Annex 5

Annex to Chapter 5
of the Main Report

Annex 5.1 Classification of Industry

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
1	31410	Manufacture of ripened of tea leaves or tobacco leaves		Power of machines ≤ 50 H.P	Power of machines > 50 H.P.
2(1)	31162	Manufacture of boiled, steamed or desiccated of plant or seed.	-	Power of machines ≤ 50 H.P	Power of machines > 50 H.P.
2(2)	31161	The Crack of seed or cortex	-	Power of machines ≤ 50 H.P	Power of machines > 50 H.P.
2(3)	31160	Manufacture of pressed hemp or tobacco leaves.	-	Power of machines ≤ 50 H.P	Power of machines > 50 H.P.
2(4)	31160	Manufacture of packed, press cotton or spin, press kapok	-	-	All scale factories
2(5)	31160	Manufacture of preserved or transported plant, seed or product of plant in silo, warehouse or store.	-	-	All scale factories
2(6)	31160	Manufacture of grinded part of plant but not grain mill	-	Power of machines ≤ 50 H.P	Power of machines > 50 H.P.
2(7)	35112	Manufacture of burned, grinded, divided chacoal from coconut shell	-	-	All scale factories
2(8)	11199	Manufacture of cultured germ of mushroom, orchid or beansprouts	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons
2(9)	11209	Manufacture of cleaned, separated product of agriculture	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	
2(10)	11209	The preservation of product from agriculture by ray	-	-	All scale factories
2(11)	11140	Artificial incubation	All scale factories	-	-
3(1)	29011	Manufacture of grinded stone	-	-	All scale factories
3(2)	29012	Manufacture of dug sand or soil	-	All scale factories	-
3(3)	29012	Manufacture of separation of pebble or sand	Power of machines ≤20 H.P.	Power of machines ≤50 H.P.	Power of machines > 50 H.P.
3(4)	29012	Manufacture of suction of sand	-	-	All scale factories
3(5)	99999	Manufacture of transportation of rock, pebble,sand or soil by conveyer	-	All scale factories	-
4(1)	31111	Slaughtering	-	-	All scale factories
4(2)	31119	The preservation of meat by toase,	Power of machines	Power of machines	Power of machines

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
		smoke-dried, pickled, sun-dried and sharply freezing method	≤20 H.P. and Employee ≤20 persons	≤50 H.P. and Employee ≤50 persons	> 50 H.P. or Employee > 50 persons person or all scale factories
4(3)	31119	Manufacture of meat, fat, hide and grease or bone extract processed food	-	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons person or all scale factories
4(4)	31119	Animal oil extraction	-	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons person or all scale factories
4(5)	31112	Meat canning	-	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons person or all scale factories
4(6)	31110	Manufacture of sliced, boiled, steamed, fired and grinded animal.	-	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons person or all scale factories
4(7)	31219	The product of egg for cooking.	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons person or all scale factories
5(1)	31121	Dairy pasteurization and sterilization	-	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
					person or all scale factories
5(2)	31122	Dairy milk-powder and fat	-	-	All scale factories
5(3)	31121	Manufacture of condensed milk	-	-	All scale factories
5(4)	31121	Manufacture of cream from milk	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons person or all scale factories
5(5)	31121	Manufacture of cheese and butter	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons person or all scale factories
5(6)	31121	Manufacture of yogurt	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons person or all scale factories
6(1)	31141	Manufacture of or (fish aquatic animal food and canning	-	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons person or all scale factories
6(2)	31149	The presservation of (fish) aquatic animal by toast, smoke-dried, pickled, sun-dried and sharply freezing method.	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons person or all scale factories
6(3)	31140	Manufacture of (fish) aquatic animal processed food	-	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons person or

