Worksheet

Worksheet 1 (Compilation of handled quantity and judgment of businesses and substances requiring notification)

This worksheet can be used for judging the necessity of notifying the quantity of a subject substance released or transferred on the basis of the calculation result and the presence of specific requirement facilities. By filling out the annual quantity of a subject substance handled, the quantity of the subject substance manufactured in an establishment, and the quantity of the subject substance contained in raw materials or materials u you can calculate the annual quantity of the subject substance handled.

Fill out the columns in order from 1A to 1S by referring to the Manual for Calculating the Quantity of Released Pollutant. You can calculate the annual quantity of a subject substance handled, check the presence of specific requirement facilities, and judge whether you must make a notification and which substance you must notify.

State the quantity brought in, if raw materials are not purchased but only accepted in storage facilities.

Calculation of the annual quantity used of raw materials or materials containing the subject substances						Calculation of the annual quantity used of the subject substance contained in raw materials or materials						
Serial No.	Name of raw materials or materials	Annual quantity of 1A kg/year	Quantity of 1A stored at kg	Quantity of 1A stored at the kg	Annual quantity used of 1A kg/year	CAS No. of the subject substance	Substance No. of the subject substance	Name of the subject substance contained in 1A	Individual name of substances when 1A is a group of	Content of 1H0 (1H0') in 1A %	Coefficient of conversion	Annual quantity used of 1H0 kg/year
	1A	1B	1C	1D	1E =1B-1C+1D	1F0	1G0	1H0	1H0'	1I	1J	1K =1E×1I÷100
1	Paint A	10,000	500	1,200	10,700	108-88-3	227	Toluene		10		1,070
							63	Xylene		8		856
							230	Lead and itscompounds	Lead sulfate	5		535
2	Thinner B	50,000	###	1,200	48,700	108-88-3	227	Toluene		70		34,090

Calculation of annual quantity of the subject substance handled							Judgment of businesses and substances requiring notification	
							Judgment according to the annual quantity of the subject substance handled	
CAS No. of the subject substance	Substance No. of the subject substance	Name of the subject substance	Annual quantity of 1H kg/year	Annual quantity of 1H in 1A kg/year	Annual quantity of 1H used kg/year	Annual quantity of 1H handled kg/year	Category of substance	Judgment of subject substance by annual quantity handled
1F	1G	1H	1L	1M	1N 1N (Sum of 1M)	1O =1L+1N	1P In the case of a specific class 1 designated chemical substance, enter "Specific." In the case of a class 1 designated chemical substance, enter "Class 1."	1Q When 1P is "Specific": Enter "Notification required" when 1O - 0.5 t/year. When 1P is "Class 1": Enter "Notification required" when 1O - 1 t*/year.
108-88-3	227	Toluene		1,070	35,160		Class 1	Notification required
				34,090				
	63	Xylene		856	856		Class 1	
	230	Lead and itscompounds		535	535		Class 1	

Judgment of the business requiring notification	
Judgment according to specific requirement	
Name of specific requirement facility	Judgment according to specific requirement facilities
1R Specific requirement facilities owned by the business	1S When there are specific requirement facilities, enter "Notification required."
Among businesses engaged in metal mining or crude oil and natural gas mining, those having buildings, structures and other facilities specified in Article 1, Chapter 8 of the Mine Safety Law	
Among businesses engaged in sewage water treatment, those having sewage water final treatment facilities	
Among businesses engaged in waste treatment or industrial waste treatment, those having general waste treatment facilities specified in Article 1, Chapter 8 of the Waste Disposal and Public Cleansing Law, and industrial waste treatment facilities specified in the same law	
Businesses having specific facilities specified in Article 1, Chapter 2 of the Law Concerning Special Measures for PCDDs	Notification required

Worksheet 2 (Calculation of the maximum latent quantity released to the environmen

Use this worksheet to calculate the maximum latent quantity of a subject substance released to the environment requiring notification of the quantity released or transferred (one sheet for one process and one material). Fill out the columns one by one from 2A to calculate the maximum latent quantity released to the environment.

