.public_documents_open
-2-pentanone!Health!Interim!FRG-MAK!20-MAR-2013"(5E,9E)-hexadeca-5,9-diene!"=93762-80-2"!Not Defined!5800!alkenes, generic, not otherwise spec
l!"=14548-60-8"(phenylmethoxy)methanol!Not Defined!170!!2-phenoxyethanol!Health!Interim!TD!17-FEB-2016!17!!2-phenoxyethanol!Health!Interim!TD!1
-octene!Not Defined!3400!740!1-octene!Health!Interim!AIHA!21-DEC-2015!340!741!1-octene!Health!Interim!AIHA!21-DEC-2015! ! ! ! !=HYPERLINK("http:
0!!alkenes, generic, not otherwise specified!Health!Interim!TD!18-APR-2016!580!!alkenes, generic, not otherwise specified!Health!Interim!TD!18-AP
ocuments_open&docid=2426&fname=14782-75-3")! ! ! ! "(ethylenedinitrilo)tetraacetoneitrile!"=5766-67-6!"N,N,N',N'-tetracyanomethylethylenediamine!
=toxicology.public_documents_open&docid=2476&fname=28654-73-1")! ! ! ! "(S)-(+)-2,3,7,7a-tetrahydro-7a-methyl-1H-indene-1,5(6H)-dione!"=17553-86
D!01-OCT-2007!10!!Health!Interim!TD!01-OCT-2007"(Z)-2-butenedioic acid, polymer with sodium 2-propene-1-sulfonate!"=68715-83-3"sodium 2-propen
!580!!alkenes, generic, not otherwise specified!Health!Interim!TD!18-APR-2016! ! ! ! !=HYPERLINK("http://tamis.tceq.texas.gov/tamis/index.cfm?f
phenoxy)meth
fined!50!![[
!!particulate
015"[2-(3,4-e
)]bis-phosphor
nic acid, soc
s.gov/tamis/i
yl ether!Heal
ified!Health!
iculate matt
INK("http://t
ot otherwise
t Defined!16440!3000!!Health!Interim!AIHA!20-DEC-2010!1640!300!!Health!Interim!AIHA!20-DEC-2010!1,1,1,3,5,5,5-heptamethyl-3-(trimethylsiloxy)tris
nterim!NIOH; OSHA; TLV!23-MAR-2016! ! ! ! !=HYPERLINK("http://tamis.tceq.texas.gov/tamis/index.cfm?fuseaction=toxicology.public_documents_open

- 9) Select all data (Ctrl A)
- 10) Copy (Ctrl C)
- 11) Open Excel



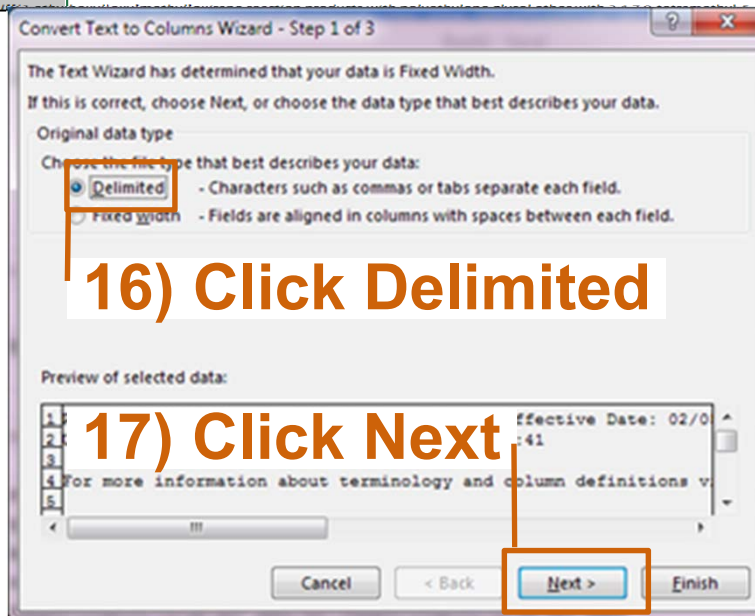
12) Select Cell A1

13) Paste data (Ctrl V)