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
					all scale factories
6(4)	31119	The extraction of oil or fat from aquatic animal food, or pure oil and fat from aquatic animal food	-	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines >50 H.P. or Employee >50 persons person or all scale factories
6(5)	31149	Manufacture of sliced, boiled, steamed, fired, and grinded (fish) aquatic animal	-	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines >50 H.P. or Employee >50 persons person or all scale factories
7(1)	31151	The extraction of vegetable and animal oils and fats	-	-	All scale factories
7(2)	31150	Manufacture of pressed or grinded oil cake, or animal with extract oil	-	-	All scale factories
7(3)	31150	Manufacture of oil from plant and animal or fat from animal for hard by fill hydrogen	-	-	All scale factories
7(4)	31151	manufacture of pure vegetable and animal oils and fats	-	-	All scale factories
7(5)	31152	Manufacture of margarine, or oil for cooking	-	-	All scale factories
8(1)	31131	Canning of fruit and vegetables	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines >50 H.P. or Employee >50 persons person or all scale factories
8(2)	31139	Preseving of fruit and vegetables	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines >50 H.P. or Employee >50 persons person or all scale factories
9(1)	31161	Manufacture of rice threshing machine	Power of machines ≤20 H.P. and have not boiler	Power of machines ≤50 H.P. and have not boiler	Power of machines >50 H.P. and there

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
					are boiler
9(2)	31163	Grain flour mills	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons
9(3)	31164	Grain flour mills	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons
9(4)	31160	Manufacture of grain mill products	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons
9(5)	31160	Manufacture of mix flour	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons
9(6)	31160	Manufacture of slice cassava	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons
10 (1)	31171	Bakeries	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons
10(2)	31172	Manufacture of biscuits	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons
10(3)	31170	Manufacture of baked and steamed products	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons
11(1)	31182	Sugar refineries	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons
11(2)	31181	Red sugar factories	Power of machines ≤20 H.P.	Power of machines ≤50 H.P.	Power of machines > 50 H.P.

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
			and Employee ≤20 persons	and Employee ≤50 persons	and Employee > 50 persons
11(3)	31181	White sugar factories	-	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons
11(4)	31182	Manufacture of purify sugar and sugar refineries	-	-	All scale factories
11(5)	31182	Manufacture of lump sugar or powder sugar	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons
11(6)	31190	Manufacture of glucose, dextrose, fructose nad similarly other products	-	-	All scale factories
11(7)	31190	Manufacture of sugar from coconut	All scale factories	-	-
12(1)	31219	Manufacture of dry tea leaves or powder tea leaves	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons
12(2)	31219	Roast, graind and powder coffee bean	-	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons
12(3)	31190	Manufacture of cocoa	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons
12(4)	31190	Manufacture of chocolate	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons
12(5)	31219	Manufacture of vegetable powder	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons
12(6)	31190	Manufacture of tamarind, lemon or fruit press	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
12(7)	31190	Manufacture of fruit syrup	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons
12(8)	31190	Manufacture of bake the nut or seed of fruit	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons
12(9)	31190	Manufacture of chewing gum	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons
12(10)	31190	Manufacture of candy	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons
12(11)	31123	Manufacture of ice-cream	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. and Employee > 50 persons
13(1)	31219	(1) Manufacture of yeast	-	-	All scale factories
13(2)	31219	(2) Manufacture of additive	-	-	All scale factories
13(3)	31219	(3) Manufacture of yeast (powder-yeast)	-	-	All scale factories
13(4)	31219	(4) Manufacture of vinegar	-	-	All scale factories
13(5)	31219	(5) Manufacture of mustard	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons or all scale factories
13(6)	31219	Manufacture of salad oil	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons or all scale factories
13(7)	311219	Manufacture of grind food ingredients	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons or all scale factories

