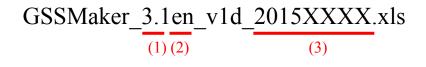
Procedure Manual for Integrated GSSMaker

1. Download Integrated GSSMaker and the ECETOC TRA Tool

- ♦ Download both Integrated GSSMaker and the ECETOC TRA Tool and save them in an appropriate location on your computer.
- ☆ The versions of Integrated GSSMaker and the ECETOC TRA Tool must match. The file name of Integrated GSSMaker contains the compatibility information for TRA Tool. The file naming rule of Integrated GSSMaker is as explained below.



- (1) The version number of the compatible TRA Tool is shown here. In this example, Integrated GSSMaker is compatible with TRA 3.1.
- (2) The language of Integrated GSSMaker is shown here. The Japanese version is indicated as "jp" and the English version as "en." In this example, Integrated GSSMaker is a Japanese version.
- (3) The version and the release date of Integrated GSSMaker are shown here.
- ☆ To download the TRA Tool, first open the download URL below and click the "Download Integrated Tool button" at the right side of the screen (indicated with a red circle in the screenshot image below). Then, send the user information to start the download.
- ✤ For detailed instruction on how to download, please refer to "GPS/JIPS Risk Assessment Use of ECETOC-TRA-" under "GPS/JIPS Seminar (Practice II)" in the Information Materials page of BIGDr.

[TRA Tool download URL] http://www.ecetoc.org/tra

🔵 🗸 http://www.ecetoc.org/tra			- 🖻 + 🛪 💌		
気に入り 🏫 🔊 おすすめサイト -	🔊 Web スライス ギャラ 🔻				
CETOC - Targeted Risk Assessment (T	RA)	a •	• 🖸 • 🖾 🖶 • A	-ジ(<u>P</u>) ・ セーフティ(<u>S</u>) ・	ツール(0) -
	OGY AND TOXICOLOGY OF CHEMIC	CALS News Links	Members' Website	Choose your	language Bearch
our coctor contractory annual		Child Child	Heritagia Headina	Coogle territoriates	
∉ Ongoing task forces	21				
√ Workshops, Symposia and other meetings	Targeted Risk Assessment Tool TRA version 3	0		TRA version 3 downle	oads
				Downloa Consumer T	
∉ Science Awards	 25-26 March 2014: Feder (BAuA), Dortmund, Germa 				iser manual
✓ Targeted Risk Assessment	Perspectives of Tier 1 Expo Generic exposure tools :	such as ECETOC 1	TRA, MEASE, EMKG-EXCO M are currently widely us	Downloa Integrated	
(TRA) History			ACH. The German Federa	Integrated Tool us	

Figure 1: TRA Tool download screen

2. Enter the File Location of the TRA Tool in Integrated GSSMaker

- ♦ Open Integrated GSSMaker. If a security warning is displayed, click the "Activate the contents" or "Activate macro" button.
- Once macro is activated, the following message appears: "Going to website BIGDr To enable linkage to the Help.Are you sure? (If you are already logged in,select "no")(Either do not affect the normal operation.)"

Please select either "Yes" or "No."

Select the "Configuration" sheet and enter the file location (path) of the TRA Tool. In the example below, the path is "C:\Users\1018795\Documents\GSSMaker\TRAv3.1/". Please do not forget to put "/" at the end of the path.

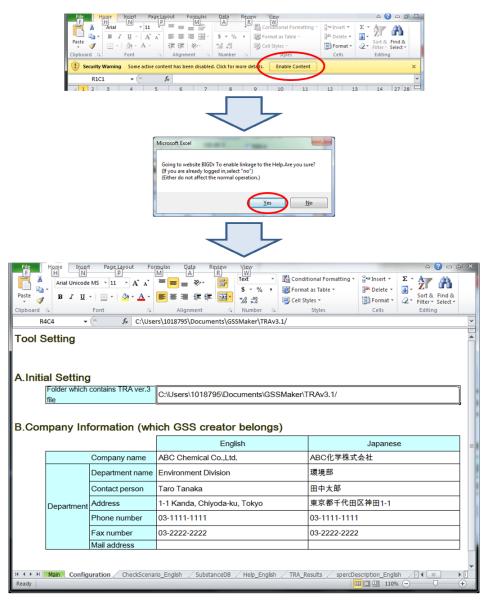


Figure 2: The Configuration sheet of Integrated GSSMaker

3. Run the Tutorials

- ♦ Integrated GSSMaker is equipped with the tutorial function in the "CheckScenario_English" sheet to help the users learn how to use the program.
- ☆ The tutorial follows the steps described in the table below. By following these steps, you can go through the general functions of Integrated GSSMaker.

Step	Actions	Notes
1)	Select "toluene" in the Chemical Substance Name field	Toluene is selected as a default. If the default has not been changed, there is no need to select again.
2)	Enter the physiochemical properties and hazard assessment values (hazard reference values)	Enter values directly in the User-specified Values column when specifying the "Human exposure via environment (total daily intake)."
[Calcu	late using Tier I – <u>simplified mode</u>]	
3)	Select "Tier I – <u>simplified</u> mode"	The <u>simplified</u> mode is selected as default. If the default has not been changed, there is no need to select again.
4)	Build scenarios	Scenarios are built as default. If the default has not been changed, there is no need to build again.
5)	Click the "Run TRA" button	The calculations take about 30 seconds.
6)	Confirm the results	 Worker scenarios: No. 1 – No. 4 resulted in RCRs < 1 → Risk is controlled Consumer scenarios: No. 1 resulted in RCR ≥ 1 → Risk is of concern (need refinement) Environmental scenarios: No. 1 – No. 2 resulted in RCRs ≥ 1 → Need refinement No. 3 resulted in an RCR < 1 → Risk is controlled
7)	A GSS cannot be created	Integrated GSSMaker is designed so that a GSS cannot be created if any scenario has $RCR \ge 1$.
	e the scenarios that resulted in RCR > 1 using the c, instead of the environmental release categories Select the Tier I – normal mode	e Specific Environmental Release Categories (SPERCs) provided by s (ERCs)) Confirm that the Tier I – normal mode is check-marked.
9)	Add a mixing rate to consumer scenario No. 1. Select SPERCs for environmental scenarios.	Change the sections indicated with a red circle in the Confirmation scenario. (Refer to the "CheckScenario_English" sheet.)
10)	Click the "Run TRA" button	The calculations take about 30 seconds.
11)	Confirm the results	Consumer scenarios: No. 1 resulted in RCR < 1
12)	A GSS cannot be created	 Environmental scenarios: No. 1 resulted in RCR ≥ 1 → Risk is of concern (needs refinement)
[Calcu (Refine of usin	l ate with the Tier II mode] e the scenarios that resulted in RCR > 1 using th g the emission factors set up for the ERCs and S	 Environmental scenarios: No. 1 resulted in RCR ≥ 1 → Risk is of concern (needs refinement) No. 2 resulted in RCR < 1 → Risk is controlled e actual amounts of releases, such as a PRTR release amount, instead SPERCS.)
[Calcu (Refine of usin	late with the Tier II mode e the scenarios that resulted in RCR > 1 using th g the emission factors set up for the ERCs and S Select the Tier II mode	 Environmental scenarios: No. 1 resulted in RCR ≥ 1 → Risk is of concern (needs refinement) No. 2 resulted in RCR < 1 → Risk is controlled - e actual amounts of releases, such as a PRTR release amount, instead SPERCs.) Confirm that the Tier II Mode is check-marked.
[Calcu (Refine of usin 13) 14)	Iate with the Tier II mode] e the scenarios that resulted in RCR > 1 using the g the emission factors set up for the ERCs and S Select the Tier II mode Add an amount of release to environmental scenario No. 1	 Environmental scenarios: No. 1 resulted in RCR ≥ 1 → Risk is of concern (needs refinement) No. 2 resulted in RCR < 1 → Risk is controlled - e actual amounts of releases, such as a PRTR release amount, instead SPERCs.) Confirm that the Tier II Mode is check-marked. Change the section indicated with a red circle in the Confirmation Scenario. (Refer to the "CheckScenario_English" sheet.)
[Calcu (Refine of usin 13)	Iate with the Tier II mode] e the scenarios that resulted in RCR > 1 using th g the emission factors set up for the ERCs and S Select the Tier II mode Add an amount of release to environmental	 Environmental scenarios: No. 1 resulted in RCR ≥ 1 → Risk is of concern (needs refinement) No. 2 resulted in RCR < 1 → Risk is controlled e actual amounts of releases, such as a PRTR release amount, instead SPERCs.) Confirm that the Tier II Mode is check-marked. Change the section indicated with a red circle in the Confirmation Scenario. (Refer to the "CheckScenario_English" sheet.) The calculations take about 2-3 minutes.
[Calcu (Refine of usin 13) 14)	Iate with the Tier II mode] e the scenarios that resulted in RCR > 1 using the g the emission factors set up for the ERCs and S Select the Tier II mode Add an amount of release to environmental scenario No. 1	 Environmental scenarios: No. 1 resulted in RCR ≥ 1 → Risk is of concern (needs refinement) No. 2 resulted in RCR < 1 → Risk is controlled - e actual amounts of releases, such as a PRTR release amount, instead SPERCs.) Confirm that the Tier II Mode is check-marked. Change the section indicated with a red circle in the Confirmation Scenario. (Refer to the "CheckScenario_English" sheet.)

Table 1: The procedure of tutorial

4. Enter the Calculation Mode, Name and Information of the Chemical Substance, and Build Scenarios

♦ Enter the name and information of a chemical substance and build scenarios in the Main sheet.

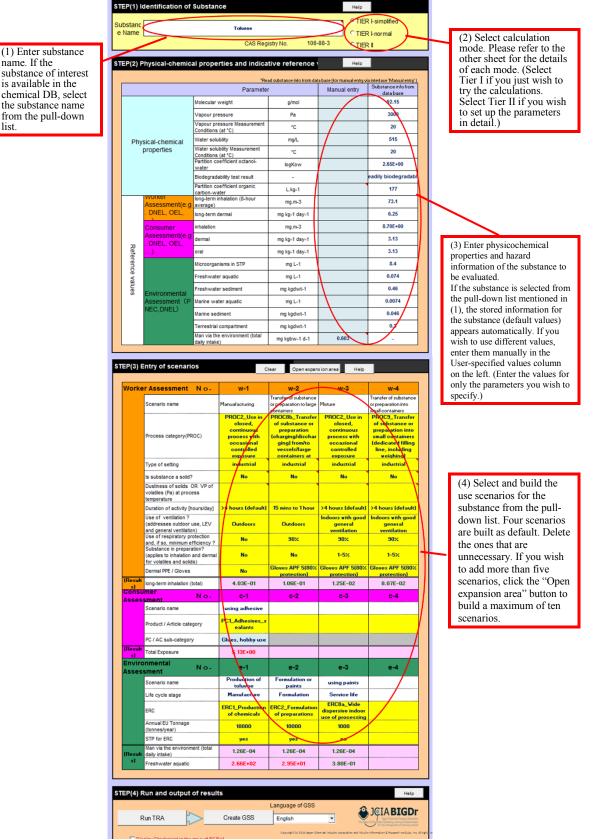
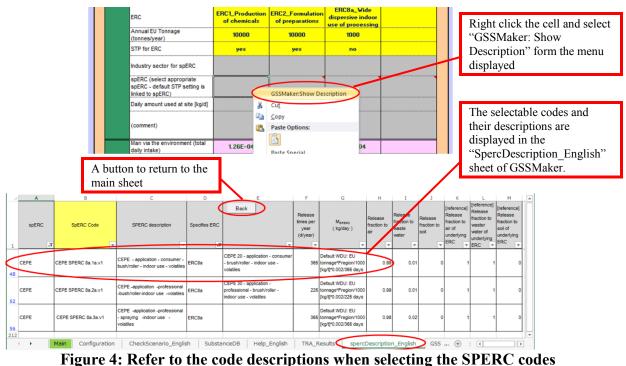


Figure 3: The "Main" sheet of Integrated GSSMaker

♦ When the "Tier I - normal mode" is selected as the calculation mode, SPERC codes can be selected as parameters for environmental exposure assessment. To see the descriptions of the codes, right click the SPERC code selection cell and choose "GSSMaker: Show Description" from the menu displayed. The list of selectable codes and their descriptions is opened in a different sheet. Select the applicable code on the main sheet after confirming the list.