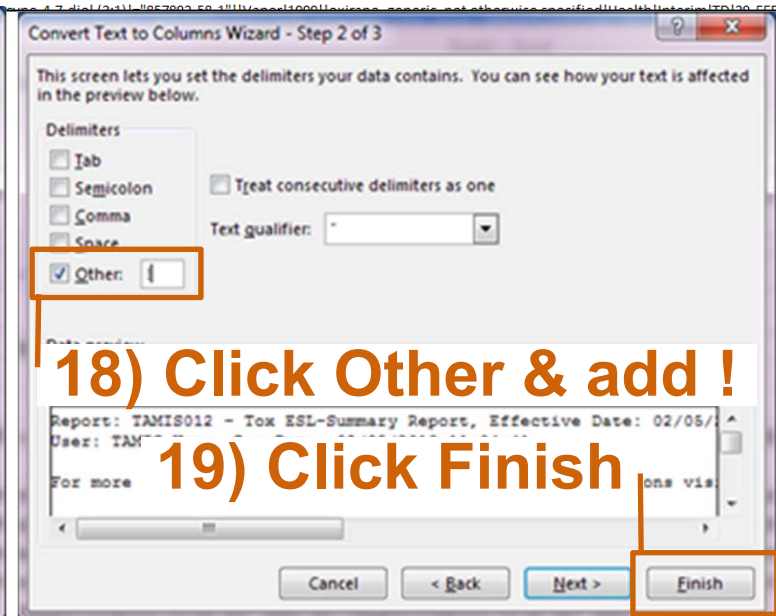
14) Go to Data Ribbon

15) Click Text to Columns



16) Click Delimited

17) Click Next



18) Click Other & add !

19) Click Finish

Book1 - Excel																			Tracie Phillips	
FILE	HOME	INSERT	PAGE LAYOUT	FORMULAS	DATA	REVIEW	VIEW	ACROBAT												
From Access	From Web	From Text	From Other Sources	Existing Connections	Refresh All	Connections	Sort	Filter	Clear	Reapply	Advanced	Text to Columns	Flash Fill	Remove Duplicates	Data Validation	Consolidate	What-If Analysis	Relationships	Group	Ungroup
Report: TAMIS012 - Tox ESL-Summary Report, Effective Date: 02/05/2018																				
A1	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Report: TAMIS012 - Tox ESL-Summary Report, Effective Date: 02/05/2018																			
2	User: TAMIS User, Run Date: 02/05/2018 11:34:41																			
3																				
4	For more information about terminology and column definitions visit http://tamis.tceq.texas.gov/tamis/index.cfm?fuseaction=report.terms&rt=3892																			
5																				
6	Substance	CAS #	Synonym	Phase	Short Term	Short Term	Surrogate	Short Term	Status	Source Co	Derived D	Long Term	Long Term	Surrogate	Long Term	Status	Source Co	Derived D	DSD	DSD Appx
7	(((2-((2-hy	129828-36-0	PM	Must Meet NAAQS	particulate	Health	Final				#####	Must Meet NAAQS	particulate	Health	Final			#####		
8	(((phosph	71329-40-1	amines, ta	Not Defin	400		amine, tal	Health	Interim	TD	#####	40		amine, tal	Health	Interim	TD	#####		
9	((tetrahy	32422-02-9	PM	Must Meet NAAQS	particulate	Health	Final				2-Feb-16	Must Meet NAAQS	particulate	Health	Final			2-Feb-16		
10	(+/-) bis(2	122-62-3		Not Defin	100			Health	Interim	TD	#####	10			Health	Interim	TD	#####		
11	(((2-ethy	857892-58-1	Vapor		1000		oxirane, g	Health	Interim	TD	#####	100		oxirane, g	Health	Interim	TD	#####		
12	(((2-ethy	857892-58-1	PM	Must Meet NAAQS	particulate	Health	Final				#####	Must Meet NAAQS	particulate	Health	Final			#####		
13	(1,2-ethar	3586-55-8	dimethylc	Vapor	1000		glycol eth	Health	Interim	TD	#####	100		glycol eth	Health	Interim	TD	#####		
14	(1,3-dime	19219-84-2		Not Defin	1250		alkyl benz	Health	Interim	TD	#####	125		alkyl benz	Health	Interim	TD	#####		
15	(1,6-hexa	67924-19-0	PM	Must Meet NAAQS	particulate	Health	Final				4-Sep-15	Must Meet NAAQS	particulate	Health	Final			4-Sep-15		
16	(1-hydrox	88394-54-1	PM	Must Meet NAAQS	particulate	Health	Final				4-Sep-15	Must Meet NAAQS	particulate	Health	Final			4-Sep-15		
17	(1-hydrox	42220-47-3	PM	Must Meet NAAQS	particulate	Health	Final				4-Sep-15	Must Meet NAAQS	particulate	Health	Final			4-Sep-15		
18	(1-hydrox	88394-55-1	p,p'-(1-hy	PM	Must Meet NAAQS	particulate	Health	Final			2-Aug-16	Must Meet NAAQS	particulate	Health	Final			2-Aug-16		
19	(1-methyl	2288-18-8		Not Defin	530	99	divinylber	Health	Interim	NIOSH; TL	4-Feb-13	53	9.9	divinylber	Health	Interim	NIOSH; TL	4-Feb-13		
20	(1-methyl	102733-01-0	PM	Must Meet NAAQS	particulate	Health	Final				2-Mar-16	Must Meet NAAQS	particulate	Health	Final			2-Mar-16		