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
13(8)	31219	Manufacture of pepper	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons or all scale factories
14	31212	Manufactor of ice production or cut slice, grind or digest of ice	-	Power of machines ≤50 H.P.	Power of machines ≤50 H.P.
15(1)	31220	Manufacture of prepared animal feeds	-	Power of machines ≤50 H.P.	Power of machines ≤50 H.P.
15(2)	31220	Manufacture of grinded vegetable, grain, meat, bone and shellfish for *animal feeds*	-	-	All scale factories
16	31310	Distrilling, rectifying and blending spirits	-	-	All scale factories
17	31310	Ethy-alcohol processing except ethyl-alcohol from sulfite residue in pulp and paper manufacturing	-	-	All scale factories
18	31320	Wine industries	-	-	All scale factories
19(1)	31330	Final powder or grind Malt	-	-	All scale factories
19(2)	31330	Breweries	-	-	All scale factories
20(1)	31340	Manufacture of drinking water	Power of machines ≤20 H.P.	Power of machines ≤50 H.P.	Power of machines > 50 H.P.
20(2)	31340	Manufacture of non-alcoholic drinks	-	Power of machines ≤50 H.P.	Power of machines > 50 H.P.
20(3)	31340	Manufacture of soft drinks	-	Power of machines ≤50 H.P.	Power of machines > 50 H.P.
20(4)	31340	Manufacture of mineral water	Power of machines ≤20 H.P.	Power of machines ≤50 H.P.	Power of machines > 50 H.P.
21(1)	31412	Manufacture of drying tobacco leaves or leaf removal	-	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons
21(2)	31420	Manufacture of cigarete, Cigar or other	-	Power of machines ≤50 H.P. and Employee	Power of machines > 50 H.P. or Employee

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
				≤ 50 persons	> 50 persons
21(3)	31420	Manufacture of a pill, a pipe tobacco smoking mixture or type of tobacco	-	Power of machines ≤ 50 H.P. and Employee ≤ 50 persons	Power of machines > 50 H.P. or Employee > 50 persons
21(4)	31420	Manufacture of a snuff	-	Power of machines ≤ 50 H.P. and Employee ≤ 50 persons	Power of machines > 50 H.P. or Employee > 50 persons
22(1)	32113	Carbonize incubation, bleaching and dyeing fibres	Power of machines ≤ 20 H.P.	Power of machines ≤ 50 H.P.	Power of machines > 50 H.P. or all scale which dyeing and finishing
22(2)	32113	Spinning of cotton	Power of machines ≤ 5 H.P. and Employee ≤ 20 persons	Power of machines ≤ 20 H.P. and Employee ≤ 50 persons	Power of machines > 20 H.P. or Employee > 50 persons or all scale which dyeing and finishing
22(3)	32118	Textile finishing	-	-	All scale factories
22(4)	32117	Textile printing	-	-	All scale factories
23(1)	32120	Manufacture of Textile furniture	Employee ≤ 20 persons	Employee ≤ 50 persons	Employee > 50 persons
23(2)	32116	Manufacture of bag or sack cloth that not a plastic Manufacture of sail cloth	Employee ≤ 20 persons Employee ≤ 20 persons	Employee ≤ 50 persons Employee ≤ 50 persons	Employee > 50 persons Employee > 50 persons
23(4)	32120	Manufacture of Textile Modification or knitting	Employee ≤ 20 persons	Employee ≤ 50 persons	Employee > 50 persons
24	32130	Knitting mills	Power of machines ≤ 20 H.P. and Employee ≤ 20 person and have not dyeing and finishing	Power of machines ≤ 50 H.P. and Employee ≤ 50 persons	All scale factories Power of machines > 50 H.P. or Employee > 50 persons or all scale which dyeing and finishing
25	32140	Manufacture of carpets and rugs	Power of machines	Power of machines	Power of machines