(Only for Tier I - normal mode)

- ✤ Information of the substances that can be selected in the "Substance Name" field of the "Main" sheet is available in the "SubstanceDB" sheet.
- ♦ You can add and save your own substance names, physiochemical properties, and hazard information in the rows below the Substance ID 20. By selecting an added substance name which appears in the "Substance Name" field of the "Main" sheet, the information added by the user will be entered automatically.

			TRA	model p	aramet	ers										_
			Physi	cal-che	mical p	ropertie	s								Worker	
Subst			Molecul		Vapour		Water	Partition	Unit of	Biodegrad		Partition			long-term	L
	Substance name		ar	Vapour	pressure Measure	Water solubility	solubility Measure	coefficient octanol-	Partition coefficient	ability test		coefficient	Reference Source/Note		inhalation (8-hour	lor
ID			weight	pressure	measure	solubility	measure	octanol- water	octanol-water	result		organic carbon-	Source/Note	•	(8-nour average)	de
			g/mol	Pa	°C	mg/L	°C	water	logKow/Kow			L.kg-1			mg.m ⁻³	Þ
-	Japanese	English	ginoi	14		mg/E		-	logitowitow	Japanese	English	L.Ng-1	Japanese	English	ing.m	H
13	ジクロロメタン(別名4		84.93	45000		16000		1.3	logKow		not biodegradable	10	Japanese 化審法リスク		Japanese	
	1,3-ジクロロプロイ			2800		2600		2.02	logKow		not biodegradable		化審法リスク			⊢
		Benzene	78.11	10000		1700		2.16		易分解	readily biodegradable		化審法リスク		0.32	0
	1,2,4-トリメチノ	1,2,4-Trimethylbenzene	120.2	200		53		3.78	logKow		not biodegradable		化審法リスク			
	フタル酸ビス(2-エラ			3.4E-05		9.3		8.65	logKow	易分解	readily biodegradable		化審法リスク		0.24	
	メチレンビス(4 1)			0.002		64		4.5		分解された	not biodegradable	8000	小麦法リスク	す評価		
		est	92.15	3000	20				logKow						73.1	
		est2					<u> </u>				└──					+
21		est 3							logKow							+
22									logKow							+
23									logKow							t
25									logKow							t
26									logKow							
1 27 4 ⊁ H	Main Configuration	CheckScenario_E	nlish	Substanc	eDB H	ele English		Results /	spercDescripti		/9/			[◀ []]		1
ady	Main Configuration	CITECKSCETIATIO_E	IT IS SHOULD	Substant	ebb / H	CIIgiisii	<u></u>	Kesuits X	spercoescripti	on_engian			□ □ 100%			÷
				$\[]$	2	-						subs	ou can tance na	ames i	in the	
TEP(1)	Identification of Sub	istance			2			Hein				subs "Sub rows	tance na stanceI below	ames i DB" sl the St	in the heet in ubstanc	th e
TEP(1) I	Identification of Sub	istance			7	-		Help	Leimplified		•	subs "Sub rows ID 2	tance na stanceI below 0 (indic	ames i DB" sl the St	in the heet in ubstanc	th e
ubstand	ce	ostance	test		2			• TIER	l-simplified		1	subs "Sub rows	tance na stanceI below 0 (indic	ames i DB" sl the St	in the heet in ubstanc	th e
	ce		test		7	-		• TIER	I-simplified I-normal		•	subs "Sub rows ID 2	tance na stanceI below 0 (indic	ames i DB" sl the St	in the heet in ubstanc	th e
ubstand	1,3-Dichloroprop-1- Benzene	ene	test		7			• TIER	I-normal			subs "Sub rows ID 2	tance na stanceI below 0 (indic	ames i DB" sl the St	in the heet in ubstanc	th e
ubstand	Ce 1,3-Dichloroprop-1- Benzene 1,2,4-Trimethylbenz	ene	test		2				I-normal			subs "Sub rows ID 2	tance na stanceI below 0 (indic	ames i DB" sl the St	in the heet in ubstanc	th e
ubstand	1,3-Dichloroprop-1- Benzene 1,2,4-Trimethylbenz Bis(2-ethylhexan-1-)	ene ene 1) phthalate	test		2				I-normal			subs "Sub rows ID 2	tance na stanceI below 0 (indic	ames i DB" sl the St	in the heet in ubstanc	th e
ubstand Name	1,3-Dichloroprop-1- Benzene 1,2,4-Trimethylbenz Bis(2-ethylhexan-1-)	ene ene 1) phthalate	test		7			C TIER	I-normal			subs "Sub rows ID 2 fram	tance na ostanceI obelow 0 (indic e).	ames i DB" sl the Su cated b	in the heet in ubstanc by the r	th e
ubstand Name	1,3-Dichloroprop-1- Benzene 1,2,4-Trimethylbenz Bis(2-ethylhexan-1-) Phylococcoccoccoccoccoccoccoccoccoccoccocco	ene ene 1) phthalate			7			C TIER	I-normal			subs "Sub rows ID 2 fram (2) Th	tance na ostanceI below 0 (indic e).	ames i DB" sl the Su cated b d subs	in the heet in ubstanc by the r tance	th e
ubstand Name	ce 1,3-Dichloroprop-1- Benzene 1,2,4-Trimethylbenz Big(2-ethylhexan-1-) Phylorophic cyanatophe test	ene ene 1) phthalate		ameter	2		Manua	C TIER	I-normal	from data	¶ [subs "Sub rows ID 2 fram (2) Th	tance na ostanceI obelow 0 (indic e).	ames i DB" sl the Su cated b d subs	in the heet in ubstanc by the r tance	th e
ubstand Name	ce 1,3-Dichloroprop-1- Benzene 1,2,4-Trimethylbenz Big(2-ethylhexan-1-) Phylorophic cyanatophe test	ene ene 1) phthalate		ameter	2		Manua	C TIER	I-normal		¶ [subs "Sub rows ID 2' fram (2) Th name "Subs	tance na sstanceI below 0 (indic e). e addec will apj tance N	ames i DB" sl the St cated b d subs pear in Jame"	in the heet in ubstance by the r tance h the field o	th rec
ubstand Name	ce 1,3-Dichloroprop-1- Benzene 1,2,4-Trimethylbenz Big(2-ethylhexan-1-) Phylorophic cyanatophe test	ene ene hyl) phthalate hyl)methane Molecular weight Vapour pressure	Para		g/mol		Manua	C TIER	I normal	5	 [subs: "Sub rows ID 2 fram (2) Th name "Subs the M	tance na stanceI below 0 (indic e). e addec will app tance N ain shee	ames i DB" sl the Si cated b d subs pear in lame" et. By	in the heet in ubstance by the r tance n the field o selectin	th rec
ubstand Name	ce 1,3-Dichloroprop-1- Benzene 1,2,4-Trimethylbenz Big(2-ethylhexan-1-) Phylorophic cyanatophe test	ene ene 1) phthalate ny()methane Molecular weight	Para		-		Manua	C TIER	Inormal I Substance info base 92.15	5	 [subs: "Sub rows ID 2' fram (2) Th name "Subs the M the ad	tance na stanceI below 0 (indic e). e addec will app tance N ain shee ded sub	ames i DB" sl the Su cated b d subs pear in lame" et. By ostance	in the heet in ubstance by the r tance n the field o selectin e, its	th rec
TEP(2) F	1,3-Dichloroprop-1- Benzane Big(2-ethylhoxan-1- Big(2-ethylhoxan-1- text cyanatophe text 3	ene ene hyl)phthalate hyl)methane Wolecular weight Vapour pressure Vapour pressure Conditions (at *C) Water solubility	Para	ent	Pa		Manua	C TIER	Inormal Substance info base 92.15 3000	5		subs: "Sub rows ID 2' fram (2) Th name "Subs the M the ad inform	tance na ostanceI below 0 (indic e). e addec will app tance N ain shee ded sub-	ames i DB" sl the Su eated b d subs pear in lame" et. By postance	in the heet in ubstance by the r tance h the field o selecting e, its by the	th rec
TEP(2) F	ce 1,3-Dichloroprop-1- Benzene 1,2,4-Trimethylbenz Big(2-ethylhexan-1-) Phylorophic cyanatophe test	ene ene hyl)phthalate hyl)methane Molecular weight Vapour pressure Vapour pressure Vapour pressure (Vapour pressure Vater solubility	Para	ent	Pa °C		Manua	C TIER	Inormal Substance info base 92.15 3000	5		(2) Th name "Subs fram" (2) Th name "Subs the M the ad inform user w	tance na ostanceI below 0 (indic e). e addec will app tance N ain shee ded sub nation a <i>r</i> ill be e	ames i DB" sl the Su sated b d subs pear in lame" et. By pstance idded interect	in the heet in ubstance by the r tance n the field o selection e, its by the 1	th ed
TEP(2) F	1,3-Dichloroprop-1- Benzane Big(2-ethylhoxan-1- Big(2-ethylhoxan-1- text cyanatophe text 3	ene ene 1) phthalate 1) pht	Para	ent	Pa *C mg/L		Manua	C TIER	Inormal Substance info base 92.15 3000	5		(2) Th name "Subs fram" (2) Th name "Subs the M the ad inforn user w autom	tance na ostancel below 0 (indic e). e addec will app tance N ain shee ded sub nation a <i>i</i> ill be e atically	ames i DB" sl the Su sated b d subs pear in lame" et. By postance udded interect y (indi	in the heet in ubstance by the r tance n the field o selection e, its by the 1	th ed
TEP(2) F	1,3-Dichloroprop-1- Benzane Big(2-ethylhoxan-1- Big(2-ethylhoxan-1- text cyanatophe text 3	ene ene hyl)phthalate hyl)methane Vapour pressure Vapour pressure Conditions (at °C) Water solubility Water solubility Partition coefficient Biodegradability tes	Para easuremen isuremer octanol-w it result	ent	Pa *C mg/L *C		Manua	C TIER	Inormal Substance info base 92.15 3000	5		(2) Th name "Subs fram" (2) Th name "Subs the M the ad inforn user w autom	tance na ostanceI below 0 (indic e). e addec will app tance N ain shee ded sub nation a <i>r</i> ill be e	ames i DB" sl the Su sated b d subs pear in lame" et. By postance udded interect y (indi	in the heet in ubstance by the r tance n the field o selection e, its by the 1	th eco f
TEP(2) F	1,3-Dichloroprop-1- Benzane Big(2-ethylhoxan-1- Big(2-ethylhoxan-1- text cyanatophe text 3	ene ene hyl)phthalate hyl)methane Vapour pressure Vapour pressure Vapour pressure Vater solubility Water solubility Water solubility Partition coefficient Biodegradability tes Partition coefficient water	Para easuremen esuremen octanol-w it result organic c	ent	Pa *C mg/L *C		Manua	C TIER	Inormal Substance info base 92.15 3000	5		(2) Th name "Subs fram" (2) Th name "Subs the M the ad inforn user w autom	tance na ostancel below 0 (indic e). e addec will app tance N ain shee ded sub nation a <i>i</i> ill be e atically	ames i DB" sl the Su sated b d subs pear in lame" et. By postance udded interect y (indi	in the heet in ubstance by the r tance n the field o selection e, its by the 1	th eco f
TEP(2) F	1,3-Dichloroprop-1- Benzane Big(2-ethylhoxan-1- Big(2-ethylhoxan-1- text cyanatophe text 3	ene ene 1) phthalate 1) phthala	Para easuremen esuremen octanol-w it result organic c	ent	Pa °C mg/L °C logKov -		Manua	C TIER	Inormal Substance info base 92.15 3000	5		(2) Th name "Subs fram" (2) Th name "Subs the M the ad inforn user w autom	tance na ostancel below 0 (indic e). e addec will app tance N ain shee ded sub nation a <i>i</i> ill be e atically	ames i DB" sl the Su sated b d subs pear in Jame" et. By postance udded interect y (indi	in the heet in ubstance by the r tance n the field o selection e, its by the 1	th eco f

, Main Configuration CheckScenario_English SubstanceDB Help_English TRA_Results spercDescript Figure 5: How to save a new substance to the "SubstanceDB"

5. Perform the TRA Calculations and Confirm the Results

(1) Perform the TRA calculations

♦ After entering all the necessary information, press the "Run TRA" button. The TRA tool is launched and the calculations will be performed.