ESL List is Ready

Book1 - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW ACROBAT

From Access From Web From Text From Other Sources Existing Connections Refresh All Edit Links Connections Sort & Filter Filter Clear Reapply Advanced Text to Columns Flash Fill Remove Duplicates Data Validation Consolidate What-If Analysis Relationships Group Ungroup Subtotal Show Detail Hide Detail

A6 Substance

Report: TAMIS 2013 Summary Report Effective Date: 03/13/2018
User: TAMIS

For more information about terminology and column definitions visit <http://www17.tceq.texas.gov/tamis/index.cfm?fuseaction=report.terms&rt=3892>

23) Go to Data Ribbon

24) Click Filter

Substance	CAS #	Synonym	Phase	Short Term ESL (ug/m3)	Short Term ESL (ppb)	Surrogate	Short Term ESL Basis	Status	Source Code(s)	Derived Date	Long Term ESL (ug/m3)	Long Term ESL (ppb)	Surrogate	Long Term ESL Basis	Status	Source Code(s)	Derived Date	DSD	DSD Appx	DSD Fact Sheet	DSD Public Cmnts	DSD Public Cmnts-24hr	In ES
((2-(2-hydroxy-1,2,3,4-tetrahydronaphthalen-1-yl)amino)ethanol)amine, tartrate salt	129828-36-0	PM	Not Defin	Must Meet NAAQS	400	particulate	Health	Final	TD	#####	Must Meet NAAQS	40	amine, tartrate salt	Health	Interim	TD	#####						ht
((2-(2-hydroxy-1,2,3,4-tetrahydronaphthalen-1-yl)amino)ethanol)amine, tartrate salt	32422-02-9	PM	Not Defin	Must Meet NAAQS	100	particulate	Health	Final	TD	2-Feb-16	Must Meet NAAQS	10	amine, tartrate salt	Health	Interim	TD	2-Feb-16						ht
((2-(2-hydroxy-1,2,3,4-tetrahydronaphthalen-1-yl)amino)ethanol)amine, tartrate salt	857892-58-1	Vapor	Not Defin	Must Meet NAAQS	1000	oxirane, glycol ether	Health	Interim	TD	#####	Must Meet NAAQS	100	amine, tartrate salt	Health	Interim	TD	#####						ht
((2-(2-hydroxy-1,2,3,4-tetrahydronaphthalen-1-yl)amino)ethanol)amine, tartrate salt	857892-58-1	PM	Not Defin	Must Meet NAAQS	1000	particulate	Health	Final	TD	#####	Must Meet NAAQS	100	amine, tartrate salt	Health	Interim	TD	#####						ht
((2-(2-hydroxy-1,2,3,4-tetrahydronaphthalen-1-yl)amino)ethanol)amine, tartrate salt	19219-84-2	Not Defin	Not Defin	Must Meet NAAQS	1250	alkyl benzene	Health	Interim	TD	#####	Must Meet NAAQS	125	amine, tartrate salt	Health	Interim	TD	#####						ht
((2-(2-hydroxy-1,2,3,4-tetrahydronaphthalen-1-yl)amino)ethanol)amine, tartrate salt	67924-19-0	PM	Not Defin	Must Meet NAAQS	1000	particulate	Health	Final	TD	4-Sep-15	Must Meet NAAQS	100	amine, tartrate salt	Health	Interim	TD	4-Sep-15						ht
((2-(2-hydroxy-1,2,3,4-tetrahydronaphthalen-1-yl)amino)ethanol)amine, tartrate salt	88394-54-1	PM	Not Defin	Must Meet NAAQS	1000	particulate	Health	Final	TD	4-Sep-15	Must Meet NAAQS	100	amine, tartrate salt	Health	Interim	TD	4-Sep-15						ht