Name of the process where the subject substance is handled			Calculation of the annual quantity of the subject substance handled							
Name of the process where raw materials or materials containing the subject substance are handled 2A	Name of the subject substance contained in the raw materials or materials handled in 2A 2B	Individual name of the substance when 2B is a group of substances 2B'	Annual quantity of 2B produced kg/year 2C	Name of the raw materials or materials containing 2B 2D	Annual quantity of 2D used kg/year 2E	Content of 2B (2B') in 2D % 2F	Coefficient of conversion from 2B' to 2B 2G	Annual used quantity of 2B (2B') contained in 2D kg/year 2H =2E×2F÷100	Total annual quantity of 2B used kg/year 2I (Sum of 2H)	Annual quantity of 2B handled kg/year 2J =2C+2I
Coating	Toluene		0	Paint A	10,700	10		1,070	35,160	35,160
				Thinner A	48,700	70		34,090		

Calculation of the quantity of the subject substance transferred as products					
①When the content of the subject substance in the products is known					
Name of the product containing 2B manufactured in 2A 2K	Manufactured quantity of 2K kg/year 2L	Content of 2B (2B') in 2K % 2M	Quantity of 2B in 2K transferred as products kg/year 2N =2L×2M×2G÷100	Sum of the quantities of 2B transferred as products kg/year, (Sum of 2N and 2Q) kg/year 2R (Sum of 2N and 2Q)	
				0	
②When the content of the subject substance in the product is not known					
Name of the product containing 2B manufactured in 2A 2O	Formula used to calculate the quantity of 2B transferred as products 2O 2P	Quantity of 2B transferred as products 2O, kg/year kg/year 2Q			

Calculation of the quantity of the subject substance contained in waste						Calculation of the maximum potential quantity of the subject substance released to the environment
①When the content of the subject substance in waste is known						
Name of the waste containing 2B generated in 2A 2S	Quantity of 2S generated kg/year 2T	Content of 2B (2B') contained in 2S % 2U	Type of transfer of 2S 2V	Quantity of 2B contained in 2S kg/year 2W =2T×2U×2G÷100	Sum of the quantities of 2B contained in 2S kg/year 2AB (Sum of 2W and 2AA)	Maximum potential quantity of 2B released to the environment kg/year 2AC =2J-2R-2AB
Spent paint	100	15	Off-site transfer	15	15	35,145
②When the content of the subject substance in the waste is not known						
Name of the waste containing 2B generated in 2A 2X	Formula to calculate the quantity of 2B contained in 2X 2Y	Type of transfer of 2X 2Z	Quantity of 2B contained in 2X kg/year 2AA			

Enter "3AX" or "3AY" of Worksheet 3 per classification of transfer.

Worksheet 3 (Calculation of the quantity released to each medium)

This worksheet can be used to give a breakdown of the maximum latent quantity released to the environment calculated by filling out worksheet 2 into individual quantities released to each medium (one sheet for one process and one material). Fill out the sheet step by step by referring to the Manual for Calculating the Quantity of Released Pollutant.

Name of the subject substance and the process where the substance is handled					Calculation of the quantity released to soil		
Name of the process where raw materials or materials containing a subject substance is handled 3A Post "2A" here.	Name of the subject substance contained in raw materials or materials handled in 3A 3B Post "2B" here.	Name of the individual materials (when 3B is a group of substances) 3B' Post "2G" here.	Conversion coefficient used to convert 3B' to 3B 3C Post "2G" here.	Maximum latent quantity of 3B released to the environment kg/year 3D Post "2AC" here.	Quantity of raw materials or materials containing 3B leaked to soil kg/year 3E	Content of 3B (3B') in raw materials or materials % 3F	Quantity of 3B released to soil kg/year 3G =3E×3F÷100
Coating	Toluene			35,145	0		0

→Enter in 3AW

Calculation of the smaller quantity released

Judgment of medium, the atmosphere or water area, to which the smaller quantity is released

3H

Enter the name of the medium to which the smaller quantity is released (water area or the atmosphere).