Figure 6: The Run TRA button on the "Main" sheet of Integrated GSSMaker

*How to stop the message about link updates
A message stating " This workbook contains links to other data sources. If you update the links, Excel attempts to retrieve the latest data. If you don't update, Excel uses the previous information " may appear by clicking the "Run TRA" button. This message appears when you open a workbook that contains links to the other workbooks. To prevent this message from appearing, please follow the steps below. Once you configure this setting, the message will not
reappear.
(1) Display a configuration file of the TRA Tool titled "ecetocTRAM.xls."
(2) From the Excel menu, select "Data \rightarrow Edit Links" to open the Edit Links dialog box.
(3) Click the "Startup Prompt" button to open the Startup Prompt dialog. Select "Don't display the alert and don't update automatic links."
(4) Save the ecetocTRAM.xls file. (Saving other configuration files for the TRA Tool is not necessary.)

(2) Confirmation and evaluation of the results

- ♦ Once the calculations are completed, the risk characterization ratios (RCRs) are updated.
- ♦ The RCRs are displayed in blue when RCR < 1 and in red when RCR ≥ 1. For the scenarios that resulted in RCR ≥ 1, refine the scenario buildings. (GSSMaker is designed so that a GSS cannot be created if any scenario has RCR ≥ 1.)
 - * The image below shows the results of an assessment performed by the ECETOC TRA 3.1. The results vary depending on the version of a TRA.

Vorke	rAssessment No-	w-1	w-2	w-3	w-4		
	Scenario name	Manuafacturing	Transfer of substance or preparation to large containers	Mixture	Transfer of substance or preparation into small containers		
	Process category(PROC)	PROC2_Use in closed, continuous process with occasional controlled exposure	PROC8b_Transfer of substance or preparation (charging/dischar ging) from/to vessels/large containers at	PROC2_Use in closed, continuous process with occasional controlled exposure	PROC9_Transfer of substance or preparation into small containers (dedicated filling line, including weighing)		
	Type of setting	industrial	industrial	industrial	industrial		
	Is substance a solid?	No	No	No	No		
	Dustiness of solids OR VP of volatiles (Pa) at process temperature						
	Duration of activity [hours/day]	>4 hours (default)	15 mins to 1 hour	>4 hours (default)	>4 hours (default)		
	Use of ventilation ? (addresses outdoor use, LEV and general ventilation)	Outdoors	Outdoors	Indoors with good general ventilation	Indoors with good general ventilation		RCR \geq 1 is displayed
	Use of respiratory protection and, if so, minimum efficiency ?	No	90%	90%	90%		red. Refine the scenar
	Substance in preparation? (applies to inhalation and dermal for volatiles and solids)	No	No	1-5%	1-5%		(A GSS cannot be created when RCR
	Dermal PPE / Gloves	No	Gloves APF 5(80% protection)	Gloves APF 5(80% protection)	Gloves APF 5(80%		remains above 1.)
(Result							
-1	long-term innalation (total)	4.03E-01	1.06E-01	1.25E-02	8.07E-02	2	
₅) Consu	mer	4.03E-01 c-1	1.06E-01 C-2	1.25E-02 C-3	8.07E-02		
₅) Consu	mer						
₅) Consu	imer No-	c-1					
_ <u>s)</u> Consu	iong-term innalation (total) mer No- sment Scenario name	C-1 using adhesive PC1_Adhesives_s					
<u>s)</u> Consu Assess	Iong-term innaiation (total) mer No. Scenario name Product / Article category PC / AC sub-category	C-1 using adhesive PC1_Adhesives_s ealants					
s) Consu Assess (Result s) Enviro	Iong-term innaiation (total) mer No. sment Scenario name Product / Article category PC / AC sub-category	C-1 using adhesive PC1_Adhesives_s ealants Glues, hobby use				>	
s) Consu Assess (Result s) Enviro	Iong-term innaiation (total) mer No- sment No- Scenario name Product / Article category PC / AC sub-category Total Exposure promental No-	C-1 using adhesive PC1_Adhesives_s ealants Glues, hobby use 5.13E+00	c-2	c-3	c-4	>	
s) Consu Assess (Result s) Enviro	Iong-erm inhalation (total) mer No- sment No- Scenario name Product / Article category PC / AC sub-category Total Exposure mmental No- sment No-	C-1 using adhesive PC1_Adhesives_s ealants Glues, hobby use 5.13E+00 e-1 Production of	c-2 e-2 Formulation or	C-3 e-3 using paints Service life	c-4		
s) Consu Assess (Result s) Enviro	Iong-term innaiation (total) mer No- sment No- Scenario name Product / Article category PC / AC sub-category Total Exposure mmental No- Scenario name Life cycle stage ERC	C-1 using adhesive PC1_Adhesives_s ealants Glues, hobby use 5.13E+00 e-1 Production of toluene	c-2 e-2 Formulation or paints	C-3 e-3 using paints	c-4		
s) Consu Assess (Result s) Enviro	Iong-term inhalation (total) mer No- sment No- Scenario name Product / Article category PC / AC sub-category Total Exposure mmental No- Scenario name Life cycle stage	C-1 using adhesive PC1_Adhesives_s ealants Glues, hobby use 5.13E+00 e-1 Production of toluene Manufacture ERC1_Production	C-2 e-2 Formulation or paints Formulation ERC2_Formulation	C-3 e-3 using paints Service life ERC8a_Wide dispersive indoor	c-4		
s) Consu Assess (Result s) Enviro	Iong-term inhalation (total) mer No. Scenario name Product / Article category PC / AC sub-category Total Exposure mmental Scenario name Life cycle stage ERC Annual EU Tonnage (tonnes/year) STP for ERC	C-1 using adhesive PC1_Adhesives_s ealants Glues, hobby use 5.13E+00 e-1 Production of toluene Manufacture ERC1_Production of chemicals	e-2 Formulation or paints Formulation ERC2_Formulation of preparations	C-3 e-3 using paints Service life ERC8a_Wide dispersive indoor use of processing	c-4		
(Result s) (Result s) Enviro Assess	Iong-term inhalation (total) mer No- Scenario name Product / Article category PC / AC sub-category Total Exposure mmental Scenario name Life cycle stage ERC Annual EU Tonnage (tonnes/year)	C-1 using adhesive PC1_Adhesives_s ealants Glues, hobby use 5.13E+00 e-1 Production of toluene Manufacture ERC1_Production of chemicals	e-2 Formulation or paints Formulation ERC2_Formulation of preparations 10000	C-3 e-3 using paints Service life ERC8a_Wide dispersive indoor use of processing 1000	c-4		
s) Consu Assess (Result s) Enviro Assess	Iong-term innaiation (total) mer No- sment Scenario name Product / Article category PC / AC sub-category Total Exposure mental Scenario name Life cycle stage ERC Annual EU Tonnage (tonnes/year) STP for ERC Man via the environment (total)	C-1 using adhesive PC1_Adhesives_s ealants Glues, hobby use 5.13E+00 e-1 Production of toluene Manufacture ERC1_Production of chemicals 10000 yes	C-2 e-2 Formulation or paints Formulation ERC2_Formulation of preparations 10000 yes	C-3 e-3 using paints Service life ERC8a_Wide dispersive indoor use of processing 1000 no	c-4		
(Result s) (Result s) Enviro Assess	Iong-term innaiation (total) mer No- sment No- Scenario name Product / Article category PC / AC sub-category Total Exposure mental No- Scenario name Life cycle stage ERC Annual EU Tonnage (tonnes/year) STP for ERC Man via the environment (total daily intake)	C-1 using adhesive PC1_Adhesives_s ealants Glues, hobby use 5.13E+00 e-1 Production of toluene Manufacture ERC1_Production of chemicals 10000 yes 1.26E-04	C-2 e-2 Formulation or paints Formulation ERC2_Formulation of preparations 10000 yes 1.26E-04	C-3 e-3 using paints Service life ERC8a_Vide dispersive indoor use of processing 1000 no 1.26E-04	c-4		
(Result s) (Result s) (Result s)	Indjerm inhalation (total) mer No- sment No- Scenario name Product / Article category PC / AC sub-category Total Exposure mental No- Scenario name Life cycle stage ERC Annual EU Tonnage (tonnes/year) STP for ERC Man via the environment (total daily intake) Freshwater aquatic	C-1 using adhesive PC1_Adhesives_s ealants Glues, hobby use 5.13E+00 e-1 Production of toluene Manufacture ERC1_Production of chemicals 10000 yes 1.26E-04 2.66E+02	C-2 e-2 Formulation or paints Formulation ERC2_Formulation of preparations 10000 yes 1.26E-04	C-3 e-3 using paints Service life ERC8a_Vide dispersive indoor use of processing 1000 no 1.26E-04	c-4		
s) Consu Asses: (Result s) Enviro Asses: (Result s)	Iong-term innaiation (total) mer No- sment No- Scenario name Product / Article category PC / AC sub-category Total Exposure mental No- Scenario name Life cycle stage ERC Annual EU Tonnage (tonnes/year) STP for ERC Man via the environment (total daily intake)	C-1 using adhesive PC1_Adhesives_s ealants Glues, hobby use 5.13E+00 e-1 Production of toluene Manufacture ERC1_Production of chemicals 10000 yes 1.26E-04 2.66E+02	C-2 e-2 Formulation or paints Formulation ERC2_Formulation of preparations 10000 yes 1.26E-04	C-3 e-3 using paints Service life ERC8a_Vide dispersive indoor use of processing 1000 no 1.26E-04	e-4		

Figure 7: The results of an assessment performed by the ECETOC TRA 3.1.