((2-(2-hydroxy-1,2,3,4-tetrahydronaphthalen-1-yl)amino)ethanol)amine, tartrate salt	42220-47-3	PM	Not Defin	Must Meet NAAQS	1000	particulate	Health	Final	TD	4-Sep-15	Must Meet NAAQS	100	amine, tartrate salt	Health	Interim	TD	4-Sep-15						ht
((2-(2-hydroxy-1,2,3,4-tetrahydronaphthalen-1-yl)amino)ethanol)amine, tartrate salt	88394-55-1	PM	Not Defin	Must Meet NAAQS	1000	particulate	Health	Final	TD	2-Aug-16	Must Meet NAAQS	100	amine, tartrate salt	Health	Interim	TD	2-Aug-16						ht
((2-(2-hydroxy-1,2,3,4-tetrahydronaphthalen-1-yl)amino)ethanol)amine, tartrate salt	2288-18-8	Not Defin	Not Defin	Must Meet NAAQS	530	divinylbenzene	Health	Interim	NIOSH; TL	4-Feb-13	Must Meet NAAQS	53	amine, tartrate salt	Health	Interim	NIOSH; TL	4-Feb-13						ht
((2-(2-hydroxy-1,2,3,4-tetrahydronaphthalen-1-yl)amino)ethanol)amine, tartrate salt	163702-01-0	PM	Not Defin	Must Meet NAAQS	1000	particulate	Health	Final	TD	2-Mar-16	Must Meet NAAQS	100	amine, tartrate salt	Health	Interim	TD	2-Mar-16						ht
((2-(2-hydroxy-1,2,3,4-tetrahydronaphthalen-1-yl)amino)ethanol)amine, tartrate salt	163702-01-0	Vapor	Not Defin	Must Meet NAAQS	1000	polymer, glycol ether	Health	Interim	TD	2-Mar-16	Must Meet NAAQS	100	amine, tartrate salt	Health	Interim	TD	2-Mar-16						ht
((2-(2-hydroxy-1,2,3,4-tetrahydronaphthalen-1-yl)amino)ethanol)amine, tartrate salt	25640-78-2	Not Defin	Not Defin	Must Meet NAAQS	20	Health	Health	Interim	TD	24-Jul-01	Must Meet NAAQS	2	amine, tartrate salt	Health	Interim	TD	24-Jul-01						ht
((2-(2-hydroxy-1,2,3,4-tetrahydronaphthalen-1-yl)amino)ethanol)amine, tartrate salt	68333-89-1	Not Defin	Not Defin	Must Meet NAAQS	2500	cumene	Health	Interim	NIOSH; OEL	9-Oct-14	Must Meet NAAQS	250	amine, tartrate salt	Health	Interim	NIOSH; OEL	9-Oct-14						ht
((2-(2-hydroxy-1,2,3,4-tetrahydronaphthalen-1-yl)amino)ethanol)amine, tartrate salt	112-11-h	Not Defin	Not Defin	Must Meet NAAQS	2000	alcohol, glycol ether	Health	Interim	TD	1-Mar-16	Must Meet NAAQS	200	amine, tartrate salt	Health	Interim	TD	1-Mar-16						ht
((2-(2-hydroxy-1,2,3,4-tetrahydronaphthalen-1-yl)amino)ethanol)amine, tartrate salt	15890-40-1	Not Defin	Not Defin	Must Meet NAAQS	3500	dimethylcyclohexane	Health	Interim	TD	2-Apr-13	Must Meet NAAQS	350	amine, tartrate salt	Health	Interim	TD	2-Apr-13						ht
((2-(2-hydroxy-1,2,3,4-tetrahydronaphthalen-1-yl)amino)ethanol)amine, tartrate salt	216992-49-1	Not Defin	Not Defin	Must Meet NAAQS	2500	dimethylcyclohexane	Health	Interim	TD	#####	Must Meet NAAQS	250	amine, tartrate salt	Health	Interim	TD	#####						ht