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
			≤20 H.P. and Employee ≤20 persons and have not dyeing and finishing	≤50 H.P. and Employee ≤50 persons	> 50 H.P. or Employee > 50 persons or all scale which dyeing and finishing
26(1)	32150	Cordage, rope and twine industries	Power of machines ≤20 H.P. and Employee ≤20 persons and have not dyeing and finishing	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons
26(2)	32150	Manufacture of net fish	Power of machines ≤20 H.P. and Employee ≤20 persons and have not dyeing and finishing	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons
27(1)	32190	Manufacture of carpet or textiles which not made from wood cock, rubber, plastic	-	-	All scale factories
27(2)	32190	Manufacture of textiles or artificial leather which not made from plastic	-	-	All scale factories
27(3)	32190	Manufacture of fiber which have rubber's surface coating	-	-	All scale factories
27(4)	32119	Manufacture of Woolen fabric	-	Power of machines ≤50 H.P. and Employee ≤50 persons and have not dyeing and finishing	Power of machines > 50 H.P. or Employee > 50 persons or all scale which dyeing and finishing
27(5)	32190	Manufacture of brocade or artificial brocade	-	Power of machines ≤50 H.P. and Employee ≤50 persons and have not dyeing and finishing	Power of machines > 50 H.P. or Employee > 50 persons or all scale which dyeing and finishing
27(6)	32190	Manufacture product from fiber which use for sofa or other	-	-	All scale factories
27(7)	32190	Manufacture fiber from product which made from fiber	-	-	All scale factories

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
27(8)	32190	Manufacture of string or tire out of wheeled vehide or sail cloth	-	-	All scale factories
28(1)	32200	Manufacture of clothing rope, handkerchief, scarf, tire, glove, sock which made from leather, fur, other	Employee ≤20 persons	Employee ≤50 persons	Employee > 50 persons
28(2)	32203	Manufacture of cap	Employee ≤20 persons	Employee ≤50 persons	Employee > 50 persons
29	32310	Tanneries and leather finishing	-	-	All scale factories
30	32310	Fur dressing and dyeing	-	-	All scale factories
31	32310	Manufacture of carpets, leather finishing, fur dressing	-	-	All scale factories
32	32330 (1) (2)	Manufacture of product or part of product except wearing apparel or footware from leather, fur bone Manufacture of glass wool	Power of machines ≤20 H.P. and Employee ≤20 persons - -	Power of machines ≤50 H.P. and Employee ≤50 persons - -	Power of machines > 50 H.P. or Employee > 50 persons All scale factories All scale factories
33	32400	Manufacture of shoes or part of shoes which not made from wood, dry rub or fix plastic	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons
34(1)	33111	Sawmills planing and other wood mills	-	-	All scale factories
34(2)	33113	Manufacture of builders woodwork	-	-	All scale factories
34(3)	33112	Manufacture of veneer, plyweed and veneered panel	-	-	All scale factories
34(4)	33110	Manufacture of grind, slice or digest wood	-	-	All scale factories
34(5)	33111	Sawmills and planting mills	-	-	All scale factories
34(6)	35112	Manufacture of sasswood charcoal	-	-	All scale factories
35	33120	Manufacture of wooden and cane containers and small cane ware	Employee ≤20 persons	Employee ≤50 persons	Employee > 50 persons
36(1)	33190	Manufacture of builders' woodwork	-	-	All scale factories
36(2)	33190	Manufacture of wooden footware	-	-	All scale factories
36(3)	33190	Wooden craft	Employee ≤20 persons	Employee ≤50 persons	Employee > 50 persons
36(4)	33190	Manufacture of wood and cork products not elsewhere classified	-	-	All scale factories
36(5)	33190	Manufacture of cork product	Employee	Employee	Employee