♦ When RCRs exceed 1, display and refer to the "Checkpoint" for considering how to deal with the results. Choose "Display the Checkpoint when an RCR > 1" to show the points in popup balloons.

rke	r Assessment No.	w-1	w-2	w-3	w-4
	Scenario name	Manuafacturing	Transfer of substance or preparation to large containers	Mixture	Transfer of substance or preparation into small containers
	Process category(PROC)	PROC2_Use in closed, continuous process with occasional controlled exposure	PROC8b_Transfer of substance or preparation (charging/dischar ging) from/to vessels/large containers at	PROC2_Use in closed, continuous process with occasional controlled exposure	PROC9_Transfer of substance or preparation into small containers (dedicated filling line, including veighing)
	Type of setting	industrial	industrial	industrial	"Checkpoint whe
	Is substance a solid?	No	No	No	>1" appear in pop
	Dustiness of solids OR VP of volatiles (Pa) at process temperature				balloons
	Duration of activity [hours/day]	>4 hours (default)	15 mins to 1 hour	>4 hours (default)	>4 hours (default)
	a 10 - Use of respiratory protecti	tilation] correctly? Expo on / Dermal PPE / Glove	sure amount of reducti s or Gloves correctly? Ex	on rate will vary greati xposure amount will gre	y depending on the selection
			protection	protection	
	long-term inhalation (total)	4.03E-01			8.07E-02
) 1su	No.	4.03E-01	1.06E-01	1.25E-02	8.07E-02
) nsu			1.06E-01	1.25E-02	8.07E-02
) nsu	mer No.	c-1	1.06E-01	1.25E-02	8.07E-02
) ISU SESS	mer No. sment No. Scenario name Product / Article category PC / AC sub-category ✓ ✓ Checkpoint in the case of f	C-1 using adhesive PC1_Adhesives_s ealants Glues, hobby use RCR>1(Consumer asses	1.06E-01 C-2 (sment) >	1.25E-02 c-3	8.07E-02
) nsu sess sult) /iro	mer No- sment No- Scenario name Scenario name Product / Article category PC / AC sub-category PC / AC sub-category Checkpoint in the case of f To -Did you select [PC / AC sub nmental No-	C-1 using adhesive PC1_Adhesives_s ealants Glues, hobby use RCR>1(Consumer asses	1.06E-01 C-2 (sment) >	1.25E-02 c-3	8.07E-02 C-4
) nsu sess sult) /iro	mer No. Scenario name No. Product / Article category PC / AC sub-category PC / AC sub-category Checkpoint in the case of F To -Did you select [PC / AC sub-category No.	C-1 using adhesive PC1_Adhesives_s ealants Glues_hobby use CR>1(Consumer asses -category) correctly? E e-1 Production of	1.06E-01 c-2 sment) > xposure amount will va e-2 Formulation or	1.25E-02 C-3 ry depending on not or	8.07E-02 C-4
) ISU SESS Sult) /iro	mer No. Scenario name No. Product / Article category PC / AC sub-category ✓ < Checkpoint in the case of F	CR>1(Consumer assess- category) correctly? E	1.06E-01 C-2 sment) > xposure amount will va e-2	1.25E-02 c-3 ry depending on not or e-3	8.07E-02 C-4
) ISU SESS Sult) /iro	mer No- sment Scenario name Scenario name Product / Article category PC / AC sub-category Checkpoint in the case of from the	C-1 using adhesive PC1_Adhesives_s ealants Glues_hobby use CCR>1(Consumer asses category] correctly? E Production of toluene Manufacture	1.06E-01 C-2 sment) > xposure amount will va e-2 Formulation or paints	1.25E-02 C-3 ry depending on not or e-3 using paints Service life ERC8a_Wide dispersive indoor	8.07E-02 C-4
) nsu sess sult) /iro	mer No. Scenario name Scenario name Product / Article category C/AC sub-category PC / AC sub-category Checkpoint in the case of f To - Did you select [PC / AC sub-category Scenario name N o - Scenario name Life cycle stage	C-1 using adhesive PC1_Adhesives_s ealants Glues, hobby use CCR>1(Consumer asses c-category] correctly? E Production of toluene Manufacture ERC1_Production	1.06E-01 c-2 sment) > xposure amount will va e-2 Formulation or paints Formulation ERC2_Formulation	1.25E-02 c-3 ry depending on not or e-3 using paints Service life ERC8a_Wide	8.07E-02 C-4
sess sult viro	mer No- Scenario name Scenario name Product / Article category PC / AC sub-category PC / AC sub-category Checkpoint in the case of F To - Did you select [PC / AC sub-category Scenario name No- Scenario name Life cycle stage ERC Annual EU Tonnage	C-1 using adhesive PC1_Adhesives_s ealants Glues, hobby use CR>1(Consumer asses -category] correctly? E Production of toluene Manufacture ERC1_Production of chemicals	1.06E-01 C-2 sment) > xposure amount will va e-2 Formulation or paints Formulation ERC2_Formulation of preparations	1.25E-02 C-3 ry depending on not or e-3 using paints Service life ERC8a_Wide dispersive indoor use of processing	8.07E-02 C-4
sult sess viro	mer No. Scenario name Scenario name Product / Article category Product / Article category < Checkpoint in the case of F	C-1 using adhesive PC1_Adhesives_s ealants Glues_hobby use CCR>1(Consumer asses category] correctly? E Production of toluene Manufacture ERC1_Production of chemicals 10000	1.06E-01 C-2 sment) > xposure amount will va e-2 Formulation or paints Formulation ERC2_Formulation of preparations 10000	1.25E-02 C-3 ry depending on not or e-3 using paints Service life ERC8a_Wide dispersive indoor use of processing 1000	8.07E-02 C-4
sult sess sult solt	mer No. Scenario name Scenario name Product / Article category Product / Article category < Checkpoint in the case of f	C-1 using adhesive PC1_Adhesives_s ealants Glues_hobby use CR>1(Consumer asses -category) correctly? E Production of toluene Manufacture ERC1_Production of chemicals 10000 yes	1.06E-01 C-2 sment) > xposure amount will va e-2 Formulation or paints Formulation ERC2_Formulation of preparations 10000 yes	1.25E-02 c-3 ry depending on not or e-3 using paints Service life ERC8a_Wide dispersive indoor use of processing 1000 no	8.07E-02 C-4
sult sess	mer No. Scenario name Scenario name Product / Article category Product / Article category <	C-1 using adhesive PC1_Adhesives_s ealants Glues, hobby use CR>1(Consumer asses -category] correctly? E Production of toluene Manufacture ERC1_Production of chemicals 10000 yes 1.26E-04 2.66E+02 Check th	1.06E-01 C-2 sment) > xposure amount will va e-2 Formulation or paints Formulation ERC2_Formulation of preparations 10000 yes 1.26E-04 2.95E+01 e checkbox to disp	1.25E-02 C-3 ry depending on not or e-3 using paints Service life ERC8a_Wide dispersive indoor use of processing 1000 no 1.26E-04 3.80E-01 blay	8.07E-02 C-4
) nsu sess sult) /iro sess	mer No. Scenario name Scenario name Product / Article category Product / Article category PC / AC sub-category < Checkpoint in the case of f	C-1 Using adhesive PC1_Adhesives_s ealants Glues_hobby use CR>1(Consumer asses -category) correctly? E Production of toluene Manufacture ERC1_Production of chemicals 10000 yes 1.26E-04 2.66E+02 Check th "Check p	1.06E-01 C-2 sment) > xposure amount will va e-2 Formulation or paints Formulation ERC2_Formulation of preparations 10000 yes 1.26E-04 2.95E+01	1.25E-02 C-3 ry depending on not or e-3 using paints Service life ERC8a_Wide dispersive indoor use of processing 1000 no 1.26E-04 3.80E-01 blay	8.07E-02 c-4 nly [PC/AC category] but also e-4
) nsu sess sult) /iro sess	mer No. Scenario name Scenario name Product / Article category Product / Article category <	C-1 Using adhesive PC1_Adhesives_s ealants Glues_hobby use CR>1(Consumer asses -category) correctly? E Production of toluene Manufacture ERC1_Production of chemicals 10000 yes 1.26E-04 2.66E+02 Check th "Check p	1.06E-01 C-2 sment) > xposure amount will va e-2 Formulation or paints Formulation ERC2_Formulation of preparations 10000 yes 1.26E-04 2.95E+01 e checkbox to disp	1.25E-02 C-3 ry depending on not or e-3 using paints Service life ERC8a_Wide dispersive indoor use of processing 1000 no 1.26E-04 3.80E-01 blay	8.07E-02 C-4
esult s) vviro sess sesst s)	mer No. Scenario name Scenario name Product / Article category Product / Article category PC / AC sub-category < Checkpoint in the case of f	C-1 Using adhesive PC1_Adhesives_s ealants Glues_hobby use CR>1(Consumer asses -category) correctly? E Production of toluene Manufacture ERC1_Production of chemicals 10000 yes 1.26E-04 2.66E+02 Check th "Check p	1.06E-01 C-2 sment) > xposure amount will va e-2 Formulation or paints Formulation ERC2_Formulation of preparations 10000 yes 1.26E-04 2.95E+01 e checkbox to disp	1.25E-02 C-3 ry depending on not or e-3 using paints Service life ERC8a_Wide dispersive indoor use of processing 1000 no 1.26E-04 3.80E-01 blay	8.07E-02 c-4 nly [PC/AC category] bu e-4

Figure 8: Display of the Checkpoint when RCR > 1

6. Create and Save a GPS Safety Summary (GSS)

- ☆ After the TRA calculations, confirm that all RCRs are below 1. Then, click the "Create GSS" button to create a GPS Safety Summary (GSS). A GSS is created automatically. (Diagram 10)
- ☆ A "GSS" sheet appears once the GSS is completed. The contents of the GSS can be edited. Edit and/or correct the contents as necessary. In the "Exposure" and the "Risk Management Measures" sections, the phrase options are listed on the right side of a GSS template sheet.

•				displayed o	se options is n the right sig
Item	Exposure	(late sheet cre
Workplace exposure	During operations in closed, continuous process with controlled exposure, workers be exposed to substances by skin contact or inhalation, e.g. through maintenance, sampling and equipment breakages.	may	a XX manufacturing facility or in the various industrial or	man	ed GSSMaker
	During transfer of substances or preparations from/to vessels or large containers in dedicated facilities, workers may be exposed to substances by skin contact or inhalation related to [e.g. dust, vapour, aerosols or spillage, and cleaning of equipm		Exposure can occur either in a XX manufacturing facility or in the various industrial or manufacturing facilities that	Those working with XX in manufacturing operations could be exposed during maintenance, sampling,	
	During transfer of substances or preparations from/to small containers specifically designed to minimize spillage, workers may be exposed to substances by skin con or inhalation.	tact	a XX manufacturing facility or in the various industrial or	Those working with XX in manufacturing operations could be exposed during maintenance, sampling, Y does not sein XX for	
Consumer exposure	Used as adhesives, sealants and the like, and consumers may be exposed to substances by skin contact or inhalation.		consumer use, but it is used a as a raw material to make a	YY does not sell XX for direct consumer use, but it is used as a raw material to make a variety of goods	
Environmental exposure	May be released primarily into the air and water environment from manufacturing processes of substances in industries.		environment are limited and for the most part occur only	XX is a gas and due to its physico-chemical properties, volatility is considered to be	A substance leak, sign by its strong odor, rarel poses any health risks
	May be released primarily into the air and water environment from mixing and blenc processes of substances into preparations in industries.	ing	environment are limited and for the most part occur only	XX is a gas and due to its physico-chemical properties, volatility is considered to be	A substance leak, sign by its strong odor, rarel poses any health risks
	Used indoors as processing aids for [e.g. detergents in fabric washing, machine wa liquids and lavatory cleaners, automotive and bicycle care products (polishes, lubricants, deicers), solvents in paints and adhesives or fragrances and aerosol propellants in air fresheners) by the public at large or professional use, and directly released widely into the air and water environment.	sh	for the most part occur only during production and	A substance leak, signaled by its strong odor, rarely poses any health risks	
agement measures					
Item	Risk management measures		option1 (option2	option3
Workplace exposure countermeasure	While handling, Wear appropriate personal protective equipment and apply local exh ventilation. And for substances with a threshold limit value, manage and control its environmental concentration so that it is lower than that.	aust		Apply local exhaust ventilation while handling	While handling, manage and control its environmental concentr so that it is lower than
Consumer exposure countermeasure	Use according to the product's instructions for use.			When a standard product is used properly according to	When a standard produ used properly accordin
Environmental exposure countermeasure	Install appropriate wastewater treatment facilities.			Take measures against leaks, check amount of	Install appropriate wastewater treatment