Water

①When calculating by using a method other than actua

Formula to calculate the smaller latent release quantity	Smaller latent release quantity
3I	kg/year 3J
0.58×2×200	232

α →

Column to be filled out when the substance is released by exhaust gas or effluent treatment of the larger quantity to the same medium to which the smaller quantity is released (the same for the following columns)

	kg/year 3J'

①-1 When exhaust gas or effluent treatment is not carried out

Smaller quantity released＝3J	232
Quantity released to the same medium to which the smaller quantity is released by the treatment of the medium to which the larger quantity is released = 3J'	

If the media to which the smaller quantity is released is the atmosphere, enter into 3AT, and if it is water area, enter into #3AU or 3AV.
(Without exhaust gas or effluent treatment: 3AJ, 3AJ')
(With exhaust gas or effluent treatment: 3AM, 3AM')

①-2 When exhaust gas or effluent treatment is carried out

Removal efficiency of exhaust gas or effluent treatment	Decomposition rate of exhaust gas or effluent treatment	Smaller quantity released after treatment	Quantity decomposed by treatment
% 3K	% 3L	kg/year 3M =3J×(100-3K)÷100	kg/year 3N =3J×3L÷100
%	%	kg/year	kg/year
3K'	3L'	3M'	3N'

①-2-1 When the substance is released to the same medium to which the larger quantity is released by waste gas or effluent treatment

Quantity released to the same medium to which the larger quantity is released by exhaust gas or effluent treatment kg/year 3O =3J×(3K-3L)÷100
→ Enter in 3AI' (β).

①-2-2 When waste is generated by exhaust gas or effluent treatment

Name of the waste generated by exhaust gas or effluent treatment	Quantity of 3B contained in waste 3T	Classification of transfer of 3T
3T	kg/year 3U =3J×(3K-3L)÷100	3V
3T'	kg/year 3U'	3V'

Enter 3U or 3U' in 3AX or 3AY.

When the medium to which the smaller quantity is released is the atmosphere, Fill out 3AU or 3AV in the case of water area.
(Without exhaust gas or effluent treatment: 3Y)
(With exhaust gas or effluent treatment: 3AB)

②When the released quantity is calculated by actual measurement

Concentration of 3B in exhaust gas (effluent)	Quantity of exhaust gas (effluent)	Smaller quantity released
mg/L 3W	m^3/year 3X	kg/year 3Y =3W×3X÷1000

②-1 When exhaust gas or effluent is not treated

Smaller quantity released＝3Y	

②-2 When exhaust gas or effluent is treated

Removal efficiency of exhaust gas or effluent treatment	Decomposition rate of exhaust gas or effluent treatment	Released quantity after treatment	Quantity decomposed by treatment
% 3Z	% 3AA	kg/year 3AB ※	kg/year 3AC ※

②-2-1 When released to the same medium to which the larger quantity is released

Quantity released to the same medium to which the larger quantity is released kg/year 3AD ※
→ Enter into 3AI ' (β).

②-2-2 When waste is generated from exhaust gas or effluent treatment

Name of the waste generated from exhaust gas or effluent treatment	Quantity of 3B contained in the waste 3AE	Classification of transfer of 3AE
3AE	kg/year 3AF ※	3AG

Enter 3AF in 3AX or 3AY.

* When 3W is the concentration after treatment:
3AB＝3Y
3AC＝3Y×3AA÷(100－3Z)÷100
3AD＝3Y×(3Z－3AA)÷(100－3Z)
3AF＝3Y×(3Z－3AA)÷(100－3Z)
When 3W is the concentration before treatment:
3AB＝3Y×(100－3Z)÷100
3AC＝3Y×3AA÷100
3AD＝3Y×(3Z－3AA)÷100
3AF＝3Y×(3Z－3AA)÷100

Calculation of the larger quantity released

The medium to which the larger quantity is released, the atmosphere or water area

3AH

Enter the name of the medium to which the larger quantity is released (the atmosphere or water area).