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
			≤20 persons	≤50 persons	> 50 persons
37	33200	Manufacture of furniture, fixtures and flooring, except primary of metals	-	-	All scale factories
38(1)	34111	Manufacture of pulp	-	-	All scale factories
38(2)	34112	Manufacture of Paper or fibreboard	-	-	All scale factories
39	34120	Manufacture of containers and boxes of paper and paperboard	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons
40(1)	34190	Coating, finishing, pressing paper or paperboard	-	-	All scale factories
40(2)	34190	Manufacture of product which not containers from pulp, paper and paperboard	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons
41(1)	34201	Printing and publishing of newspaper	Power of machines ≤20 H.P.	Power of machines ≤50 H.P.	Power of machines > 50 H.P.
41(2)		Metal model	-	-	All scale factories
42(1)	35110	Manufacture of chemicals	-	-	All scale factories
42(2)	35110	Transportation and contain hazardous chemicals	-	-	All scale factories
43(1)	35120	Manufacture of fertilizer and pesticides	-	-	All scale factories
43(2)	35120	Collecting or separate or pesticides	-	-	All scale factories
44	35130	*Manufacture of synthetics resins, plastic* materials and artificial fibres except fiberglass	-	-	All scale factories
45(1)	35210	Manufacture of paints	-	-	All scale factories
45(2)	35210	Manufacture of varnish	-	-	All scale factories
45(3)	35210	Manufacture of lacquer	-	-	All scale factories
46(1)	35220	Manufacture of objects which are accepted in medicine text book	-	-	All scale factories
46(2)	35220	Manufacture of objects which cure, relieve and protect disease for human or animal	-	-	All scale factories
46(3)	35220	Manufacture of objects which follow 46(1) and 46(2) except foods, sport equipment, consmetics and curing instrument	-	-	All scale factories
47(1)	35231	Manufacture of soap and cleaning preparations	-	-	All scale factories

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
47(2)	25231	Manufacture of glycerine which made from vegetable and animal oils and fats	-	-	All scale factories
47(3)	35232	Manufacture of cosmetics	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons
47(4)	35232	Manufacture of toothpaste	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons
48(1)	35299	Manufacture of beeswax	-	-	All scale factories
48(2)	35299	Manufacture of lysol	-	-	All scale factories
48(3)	35299	Manufacture of water proof products, emulsifier, wetting agents, Sizes, Cements, Dental Cements	-	-	All scale factories
48(4)	35291	Manufacture of explosives and ammunitions	-	-	All scale factories
48(5)	35299	Manufacture of candle	-	-	All scale factories
48(6)	35299	Manufacture of ink and carbon	-	-	All scale factories
48(7)	35293	Manufacture of incense products	-	-	All scale factories
48(8)	35299	Manufacture of camphor or menthol product	-	-	All scale factories
48(9)	35299	Manufacture of Essential oil	-	-	All scale factories
48(10)	35299	Manufacture of indigo and bleaching powder	-	-	All scale factories
48(11)	35299	Manufacture of boiler insulator or heat inculator	-	-	All scale factories
48(12)	35299	Manufacture of film and light sensitive chemical products	-	-	All scale factories
48(13)	35112	Manufacture of Activated Carbon	-	-	All scale factories
49	35300	Petroleum Refineries	-	-	All scale factories
50(1)	35400	Manufacture of asphalt or crude oil	-	-	All scale factories
50(2)	35400	Manufacture of enamel asphalt paper or crude oil			
50(3)	35400	Manufacture of solid fuel, Final fuel from modified coal or lignite	-	-	All scale factories
50(4)	35400	Manufacture of miscellaneous petroleum	-	-	All scale factories
50(5)	35400	Distillation of coal in incinerator	-	-	All scale factories