Figure 9: List of phrase options on GSS sheet

☆ The GSS and "TRA_Results" sheets will be overwritten. If you wish to keep the created contents, copy the sheets and save them as a different file. (Figure 11, 12)

	OTED(4) Due and sutnut of social		
	STEP(4) Run and output of results		Help
		Language of GSS	🐣 JĢIA BIGDr
	Run TRA Create GSS	Erglish 🔻	The Box of Information Galaxies, sharps 1 Disamination
		Copyright (c) 2014 Japan Chemical Industry Asso	ister and Msuho information & Research Institute, Inc. All right
	Display Checkpoint in the case of RCR>1		
	1		1
Microsoft Excel	X	Microsoft Ex	X
WICTOSOTE EXCEL		MICrosoft Ex	
Scenario is unprocessa Please review the scena	ble(error) or the result is RCR>1. Stopped making GSS. ario which results RCR>1.		ake GSS? If you have changed scenario or parameter after running "No" and Run TRA again.
	OK		<u>Y</u> es <u>N</u> o
		<u>+</u>	
bstance Name		Environmental Effects	
Toluene			Desults/OLD Marcele-start
eneral Statement		Effect Assessment Acute aquatic hazard	Results(GHS Classification) Toxic to aquatic life (Category2)
		Chronic (long term) aquatic ha	Harmful to aquatic life with long lasting effects (Category3)
emical Identity		Hazardous to the ozone layer Reference source/note	Classification not possible GHS Classification Result
		Reference source/hote	Sh5 Classification Result
Item Published Chemical Name	Toluene	Mass transfer property	
Trade Name	Toucho	Biodegradability test result Bioaccumulation	readily biodegradable
	Toluene 108-88-3	PBT and vPvB properties	
CAS Registry No. Other Number	108-88-3	Reference source/note	
Molecular Formula	C7H8		
		Exposure	
Structural formula Additional Information	0		- Eveneure
Structural formula Additional Information Reference Source/Note	0	Item	Exposure During operations in closed, continuous process with controlled exposure, workers may be exposed
Additional Information Reference Source/Note	0		
Additional Information	0	Item	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by skin contact or inhaldston, e.g. through maintenance, sampling and equipment During transfer of substances or preparations from to vessels or large containers in dedicated facilities, workers may be exposed to substances by skin contact or inhalation related to [e.g. dust,
Additional Information Reference Source/Note	0	Item	During operations in closed, continuous process with controlled exposure, workers may be expose to substances by skin contact or inhibition, e.g. through miniterances, sampling and equipment During transfer of substances or preparations from by vessels or large containers in relaticated facilities, workers may be exposed to substances by skin contact or inhibition misled to [a, d, durin, During transfer of substances or preparations from 5 small containers specifically designed to minimize solities, workers may be exposed to substances by skin contact or inhibition.
Additional Information Reference Source/Note es and Applicatons Primary use of products	0	Item	During operations in closed, continuous process with controlled exposure, workers may be expose to substances by skin contact or inhibition, e.g. through maintenance, sampling and equipment During transfer of substances or preparations from by vessels or large containers in dedicated facilities, workers may be exposed to substances by skin contact or inhibition reliated to (g. duct. During transfer of substances or preparations from 5 small containers specifically designed to minimize splage, workers may be exposed to substances by skin contact or inhibition. Used as adhesives, sealant and the like, and consumers may be exposed to substances by skin contact or inhibition.
Additional Information Reference Source/Note es and Applications Primary use of products ysical/Chemical Properties	0	Item Workplace exposure	During operations in closed, continuous process with controlled exposure, workers may be expose to substances by skin contact or inhibition, e.g. through maintenance, sampling and equipment During transfer of substances or preparations from by vessels or large containers in dedicated facilities, workers may be exposed to substances by skin contact or inhibition reliated to (g. duct. During transfer of substances or preparations from's small containers specifically designed to minimize spillage, workers may be exposed to substances by skin contact or inhibition. Used as adhesives, sealant and the like, and consumers may be exposed to substances by skin contact or inhibition. May be released primarly into the air and water environment from manufacturing processes of substances.
Additional Information Reference Source/Note es and Applications Primary use of products ysical/Chemical Properties item	0 Value	Item Workplace exposure Consumer exposure	During operations in closed, continuous process with controlled exposure, workers may be exposed to to substances by skin contact or inhibitions, e.g. through maintenance, sampling and equipment During transfer of substances or preparations from by vessels or large containers in dedicated facilities, workers may be exposed to substances by skin contact or inhibition related to [e.g. duck). During transfer of substances or preparations from/to small containers specifically designed to minimize adalge, workers may be exposed to substances by skin contact or inhibition. Control or inhibition and their skin, and comments may be exposed to substances by skin why be relased primarly into the air and water environment from manufacturing processes of substances in industries.
Additional Information Reference Source/Note ees and Acplications Primary use of products ysical/Chemical Properties Neem Molecular weight Vapor pressure	0	Item Workplace exposure Consumer exposure	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by also contact or inhibitions, e.g. through mainternance, sampling and equipment During transfer of substances or preparations from by vessels or large containers in disclated facilies, workers may be exposed to substances by skin contact or inhibition maintal to [e.g. during minimize splage, workers may be exposed to substances by skin contact or inhibition Used as otherwise, selects and the like, and containers may be exposed to substances by skin May be referated (infinite) and the like, and containers may be exposed to substances by skin substances in industries. We are and water environment from manufacturing processes of substances in the areas in industries.
Additional Information Reference Source/Note es and Applicatons Primary use of products ysical/Chemical Properties Item Molecular weight	0 Value 92.15 g/mol	Item Workplace exposure Consumer exposure Environmental exposure	During operations in closed, continuous process with controlled exposure, workers may be expose to substances by skin contact or inhibition, e.g. through maintenance, sampling and equipment During transfer of substances or preparations from by vessels or large containers in dedicated facilities, workers may be exposed to substances by skin contact or inhibition melida to (g. duct. During transfer of substances or preparations from's small containers specifically designed to minimize spillage, workers may be exposed to substances by skin contact or inhibition. Used as adhesives, sealant and the like, and consumers may be exposed to substances by skin contact or inhibition. May be released primarly into the air and water environment from manufacturing processes of substances. In undersities.
Additional Information Reference Source/Note es and Applications Primary use of products ysical/Chemical Properties Item Molecular weight Vapour pressure Vapour pressure Measurement Conditions (et °C) Water solubily	0 Value 92.15 g/mol 3000 Pa 20 'C 515 mgL	Item Workplace exposure Consumer exposure	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by also contact or inhibitions, e.g. through mainternance, sampling and equipment During transfer of substances or preparations from by vessels or large containers in disclated facilies, workers may be exposed to substances by skin contact or inhibition maintal to [e.g. during minimize splage, workers may be exposed to substances by skin contact or inhibition Used as otherwise, selects and the like, and containers may be exposed to substances by skin May be referated (infinite) and the like, and containers may be exposed to substances by skin substances in industries. We are and water environment from manufacturing processes of substances in the areas in industries.
Additional Information Reference SourceNote es and Applications Primary use of products ysical/Chemical Properties Item Molecular weight Vapour pressure Vapour pressure Measurement Conditions (at °C) Water solubility/Measurement Conditions (at °C)	0 Value 92.15 ginol 3000 Pa 20 °C 6 515 mg/L 20 °C	Item Workplace exposure Consumer exposure Environmental exposure Risk management measures Item	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by skin contact or inhibitions (e.g. through ministreance, sampling and equipment buring transfer of substances or preparations from by vessels or large containers in disclated tables, workers may be exposed to substances by skin contact or inhibition related to (e.g. duck). During transfer of substances or preparations from 5 small contact or inhibition related to (e.g. duck). During transfer of substances or preparations from 5 small contactor shallow. Used to substances by skin contact or inhibition related to (e.g. duck). The substances by skin contact or inhibition. May be reissed primarly into the air and water environment from multing processes of substances or substances by skin contact or inhibition. May be reissed primarly into the air and water environment from mixing and blending processes of substances and substances. Justice three washing, administre substances and the skine contactor environment from mixing and blending processes of substances are substances. Justice washing, administre substances and the skine washing, administre washing, washing washing processes of substances are substances in substances. Justice washing, administre substances in substances and the skine washing, administre substances and the skine washing model shine washing washing and blending processes of substances are produced by skine contact in the skine washing model shine washing wa
Addional Information Reference Source/Note ees and Acplications Primary use of products ysical/Chemical Properties Meter Molecular weight Vapor pressure Mesurement Condition (at "C) Water solubility Mesurement Conditions (at "C)	0 Value 92.15 g/mol 3000 Pa 20 'C 515 mgL	Item Workplace exposure Consumer exposure Environmental exposure Risk management measures Item Workplace exposure	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by skin contact or inhibitions, e.g. through mainternance, sampling and equipment During transfer of substances or preparations from by vessels or large containers in dedicated facilies, workers may be exposed to substances by skin contact or inhibition related to [e.g. during immires galage, workers may be exposed to substances by skin contact or inhibition contact or inhibition why be relased for inhibition of the air and water environment from manufacturing processes of substances in industries. The air and water environment from manufacturing processes of substances in industries. Whe handling Wear appropriate personal protective equipment and blands processes of Risk management, subondrive and brokes.
Additional Information Reference Source/Note ees and Applications Primary use of products Primary use of products Valacian Vegitt Valacian Veg	0 Value 92.15 ginol 3000 Pa 20 °C 6 515 mg/L 20 °C	Item Workplace exposure Consumer exposure Environmental exposure Environmental exposure Risk management measures Item Workplace exposure consumer exposure	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by skin contact or inhibitions (e.g. through ministreance, sampling and equipment buring transfer of substances or preparations from by vessels or large containers in disclated tables, workers may be exposed to substances by skin contact or inhibition related to (e.g. duck). During transfer of substances or preparations from 5 small contact or inhibition related to (e.g. duck). During transfer of substances or preparations from 5 small contactor shallow. Used to substances by skin contact or inhibition related to (e.g. duck). The substances by skin contact or inhibition. May be reissed primarly into the air and water environment from multing processes of substances or substances by skin contact or inhibition. May be reissed primarly into the air and water environment from mixing and blending processes of substances and substances. Justice three washing, administre substances and the skine contactor environment from mixing and blending processes of substances are substances. Justice washing, administre substances and the skine washing, administre washing, washing washing processes of substances are substances in substances. Justice washing, administre substances in substances and the skine washing, administre substances and the skine washing model shine washing washing and blending processes of substances are produced by skine contact in the skine washing model shine washing wa
Addional Information Reference Source/Note ees and Acplications Primary use of products ysical/Chemical Properties Meter Molecular weight Vapor pressure Mesurement Condition (at "C) Water solubility Mesurement Conditions (at "C)	0 Value 92.15 ginol 3000 Pa 20 °C 6 515 mg/L 20 °C	Item Workplace exposure Consumer exposure Environmental exposure Risk management measures Item Workplace exposure Consumer exposure Consumer exposure Environmental exposure	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by skin contact or inhibitions, e.g. through ministreances, sampling and equipment During transfer of substances or preparations from by vessels or large containers in dedicated disclies, workers may be exposed to substances by skin contact or inhibition related to (e.g. duck). During transfer of substances or preparations from 5 small contactor in hibition related to (e.g. duck). During transfer of substances or preparations from 5 small contactor in hibition related to (e.g. duck). During transfer of substances or preparations from 5 small contactor in hibition. Used as adhesives, selaints and the like, and consumers may be exposed to substances by skin contact or inhibition. Which we are and water environment from manufacturing processes of substances in industries. May be reased primely into the air and water environment from mixing and blending processes of substances in industries. Used indoors a sproprised in industries. Used indoors and processing adds for (e.g. deterprint in fabric weshing, machine wesh liquids and lavatory cleaners, autoindive and blocke control to processing discling and blending processes of market in the stress of the
Additional Information Reference Source/Note ess and Applications Primary use of products ystcat/Chemical Properties litem Molecular weight Vapor pressure Vapour pressure Vapour pressure Molecular weight Vapour pressure Molecular weight Vapour pressure Molecular weight Vapour pressure Molecular weight Vapour pressure Molecular weight Vapour pressure Molecular weight Vapour pressure Pressure Pressure Reference source/Inde Effect Assessment	0 Value 92.15 ginol 3000 Pa 20 °C 6 515 mg/L 20 °C	Item Workplace exposure Consumer exposure Environmental exposure Risk management measures Item Workplace exposure countemessure Consumer exposure countemessure	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by skin contact or inhibitions, e.g. through ministreances, sampling and equipment to substances by skin contact or inhibition case. Through ministreances are provided to the substances by skin contact or inhibition related to (e.g. duck). During framefer of substances or preparations from 5 small contact or inhibition related to (e.g. duck). During framefer of substances or preparations from 5 small contactor in hibition related to (e.g. duck). During framefer of substances or preparations from 5 small contactor in hibition related to (e.g. duck). During framefer of substances or preparations from 5 small contactor in hibition. Used as adhesives, exelaint and the like, and consumers may be exposed to substances by skin contact or inhibition. May be research or and water environment from mong and blending processes of substances in the preparations in industries. Used in the air and water environment from mong and blending processes of substances in the preparations in industries. The duck of preparations in industries. The duck of preparations in industries. The duck of preparations in industries. The skin contact or preparations in industries. The duck of preparations in the air and bleicycle care products (polishes, lubricants, deciers), solvents in substances with a preparations in the site of the duck of processing add Stoff (e.g. deterprint in the duck). Solvents in substances with a therearch in the site relation of the duck of processing add Stoff (e.g. deterprint in the site site of the duck), solvents in the site of the duck of the processing add Stoff (e.g. deterprint in the duck). Solvents in substances with a therearch int make unservice of the duck of the duck of the duck of the site of the duck of the duck of the site of the duck of the duck of the duck of the site of the duck of t