Air

Larger latent release quantity
kg/year 3AI ※
34,913

β →

Column to be filled out when the substance is released by exhaust gas or effluent treatment of the smaller quantity to the same medium to which the larger quantity is released (the same for the following columns)

kg/year 3AI'

* Calculate the larger latent release quantity according to each calculation method of the quantity released to the medium to which the smaller quantity is released as shown below.
①-1 ：3AI＝3D－3G－3J
①-2-1：3AI＝3D－3G－3M－3N－3O
①-2-2：3AI＝3D－3G－3M－3N－3U
②-1 ：3AI＝3D－3G－3Y
②-2-1：3AI＝3D－3G－3Y－3AC－3AD
②-2-2：3AI＝3D－3G－3Y－3AC－3AF

①When exhaust gas or effluent treatment is not performed

Larger quantity released = 3AI	
Quantity released to the same medium to which the smaller quantity is released by the treatment of the larger quantity＝3AI'	

When the medium to which the larger quantity is released is the atmosphere, enter in 3AT. When it is water area, enter in 3AV.
(Without exhaust gas or effluent treatment: 3AI, 3AI')
(With exhaust gas or effluent treatment: 3AL, 3AL')

②When exhaust gas or effluent treatment is performed

Removal efficiency of exhaust gas or effluent treatment	Decomposition rate of exhaust gas or effluent treatment	Quantity released after the larger quantity is treated	Quantity decomposed by treatment
% 3AJ	% 3AK	kg/year 3AL =3AI×(100-3AJ)÷100	kg/year 3AM =3AI×3AK÷100
80	0	6,982	0
%	%	kg/year	kg/year
3AJ'	3AK'	3AL'	3AM'

②-1 When released to the same medium to which the smaller quantity is released by exhaust gas or effluent treatment

Quantity released to the same medium to which the smaller quantity is released by exhaust gas or effluent treatment kg/year 3AN =3AI×(3AJ－3AK)÷100
→ Enter in 3J' (α)

②-2 When waste is generated by exhaust gas or effluent treatment

Name of waste generated by exhaust gas or effluent treatment	Quantity of 3B contained in waste 3AO	Classification of transfer of 3AO
3AO	kg/year 3AP =3AI×(3AJ－3AK)÷100	3AQ
Spent carbon	27,930	Off-site transfer
3AO'	kg/year 3AP'	3AQ'

Enter 3AP or 3AP' in 3AX or 3AY.

Compilation of released or transferred quantities in this process

Sum up the quantities released to the atmosphere, water area, and to soil that were calculated using Worksheets 2 and 3 per notification category.

Substance No.	Name of the subject substance	Quantity released to the atmosphere	Quantity released to water area		Quantity released to soil	Quantity contained in waste		
		Release to the atmosphere	Release to public water area	Transfer to sewage works	Release to soil inside the pertinent establishment	Name of waste	Transfer to outside the establishment	Landfill inside the pertinent establishment
3AR	3AS	kg/year 3AT	kg/year 3AU	kg/year 3AV	kg/year 3AW		kg/year 3AX	kg/year 3AY
227	Toluene	6,982	232	0	0	Spent paint	15	0
						Spent carbon	27,930	0
	Total	6,982	232	0	0		27,945	0

Worksheet 4 (Compilation of the quantity released or transferred)

Use this worksheet to compile the quantities of the subject substance released and transferred calculated by using worksheets 2 and 3. Post the values in the relevant columns in worksheet 3 to this sheet to compile the quantities per substance.