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
		coke which not part of gas producing or iron			
51	35510	Tyre and tube industries	Power of machines ≤20 H.P.	Power of machines ≤50 H.P.	Power of machines > 50 H.P.
52(1)	35591	Manufacture of rubber sheets	-	Power of machines ≤50 H.P.	Power of machines > 50 H.P.
52(2)	35599	Manufacture of sliced, cutting and mixed rubber sheets	-	Power of machines ≤50 H.P.	Power of machines > 50 H.P.
52(3)	35599	Manufacture of smoked rubber, crepe rubber, sticky rubber and liquid rubber	-	-	All scale factories
52(4)	35599	Manufacture of rubber product and synthetic rubber	-	Power of machines ≤50 H.P.	Power of Machines > 50 H.P.
53(1)	35610	Manufacture of houseware, fixing from plastic	-	Power of machines ≤50 H.P.	Power of Machines > 50 H.P.
53(2)	35609	Manufacture of mat or carpet from plastic	-	Power of machines ≤50 H.P.	Power of Machines > 50 H.P.
53(3)	35601	Manufacture of sausage cover	-	Power of machines ≤50 H.P.	Power of Machines > 50 H.P.
53(4)	35601	Manufacture of plastic containers, Bag, etc.	-	Power of machines ≤50 H.P.	Power of Machines > 50 H.P.
53(5)	35609	Manufacture of other plastic tube, seed and piece.	-	Power of machines ≤50 H.P.	All scale factories
53(6)	35609	Manufacture of plastic insulators	-	Power of machines ≤50 H.P.	Power of Machines > 50 H.P.
53(7)	35609	Manufacture of shoe and part of shoes	-	Power of machines ≤50 H.P.	Power of Machines > 50 H.P.
53(8)	35609	Pressing plastic	-	Power of machines ≤50 H.P.	Power of Machines > 50 H.P.
53(9)	35600	Washing and grinding plastic	-	-	All scale factories
54	36200	Manufacture of glass and fiberglass	-	-	All scale factories
55	36100	Manufacture of pottery.	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons
56	36910	Manufacture of brick, tile	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
57(1)	36920	Manufacture of cement, lime, plaster lime	-	-	All scale factories
57(2)	36920	Transport cement, lime, plaster lime with belt	-	-	All scale factories
57(3)	36920	Mixer of cement, lime, plaster lime or lime in other materials	-	-	All scale factories
58(1)	36991	Manufacture of concrete products	-	Power of machines ≤50 H.P.	Power of machines > 50 H.P.
58(2)	36999	Manufacture of asbestos	-	-	All scale factories
58(3)	36999	Manufacture of stone products	Power of machines ≤20 H.P. and Employee ≤20 persons	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons
58(4)	36999	Manufacture of abrasives products	-	-	All scale factories
58(5)	36992	Manufacture of asbestos products	-	-	All scale factories
58(6)	36999	Manufacture of grafite stone products	-	-	All scale factories
59	37100	Iron and steel basic industries	-	-	All scale factories
60	38110	Non-ferrous metal basic industries	-	-	All scale factories
61	38120	Manufacture of cutlery, hand tools and general hardware from iron	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
62	38120	Manufacture of furniture and fixture primarily of metal	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
63(1)	38130	Manufacture product which use for construct chimney, tank and gate from metal	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
63(2)	38130	Manufacture product which use for construct building	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
63(3)	38130	Manufacture product which use for	Power of machines	Power of machines	Power of machines

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
		building a boat	≤20 H.P. but not plate, stamp and smelt metal	≤50 H.P. but not plate, stamp and smelt metal	> 50 H.P. and factories which plate, stamp or smelt metal
63(4)	38130	Manufacture product which use for construct or repair boiler	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
63(5)	38130	Manufacture product which use for air conditioner	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
64(1)	38199	Manufacture of container	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
64(2)	38199	Manufacture product from pumping metal	-	-	All scale factories
64(3)	38199	Manufacture product from screw pressing	-	-	All scale factories
64(4)	38199	Manufacture locker or safe room	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
64(5)	38199	Manufacture product from cable line	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
64(6)	38199	Manufacture metal spring	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
64(7)	38199	Manufacture of hot plate but not use electric	Power of machines ≤20 H.P. but not plate, stamp	Power of machines ≤50 H.P. but not plate, stamp	Power of machines > 50 H.P. and factories which

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
			and smelt metal	and smelt metal	plate, stamp or smelt metal
64(8)	38198	Manufacture sanitary-ware or metal coating product use for pipe and valve	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
64(9)	38199	Manufacture product from metal of other fabricated metal products not elsewhere classified	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. All scale factories and factories which plate, stamp or smelt metal
64(10)		Coating, engraving and allied services	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
64(11)	38199	Metal pressing	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
64(12)	38199	Cut and rolling metal	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
64(13)	38199	Lathe, drill or link metal	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
64(14)	38199	Manufacture part of metal product	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
65	38210	Manufacture of engines and turbines	Power of machines	Power of machines	Power of machines