Additional Information Reference Source/Note ees and Applications Primary use of products Primary use of products Primary use of products Water source/Note Water source/Note Primary Conditions Primary Primary Conditions Primary Pri	0 Value 92.15 ginol 3000 Pa 20 °C 515 mg/L 20 °C 2.85 logKow	Item Workplace exposure Consumer exposure Environmental exposure Risk management measures Item Workplace exposure Consumer exposure Consumer exposure Environmental exposure	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by skin contact or inhibitions, e.g. through ministreance, sampling and equipment During transfer of substances or preparations from by vessels or large containers in dedicated disclies, workers may be exposed to substances by skin contact or inhibition related to [e.g. duck). During transfer of substances or preparations from 5 small containers specifically designed to minimize splage, workers may be exposed to substances by skin contact or inhibition. Used as adhesives, selaints and the like, and consumers may be exposed to substances by skin contact or inhibition, selaints and the like, and consumers may be exposed to substances by skin contact or inhibition and the like, and consumers may be exposed to substances by skin contact or inhibition and the like, and consumers may be exposed to substances by skin contact or inhibition and the like, and consumers may be exposed to substances by skin day be related and the like, and water environment from mong and blending processes of substances into preparations in industries. Used indoors a processing adds for [g. detergents in this rushing, machine want lipida and lavatory deaners, automotive and bicrycle care products (polishes, lubricants, decers), solvents in mission and bicrycle care products (polishes, lubricants, decers), solvents in Risk management measures While handing, Wear appropriate personal protective explament and apply local exhaust ventation. And for substances with a thereal dim to sking, manage and control its environmental Use according to the product's instructions for use.
Additional Information Reference Source/Note est and Acplications Primary use of products Primary use of products Vascal/Chemical Properties Ident Molecular weight Vapor pressure Vapor pressure Vapor pressure Vapor pressure Vapor pressure Molecular weight Vapor pressure Molecular weight Vapor pressure Molecular weight Vapor pressure Academic (at 'C) Water solubility Mater solub	0 Value 92.15.g/mol 3000 Pa 20.1C 515 mgL 2.05 logKow 2.65 logKow Not applicable	Item Workplace exposure Consumer exposure Environmental exposure Environmental exposure Consumer exposure Consumer exposure Consumer exposure Consumer exposure Consumer exposure Consumer exposure	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by skin contact or inhibitions, e.g. through ministreance, sampling and equipment During transfer of substances or preparations from by vessels or large containers in dedicated disclies, workers may be exposed to substances by skin contact or inhibition related to [e.g. duck). During transfer of substances or preparations from 5 small containers specifically designed to minimize splage, workers may be exposed to substances by skin contact or inhibition. Used as adhesives, selaints and the like, and consumers may be exposed to substances by skin contact or inhibition, selaints and the like, and consumers may be exposed to substances by skin contact or inhibition and the like, and consumers may be exposed to substances by skin contact or inhibition and the like, and consumers may be exposed to substances by skin contact or inhibition and the like, and consumers may be exposed to substances by skin day be related and the like, and water environment from mong and blending processes of substances into preparations in industries. Used indoors a processing adds for [g. detergents in this rushing, machine want lipida and lavatory deaners, automotive and bicrycle care products (polishes, lubricants, decers), solvents in mission and bicrycle care products (polishes, lubricants, decers), solvents in Risk management measures While handing, Wear appropriate personal protective explament and apply local exhaust ventation. And for substances with a thereal dim to sking, manage and control its environmental Use according to the product's instructions for use.
Additional information Reference Source/Note ees and Applications Primary use of products Primary use of products Valor pressure Note and the source of the source of the source Note and the source of the source of the source of the source Note soubling Nater soubling Nater soubling Nater soubling Nater soubling Nater soubling Nater soubling Nater soubling Nater soubling Nater south Pleasurement Conditions (at "C) Partition control Neasurement Acute on the source involve Bath effects Effect Assessment Acute on to source involve Acute inhibition toxicity (Asses) Acute inhibition toxicity (Napour Acute inhibition to	0 Value 22.15 gmod 3000 Pa 20 °C 615 mg/L 2.0 °C 2.65 logKow Not applicable Not applicable Not applicable Not applicable	Item Workplace exposure Consumer exposure Environmental exposure Environmental exposure consumer exposure consumer exposure consumer exposure consumer exposure constremeasure Environmental exposure constremeasure Environmental exposure constremeasure Environmental exposure constremeasure Environmental exposure constremeasure Environmental exposure constremeasure Environmental exposure constremental exposure constremental exposure constremental exposure constremental exposure constremental exposure constremental exposure constremental exposure environmental exposure en	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by skin contact or inhibitions, e.g. through mainternance, sampling and equipment During transfer of substances or preparations from by vessels or large containers in disclated facilies, workers may be exposed to substances by skin contact or inhibition minimes palage, workers may be exposed to substances by skin contact or inhibition. Unimities palage, workers may be exposed to substances by skin contact or inhibition workers in the standard or standard by a standard by a standard by a standard workers in industries. The air and water environment from manufacturing processes of substances in industries. Whe handling, Wear appropriate personal protective equipment and blanding processes of substances in the standard by a standard by skin contact or inhibition. I contact or inhibition in manufacturing processes of substances in industries. User indoors as processing all Star (c) determing in bibrio washing, machine wash liquids and lavatory cleaners, audinotive and broyce care products (polates, lubricants, decers), solvents in the standard by a start of the start and water environment from mixing and blanding processes of substances with a threshold that water, annage and control its environmental lavatory cleaners, audinotive and bicycle care products (polates, lubricants, decers), solvents in the handling. Wear appropriate personal protective equipment and apply local exhaust ventilation. And for substances with a threshold time value, manage and control its environmental use according to the product's instructions for use.
Addienal information Reference Source/Note ess and Applications Premary use of products Premary use of products ystcal/Chemical Properties Item Molecular weight Vapour pressure Vapour pressure Vapour pressure Vapour pressure Addie addie addie Note of addie addie Note of addie Note of addie Partition coefficient octand-wate Refects Elfect Assessment Acute onal toxicly/Vapour Reserver Acute inhalition toxicly/Vapour Reserver Acute inhalition toxicly/Vapour Reserver Res	Value 9. Value 92.15 g/mol 3000 Pa 20 °C 515 mg/L 20 °C 2.65 logkow Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable	Item Workplace exposure Consumer exposure Environmental exposure Environmental exposure Consumer exposure Consumer exposure Consumer exposure Environmental exposure Consumer exposure Environmental exposure Environmental exposure Consumer exposure Environmental exposure Consumer exposure Environmental exposure Environmental exposure Construmental exposure Construmental exposure Environmental exposure Construmental exposure Construmental exposure Environmental exposure Environmental exposure Environmental exposure Construmental exposure Environmental exposure Environmen	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by skin contact or inhibitions, e.g. through mainternance, sampling and equipment During transfer of substances or preparations from by vessels or large containers in disclated facilies, workers may be exposed to substances by skin contact or inhibition minimes palage, workers may be exposed to substances by skin contact or inhibition. Unimities palage, workers may be exposed to substances by skin contact or inhibition workers in the standard or standard by a standard by a standard by a standard workers in industries. The air and water environment from manufacturing processes of substances in industries. Whe handling, Wear appropriate personal protective equipment and blanding processes of substances in the standard by a standard by skin contact or inhibition. I contact or inhibition in manufacturing processes of substances in industries. User indoors as processing all Star (c) determing in bibrio washing, machine wash liquids and lavatory cleaners, audinotive and broyce care products (polates, lubricants, decers), solvents in the standard by a start of the start and water environment from mixing and blanding processes of substances with a threshold that water, annage and control its environmental lavatory cleaners, audinotive and bicycle care products (polates, lubricants, decers), solvents in the handling. Wear appropriate personal protective equipment and apply local exhaust ventilation. And for substances with a threshold time value, manage and control its environmental use according to the product's instructions for use.
Additional information Reference Source/Note ess and Acplications Primary use of products Primary use of products ysical/Chemical Properties Idem Molecular weight Vapor pressure Vapor pressure (condition (et °C) Water solubility Water solubility Water solubility Mater solubility Beffect Assessment Acute inhelation toxicity Casessi Acute inhelation toxicity Mater Solubility Mater Solubility Mater Solubility Mater Solubility Mater Solubility Mater Solubility Mater Solubility Solubility Solubility Solubility Mater Solubility Mater Solubility Solubility Mater Solubility Solubility Mater Solubility Mater Solubility Solubility Mater Solubility Mater Solubility Mater Solubility Mater Solubility Solubility Mater Solubility Mater Solubility	Value Value 22.15 gimol 3000 Pa 20 °C 515 mgL 20 °C 2.65 kgktow Not applicable Not applicable Cause give initiation (Category 2) Cause give initiation (Category 2) Cause give initiation (Category 2)	Item Workplace exposure Consumer exposure Environmental exposure Environmental exposure Risk managément measures Item Workplace exposure Contamine exposure Environmental exposure Envi	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by skin contact or inhibitions, e.g. through mainternance, sampling and equipment During transfer of substances or preparations from by vessels or large containers in disclated facilies, workers may be exposed to substances by skin contact or inhibition minimes palage, workers may be exposed to substances by skin contact or inhibition. Unimities palage, workers may be exposed to substances by skin contact or inhibition workers in the standard or standard by a standard by a standard by a standard workers in industries. The air and water environment from manufacturing processes of substances in industries. Whe handling, Wear appropriate personal protective equipment and blanding processes of substances in the standard by a standard by skin contact or inhibition. I contact or inhibition in manufacturing processes of substances in industries. User indoors as processing all Star (c) determing in bibrio washing, machine wash liquids and lavatory cleaners, audinotive and broyce care products (polates, lubricants, decers), solvents in the standard by a start of the start and water environment from mixing and blanding processes of substances with a threshold that water, annage and control its environmental lavatory cleaners, audinotive and bicycle care products (polates, lubricants, decers), solvents in the handling. Wear appropriate personal protective equipment and apply local exhaust ventilation. And for substances with a threshold time value, manage and control its environmental use according to the product's instructions for use.
Additional Information Reference Source/Note ees and Applications Primary use of products Primary use of products Primary use of products Primary use of products Water additional Properties Water additional Properties Water addition Pressure Water addition Pressure Water addition Pressure Reference source/Inde Sath effects Effect Assessment Acute and toxicly Costs Acute Industria toxicly Costs Acute Industria toxicly Costs Acute Industria toxicly Costs Acute Industria Reference Source/Inde Sath effects Effect Assessment Acute and toxicly Costs Acute Industria Costs Primary Industria Costs Primary Industria Costs Primary Industria Costs Primary Industria Primary	Value Value 92.15 ginol 92.15 ginol 92.15 ginol 3000 Pa 20 °C 5515 mg/L 20 °C 2.65 logKow Not applicable Not applicable Not applicable Causes sion initiation (Category 2) Causes experimation (Category 28) Causes sion initiation (Category 28) Causes sion init	Item Workplace exposure Consumer exposure Environmental exposure Environmental exposure Consumer exposu	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by skin contact or inhibitions (e.g. through ministrances, sampling and equipment During transfer of substances or preparations from by vessels or large containers in dedicated disclike, workers may be exposed to substances by skin contact or inhibition related to (e.g. duc). During ransfer of substances or preparations from 5 small containers specifically designed to minimize splage, workers may be exposed to substances by skin contact or inhibition. Used as adhesives, selaints and the like, and consumers may be exposed to substances by skin contact or inhibition. May be insessed primally, into the air and valeter environment from mong and blending processes of substances into preparations in industries. Used indoors and the like, and consumers may be exposed to substances by skin contact or inhibition. May be insessed primally, into the air and valeter environment from mong and blending processes of substances into preparations in industries. Used indoors approximate the industries. While handling, Wear appropriate personal protective equipment and apply local exhaust verifiation. And for substances with attended in the substances. Install appropriate vasterwater treatment facilities. Detail Detail
Addional information Reference Source/Note ees and Acplications Primary use of products Primary use of products Primary use of products Vapor pressure Molecular weight Vapor pressure Vapour pressure Condition (all*C) Water solubility Water solubility Water solubility Mater solubility Mater solubility Mater solubility Bartion code (all*C) Partion code (all*C) Effect Assessment Acute inhabition toxicity(Gases) Acute inhabition	Value Value 22.15 gimol 3000 Pa 20 °C 515 mgL 20 °C 2.65 kgktow Not applicable Not applicable Cause give initiation (Category 2) Cause give initiation (Category 2) Cause give initiation (Category 2)	Item Workplace exposure Consumer exposure Environmental exposure Environmental exposure Consumer exposu	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by skin contact or inhibitions (e.g. through ministrances, sampling and equipment During transfer of substances or preparations from by vessels or large containers in dedicated disclike, workers may be exposed to substances by skin contact or inhibition related to (e.g. duc). During ransfer of substances or preparations from 5 small containers specifically designed to minimize splage, workers may be exposed to substances by skin contact or inhibition. Used as adhesives, selaints and the like, and consumers may be exposed to substances by skin contact or inhibition. May be insessed primally, into the air and valeter environment from mong and blending processes of substances into preparations in industries. Used indoors and the like, and consumers may be exposed to substances by skin contact or inhibition. May be insessed primally, into the air and valeter environment from mong and blending processes of substances into preparations in industries. Used indoors approximate the industries. While handling, Wear appropriate personal protective equipment and apply local exhaust verifiation. And for substances with attended in the substances. Install appropriate vasterwater treatment facilities. Detail Detail
Additional information Reference Source/Note ees and Applications Primary use of products Primary use of products Primary use of products Valoor pressure Molecular weight Valoor pressure Valoor griss Valoor pressure Reference Source/Note Bartion code/(Cases) Conditions (at*C) Paration code/(Cases) Bartion code/(Cases) Case initiation toxicity/Cases) Case initiation toxicity/Cases) Case initiation toxicity/Cases) Case of an elimitation toxicity/Cases) Site care solucition Site case demand toxicity Site care solucition Site case demand toxicity Site care solucity Site care and toxicity Site care and toxicity Site care and toxicity Cases of the elimitation Case of the elimitation toxicity/Cases Case demand toxicity Site care and toxicity Case of the elimitation Case of the elimitation toxicity Case of the elimitation case of the elimitat	Value Value	Item Workplace exposure Consumer exposure Environmental exposure Environmental exposure Consumer exposure consumer exposure consumer exposure Environmental exposure Consumer exposure Environmental exposure Environmental exposure Consumer exposure Environmental exposure Environmental exposure Environmental exposure Environmental exposure Consumer exposure Environmental exposure Environmen	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by skin contact or inhibitions, e.g. through maintenance, sampling and equipment During transfer of substances or preparations from by vessels or large containers in dedicated disclies, workers may be exposed to substances by skin contact or inhibition minimes ability, where may be exposed to substances by skin contact or inhibition. During transfer of substances or preparations from the same specifically designed to minimes ability, where may be exposed to substances by skin contact or inhibition. Any be released primarly into the air and water environment from manufacturing processes of substances in industries. Where handling, were and water environment from mong and blinding processes of substances in the contact is a distances with a there were informed to the during. Where handling, Wear appropriate personal protective equipment and apply local exhaust ventilation. And for substances with a threshold there values may be released by the product's instructions for use. Install appropriate westerwater treatment facilities.