Substance No.	Name of the subject substance	Name of the process where the substance is handled	Transferred quantity		Released quantity					
			Transfer to sewage works	Transfer to outside the pertinent establishment	Release to the atmosphere	Release to public water area		Release to soil inside the pertinent	Landfill inside the pertinent establishment	
			kg/year	kg/year	kg/year	Released quantity kg/year	Name of the river, lake or sea to which the substance is released	kg/year	Quantity disposed of in landfills kg/year	Classification of the landfill site (least controlled, controlled, or strictly controlled)
4A Post "3AR" here.	4B Post "3AS" here.	4C Post "3A" here.	4D Post "3AV" here.	4E Post "3AX" here.	4F Post "3AT" here.	4G Post "3AU" here.	4H	4I Post "3AW" here.	4J Post "3AY" here.	4K
227	Toluene	Coating	0	27,945	6,982	232		0	0	
		Adhesion	0	315	3,543	25		0	0	
		Total	0	28,260	10,525	257	○○ river	0	0	

Worksheet 5 (Calculation of the quantity released or transferred from specific requirement facilities)

Use this worksheet to calculate the quantity of a subject substance released from specific requirement facilities to each medium in the environment. Fill out the columns one by one from 5Aa or 5Ab by referring to the Manual for Calculating the Quantity of Released Pollutant to calculate the quantity released or transferred to each medium and compile them.
If the substance released is categorized as a PCDD, use a), and in the case of other substances, use b).

a) Substances categorized as PCDDs

Information on the subject substance released					Calculation of the quantity of the subject substance released to the atmosphere			Calculation of the subject substance released to water area			Calculation of the quantity of the subject substance contained in waste				
Serial No.	Name of the facility from which the subject substance is 5Aa	CAS No. of the subject substance 5Ba Enter "-"	Substance No. of the subject substance 5Ca Enter "179"	Name of the subject substance released 5Da Concentration of PCDDs in exhaust gas	Quantity of exhaust gas ng-TEQ/Nm^3 5Ea	Quantity of exhaust gas Nm^3/year 5Fa	Quantity of PCDDs released to the atmosphere mg-TEQ/year 5Ga =5Ea×5Fa÷1,000,000	Concentration of PCDDs in effluent pg-TEQ/L 5Ha	Quantity of effluent m^3/year 5Ia	Quantity of PCDDs released to water area mg-TEQ/year 5Ja =5Ha×5Ia÷1,000,000	Name of waste containing PCDDs 5Ka	Concentration of PCDDs in waste ng-TEQ/g 5La	Quantity of waste generated t/year 5Ma	Classification of transfer of waste 5Na	Quantity of PCDDs contained in waste mg-TEQ/year 5Oa =5La×5Ma
1	Incinerator 1	—	179	PCDDs	5.0	48,000,000	240	1.0	30,000	0.030	Incineration ash	0.24	1,300	Off-site transfer	312
2	Incinerator 2	—	179	PCDDs	3.0	48,000,000	144	1.2	20,000	0.024	Incineration ash	0.15	1,200	Off-site transfer	180
	Total						384			0.054					492

b) Substances other than PCDDs

Information on the subject substance released					Calculation of the quantity of the subject substance released to the atmosphere			Calculation of the subject substance released to water area			Calculation of the subject substance contained in waste				
Serial No.	Name of the facility from which the subject substance is released 5Ab	CAS No. of the subject substance 5Bb	Substance No. of the subject substance 5Cb	Name of the subject substance released 5Db	Concentration of the subject substance in exhaust gas mg/Nm^3 5Eb	Quantity of exhaust gas Nm^3/year 5Fb	Quantity of the subject substance released to the atmosphere kg/year 5Gb =5Eb×5Fb÷1,000,000	Concentration of the subject substance in effluent mg/L 5Hb	Quantity of effluent m^3/year 5Ib	Quantity of the subject substance released to water area kg/year 5Jb =5Hb×5Ib÷1,000	Name of waste containing the subject substance 5Kb	Concentration of the subject substance in waste mg/kg 5Lb	Quantity of waste generated t/year 5Mb	Classification of transfer of waste 5Nb	Quantity of the subject substance in waste kg/year 5Ob =5Lb×5Mb÷1,000