Sheet1

COUNT: 28 100%



Backup Slide 11

How to Upload Substance Name/CAS

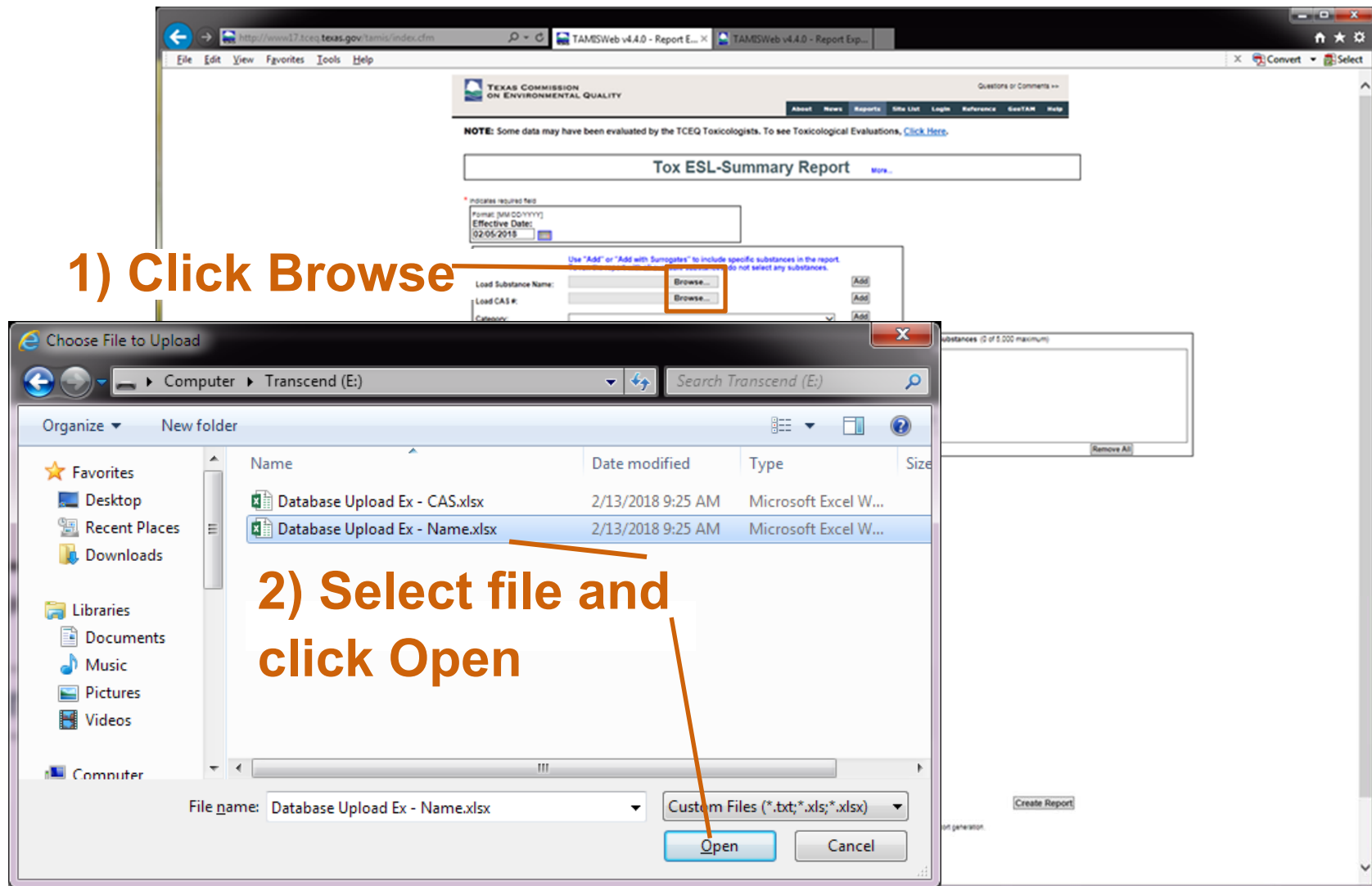
The database allows users to upload an Excel file of names or CAS RNs for searching