Additional Information Reference Source/Note ess and Applications Primary use of products Primary use of products Promary use of products Item Water solution Water solution Partition coefficient Partition coefficient Partition coefficient octand-wate Reference source/Note Sath enfects Effect Assessment Acute onal toxicity/Coeses Acute Inhalation Bion semisation Bion sem	Value Value	Item Workplace exposure Consumer exposure Environmental exposure Environmental exposure Contemessure Contemessure Consumer exposure Consumer exposure Consumer exposure Consumer exposure Consumer exposure Contemessure Environmental exposure Contemessure Contemessure Regulatory Information Laws and Regulations Chemical Substances Control Law Act on Continuation Eric Service Act Industrial Substances Control Law Chemical Substances Control Chemical	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by skin contact or inhibitions, e.g. through maintenance, sampling and equipment During transfer of substances or preparations from by vessels or large containers in dedicated disclies, workers may be exposed to substances by skin contact or inhibition minimes ability, where may be exposed to substances by skin contact or inhibition. During transfer of substances or preparations from the same specifically designed to minimes ability, where may be exposed to substances by skin contact or inhibition. Any be released primarly into the air and water environment from manufacturing processes of substances in industries. Where handling, were and water environment from mong and blinding processes of substances in the contact is a distances with a there were informed to the during. Where handling, Wear appropriate personal protective equipment and apply local exhaust ventilation. And for substances with a threshold there values may be released by the product's instructions for use. Install appropriate westerwater treatment facilities.
Additional information Reference Source/Note ess and Applications Premary use of products Premary use of products ystcat/Chemical Properties Item Modecdar weight Vapour pressure Acute entation Condition (at 'C) Partition costicly/Capour Acute entation Siste sensitiation Siste sen	Value Value \$2.15 g/mol 3000 Pa 20 'C 515 mg/L 20 'C 2.65 logKow Not apploable Not appl	Item Workplace exposure Consumer exposure Environmental exposure Environmental exposure Contermeasure Contermeasure Consumer exposure Contermeasure Conterme	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by skin contact or inhibitions, e.g. through ministreances, sampling and equipment During transfer of substances or preparations from by vessels or large containers in dedicated disclike, workers may be exposed to substances by skin contact or inhibition related to (e.g. duck). During transfer of substances or preparations from 5 small containers specifically designed to minimize splage, workers may be exposed to substances by skin contact or inhibition. Used as adhesives, selaints and the like, and consumers may be exposed to substances by skin contact or inhibition. We show that and water environment from manufacturing processes of substances in industries. While handling, Wear appropriate presonal protective equipment and apply local exhaust witaktion, and for substances while theread with the substances by skin contact or inhibition. While handling, Wear appropriate presonal protective equipment and apply local exhaust witaktion. And for substances which theread limit value, manage and control is environmental used across and stread extra the related limit value, manage and control is environmental used across and stread extra theread limit value, manage and control is environmental used across and stread extra theread limit value, manage and control is environmental used across and stread limit value, manage and control is environmental used across and stread limit value, manage and control is environmental used across and stread limit value, manage and control is environmental used across and stread limit value, manage and control is environmental used across and stread limit value, manage and control is environmental used across and stread limit value, manage and control is environmental used across and stread limit value, manage and control is environmental used across and stread limit value, manage and control is environmental used across and stread limit value, manage and control is environme
Additional Information Reference Source/Note ees and Applications Primary use of products Primary use of products Primary use of products Primary use of products Water Properties Item Melecular weight Vapor pressure Measurement Conditions (art C) Water policitation Reference source/note Reference Reference source/note Reference Reference source/note Reference Refe	Value Value 92.15 ginol 92.15 ginol 92.15 ginol 3000 Pa 20 °C 555 mg/L 20 °C 2.65 kg/Kow 2.65 kg/Kow Not applicable Not applicable Not applicable Causes sion initiation (Category 4) Not applicable Causes and initiation (Category 2) Cause derived in the value of the	Item Workplace exposure Consumer exposure Environmental exposure Environmental exposure Contemessure Contemessure Consumer exposure Consumer exposure Consumer exposure Consumer exposure Consumer exposure Contemessure Environmental exposure Contemessure Contemessure Regulatory Information Laws and Regulations Chemical Substances Control Law Act on Continuation Eric Service Act Industrial Substances Control Law Chemical Substances Control Chemical	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by skin contact or inhibitions, e.g. through ministreances, sampling and equipment During transfer of substances or preparations from by vessels or large containers in dedicated disclies, workers may be exposed to substances by skin contact or inhibition related to (e.g. duck). During transfer of substances or preparations from 5 small containers specifically designed to minimize splage, workers may be exposed to substances by skin contact or inhibition. Used as adhesives, selaints and the like, and consumers may be exposed to substances by skin contact or inhibition. We show that we are vested to substances by skin contact or inhibition. We have the same discover and the like, and consumers may be exposed to substances by skin contact or inhibition. We show that we are vested in the first manufacturing processes of substances in industries. While handling, Wear appropriate presonal protective equipment and apply local exhaust writelation. And for substances with a transfer inhibition washing, masked environment final appropriate wastewater treatment facilities. While handling, Wear appropriate presonal protective equipment and apply local exhaust writelation. And for substances with a transfer limition washing masked and the wear install appropriate wastewater treatment facilities. Detail Detail
Additional information Reference Source/Note ees and Applications Primary use of products Primary use of products Primary use of products Primary use of products Water Source/Note Molecular weight Vapor pressure Measurement Conditional (a ⁺ C) Weiter source/Note Reference source/Note Reference/Note Re	Value Value \$2.15 g/mol 3000 Pa 20 'C 515 mg/L 20 'C 2.65 logKow Not apploable Not appl	Item Workplace exposure Consumer exposure Environmental exposure Environmental exposure Consumer exposure Consumer exposure Consumer exposure Consumer exposure Environmental exposure Consumer exposure Environmental exposure Environmental exposure Consumer exposure Environmental exposure Consumer exposure Environmental exposure Consumer exposure Environmental exposure Environmental exposure Environmental exposure Consumer exposure Consumer exposure Environmental exposure Consumer exposure Laws and Regulations Chemical Subtances Control Law Ar Pollution Control Act Chemical Subtances Control Company name Environmental Enviro	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by skin contact or inhibitions, e.g. through maintenance, sampling and equipment During transfer of substances or preparations from by vessels or large containers in dedicated facilies, workers may be exposed to substances by skin contact or inhibition. During transfer of substances or preparations from 5 small containers specifically designed to minimize ablage, which may be exposed to substances by skin contact or inhibition. Any be reased primarly into the air and water environment from manufacturing processes of substances in displayments in industries. While handling, Wear appropriate personal protective equipment and blands processes of substances in the processing add stor get descriptions from the skin or display the reased substances in the sampling of the air and water environment from mong and blands processes of substances in the processing add stor get description is fabric washing, machine wash liquids and larvatory dearers, autonotive and broycle care products (polishes, lubricante, decers), solvents in the substances with a threahold in value, manage and control its environmental larvatory dearers, autonotive and broycle care products (polishes, lubricante, decers), solvents in listel appropriate personal protective equipment and apply local exhaust ventilation. And for substances with a threahold link value, manage and control its environmental larvatory deares assessed for fuelse. Defail ABC Chemical of Specific Chemical Substances in the Environment and Promotion of Improvements to ABC Chemical Co. Ltd.
Additional Information Reference Source/Note ees and Applications Primary use of products Primary use of products Primary use of products Primary use of products Water Properties Item Melecular weight Vapor pressure Measurement Conditions (art C) Water policitation Reference source/note Reference Reference source/note Reference Reference source/note Reference Refe	Value Value 92.15 ginol 92.15 ginol 92.15 ginol 3000 Pa 20 °C 555 mg/L 20 °C 2.65 kg/Kow 2.65 kg/Kow Not applicable Not applicable Not applicable Causes sion initiation (Category 4) Not applicable Causes and initiation (Category 2) Cause derived in the value of the	Item Workplace exposure Consumer exposure Environmental exposure Environmental exposure Risk management measures Item Workplace exposure Consumer exposure Consumer exposure Environmental exposure Contermeasure Environmental Substances Control Law and Regulations Chemical Substances Control Act on Confination, etc. of Rel Contact Information within Compare	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by skin contact or inhibitions, e.g. hrough maintenance, sampling and degument During transfer of substances or preparations from by vessels or large containers in disclated facilies, workers may be exposed to substances by skin contact or inhibition related to (e.g. during minice splage, workers may be exposed to substances by skin contact or inhibition large standard explanations and the like, and containers may be exposed to substances by skin May be referated from the two explanations from manufacturing processes of substances in industries. Why be referated from the like, and containers may be exposed to substances by skin May be referated from the like, and containers may be explanation and blending processes of substances in industries. Why be referated from the like of the like in the two explanations and blending processes of substances in preparations in industries. Whis handing, Wear appropriate personal profective explanation wash liquids and like according to the products instructions for use. Install appropriate wastewater treatment facilities. Defail Defail Planation of Specific Chemical Substances in the Environment and Planation of Improvemental Like according to the products instructions for use. Install appropriate wastewater treatment facilities. Planation of Specific Chemical Substances in the Environment and Planation of Improvements to ABC Chemical Co., Ltd. Environment Division
Additional Information Reference Source/Note ees and Applications Primary use of products Primary use of products Primary use of products Primary use of products Water Properties Item Melecular weight Vapor pressure Measurement Conditions (art C) Water policitation Reference source/note Reference Reference source/note Reference Reference source/note Reference Refe	Value Value 92.15 ginol 92.15 ginol 92.15 ginol 3000 Pa 20 °C 555 mg/L 20 °C 2.65 kg/Kow 2.65 kg/Kow Not applicable Not applicable Not applicable Causes sion initiation (Category 4) Not applicable Causes and initiation (Category 2) Cause derived in the value of the	Item Workplace exposure Consumer exposure Environmental exposure Environmental exposure Consumer exposure Environmental exposure Consumer	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by also contact or inhibitions, e.g. through maintenance, sampling and equipment During transfer of substances or preparations from by vessels or large containers in disclated facilies, workers may be exposed to substances by site contact or inhibition related to [e.g. during immires palage, workers may be exposed to substances by site contact or inhibition transfer of substances or preparations from 5 small containers specifically designed to immires palage, workers may be exposed to substances by site contact or inhibition. Used to inhibitions and the like, and containers may be exposed to substances by site makes be exposed to substances by site contact or inhibition. Used to inhibitions and the like, and containers may be exposed to substances by site substances in industries. Why be related primarily rink the ar and watter environment from mung and blending processes of substances in the processing all 50 (c) disters, the factor shallow in the processing all 50 (c) disters, substances in biguiting substances in programs) rink the are and watter environment from moving and blending processes of substances in the processing all 50 (c) disters, substances in the processing all 50 (c) disters, substances in the substances while handing. Wear appropriate personal protective equipment and apply cold exhaust ventilation. And for substances with a threshold intra-value, nanage and control its environmental Use according to the product's instructions for use. Instal appropriate wasterwatter treatment facilities.
Additional Information Reference Source/Note ees and Applications Primary use of products Primary use of products Primary use of products Primary use of products Water Properties Item Melecular weight Vapor pressure Measurement Conditions (art C) Water policitation Reference source/note Reference Reference source/note Reference Reference source/note Reference Refe	Value Value 92.15 ginol 92.15 ginol 92.15 ginol 3000 Pa 20 °C 555 mg/L 20 °C 2.65 kg/Kow 2.65 kg/Kow Not applicable Not applicable Not applicable Causes sion initiation (Category 4) Not applicable Causes and initiation (Category 2) Cause derived in the value of the	Item Workplace exposure Consumer exposure Environmental exposure Environmental exposure Consumer exposure Consumer exposure Consumer exposure Consumer exposure Consumer exposure Environmental exposure Environmental exposure Environmental exposure Environmental exposure Consumer exposure Environmental exposure Environmental exposure Consumer exposure Environmental exposure Environmental exposure Environmental exposure Consumer exposure Environmental exposure Environmente Environmente Environmente Environmente Environmente Environmente Environment	During operations in closed, continuous process with controlled exposure, workers may be exposed to substances by skin contact or inhibitions, e.g. through maintenance, sampling and equipment During transfer of substances or preparations from by vessels or large containers in dedicated facilies, workers may be exposed to substances by skin contact or inhibition mainters ability, which may be exposed to substances by skin contact or inhibition. During transfer of substances or preparations from/s small containers subclicatily designed to mainters ability, which may be exposed to substances by skin contact or inhibition. Contact or inhibition. May be reased primarly into the air and water environment from manufacturing processes of substances in dispatches. Builden individes and water environment from mong and blinding processes of substances in dispatches. Used indoors a substances with a threshold in the skin. Risk management measures While handing. Wear appropriate personal protective equipment and apply local exhaust verifiation. And for substances with a threshold intrusture, manage and control its environmental Lose according to the product's instructions for use. Instail appropriate personal protective equipment and apply local exhaust verifiation. And for substances with a threshold intrusture, manage and control its environmental Lose according to the product's instructions for use. Instail appropriate wastewater treatment facilities.

Figure 10: GSS Creation Process of Integrated GSSMaker

1 2	3 4 5 6	7 8 9	10 11 12 1	.3 14	4 15	16	17	18	19	
1 Substance	Name									
2										
3	Toluene									
4										
5 General St	lalement									
6 7										
8										
9										
10 Chemical I	Identity									
11										
12	Item									
13	Published Chemical Name	Toluene		I	nsert					
14	Trade Name				elete					
15	Chemical Substance Name	Toluene		R	ename		<u> </u>			
16	CAS Registry No.	108-88-3			love or Co	ру	<u> </u>			
17	Other Number Molecular Formula	С7Н8		Q 1	iew Code		-		-	
18	Structural formula	0			rotect She	et	-			
19	Additional Information	Ť		- I	ab Color					
20 21	Reference Source/Note				lide	1	L			
22		1		- <u>u</u>	<u>I</u> nhide	(1)				e "GSS" sheet tab
an Lleon and	Applications ubstanceDB / Help_English /	TRA_Results / spercD	escription_Englis		elect All S	1				love or Copy".
Move or Copy Move selected <u>To book:</u> GSSMaker_3. Before sheet: Main Configuration CheckScenar SubstanceDB Help_English TRA_Results spercDescrip GSS	d sheets . 1en_v 1e_20150624a.xlsm io_English io_English		drop-	down	ew boo list. Ii copy" c	n addi	tion,	chec	k the	e
Move or Copy Move selected To book:		? *	(3) After left. (t shoul 'OK" 1			the	imag	e on the

Figure 11: How to copy a GSS sheet to another file.

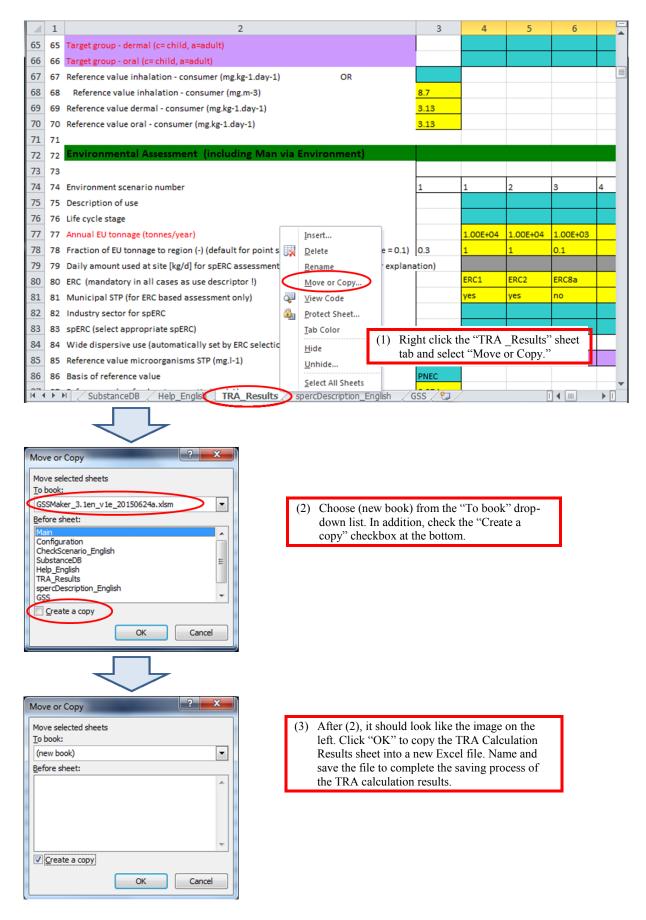


Figure 12: How to copy the "TRA_Results" sheet to another file.

The language of a GSS (Japanese or English) can be selected with the English version of Integrated GSSMaker. Choose a language for a GSS and click Create GSS. A GSS will be created in the selected language.

Run TRA	-	reate GSS	language of GSS Japanese	DIGIN BIGDE to Information & Research Institute, Inc. All rights reserved.
---------	---	-----------	-----------------------------	---