Names –OR– CAS RNs must be located in:

(1) Column A

(2) Sheet 1

1) Click Browse



http://www17.tceq.texas.gov/tamis/index.cfm TAMSWeb v4.4.1 - Report ...

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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NOTE: Some data may have been evaluated by the TCEQ Toxicologists. To see Toxicological Evaluations, [Click Here](#).

Tox ESL-Summary Report [More...](#)

* indicates required field

Format: [MM/DD/YYYY]
Effective Date:
02/13/2018

Use "Add" or "Add with Surrogates" to include specific substances in the report.
To run the report with all available substances, do not select any substances.

Load Substance Name: E:\Database Upload Ex - Browse... Add

Load CAS #: Browse... Add

Category: Add

Substance/Synonym:

CAS #:

Substance List:

(((2-((2-hydroxyethyl)(phosphonomethyl)amino)ethyl)imino]bis(methylene))b
(((phosphonomethyl)imino)bis((2,1-ethanediylnitrilobis(methylene)))tetrakis
((tetrahydro-2-hydroxy-2-oxido-4H-1,4,2-oxazaphosphorin-4-yl)methyl)-phos
(+/-) bis(2-ethylhexyl) sebacate
(((2-ethylhexyl)oxy)methyl]oxirane reaction products with polyethylene glyce
(1,2-ethanediybis(oxy))bismethanol
(1,3-dimethylbutyl)benzene
(1,6-hexanediybis(nitrilobis(methylene)))tetrakis-phosphonic acid, hexaamn

Add
Add with Surrogates*

Selected Substances (0 of 5,000 maximum)

Remove Remove

When selecting the filter criteria below, search results will be narrowed. To run the report without limiting the available data, do not select any filter criteria below.

http://www17.tceq.texas.gov/tamis/index.cfm

File Edit View Favorites Tools Help

TAMISWeb v4.4.1 - Report ...

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Questions or Comments >>

About

NOTE: Some data may have been evaluated by the TCEQ Toxicologists. To see Toxicology

Tox ESL-Summary Report

* indicates required field

Format: [MM/DD/YYYY]

Effective Date: 02/13/2018

Use "Add" or "Add with Surrogates" to include specific substances in the report. To run the report with all available substances, do not select any substances.

Load Substance Name: Browse... Add

Load CAS #: Browse... Add

Category: Add

Substances with a match are loaded

(1,3-dimethylbutyl)benzene
(1,6-hexanediylbis(nitrilobis(methylene)))tetrakis-phosphonic acid, hexaammonium ion products with polyethylene glycol

Add

Add with Surrogates*

No matching substance could be found for the following record

Substance
octane
m+p-xylene

Selected Substances (12 of 5,000 maximum)

1,3-butadiene
1-butene
acetylene
benzene
ethylbenzene
isobutane
n-butane
o-xylene
propane
propylene

Remove

Remove

When selecting the filter criteria below, search results will be narrowed. To run the report without limiting the available data, do not select any filter criteria below.

http://www17.tceq.texas.gov/tamis/index.cfm