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
			≤20 H.P. but not plate, stamp and smelt metal	≤50 H.P. but not plate, stamp and smelt metal	> 50 H.P. and factories which plate, stamp or smelt metal
66	38220	Manufacture of engines agricultural machinery and equipment	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
67(1)	38230	Manufacture metal working machinery	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines >50 H.P. and factories which plate, stamp or smelt metal
67(2)	38230	Manufacture of milling machines, Shearing machines or Spaping machines	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
67(3)	38230	Manufacture metal saw	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
67(4)	38230	Manufacture of drop forges or Forging Machines	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
67(5)	38230	Manufacture holding machine use with machinery Manufacture	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
67(6)	38230	Manutacture for smelt metal but not electric	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
67(7)	38230	Modify or Repair Dies or Jigs	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
67(8)	38230	Manufacture composition or supplies use with machine follow (1) - (7)	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
68	38240	Manufacture of special industrial machinery and equipment except wood and metal working mechinery	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
69	38250	Manufacture of office, computing and accounting machinery	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
70	38291	Manufacture of household machinery and appliances	Power of machines ≤20 H.P.	Power of machines ≤50 H.P.	Power of machines > 50 H.P.
71	38310	Manufacture of electrical industrial machinery and apparatus	Power of machines ≤20 H.P.	Power of machines ≤50 H.P.	Power of machines > 50 H.P.
72	38320	Manufacture of radio, television and commuincation equipment and apparatus	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
73	38330	Manufacture of appliance electronic to composition or supplies	Power of machines ≤20 H.P.	Power of machines ≤50 H.P.	Power of machines >50 H.P.
74(1)	38393	Manufacture of electric lamps	Power of machines ≤20 H.P.	Power of machines ≤50 H.P.	Power of machines > 50 H.P.
74(2)	38391	Manufacture of insulated wire and cable	Power of machines ≤20 H.P.	Power of machines ≤50 H.P.	Power of machines >50 H.P.
74(3)	38399	Manufacture of other electrical apparatus and supplies	Power of machines ≤20 H.P.	Power of machines ≤50 H.P.	Power of machines > 50 H.P.
74(4)	38391	Manufacture of insulated wire and cable	Power of machines ≤20 H.P.	Power of machines ≤50 H.P.	Power of machines > 50 H.P.

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
74(5)	38392	Manufacture of batteries	-	-	All scale factories
75(1)	38411	Building and repairing of steel ships	Power of machines ≤20 H.P.	Power of machines ≤50 H.P.	Power of machines > 50 H.P.
75(2)	38419	Other ship building and repairing not elsewhere classified	Power of machines ≤20 H.P.	Power of machines ≤50 H.P.	Power of machines > 50 H.P.
75(3)	38414	change or destruction boat Manufacture of	-	-	
76(1)	38420	Manufacture of train, elevated railway basket elevated	Power of machines ≤20 H.P.	Power of machines ≤50 H.P.	Power of machines > 50 H.P.
76(2)	38420	Special part or supplies with train, elevated railway or basket elevated	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines >50 H.P. and factories which plate, stamp or smelt metal
77(1)	38431	Assembly of automobiles	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
77(2)	38439	Other motor vehicle industry	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
78(1)	38440	Manufacture of motorcycles, tricycles and bicycles	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
78(2)	38440	Manufacture of part of motorcycles, tricycles and bicycles	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
79(1)	38450	Manufacture of aircraft or Hopverkraft boat	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
79(2)	38450	Special part or supplies with aircraft or Hopverkraft boat	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
80	38490	Manufacture of rolling stock to people power or animal power but not bicycle	Power of machines ≤20 H.P. but not plate, stamp and smelt metal	Power of machines ≤50 H.P. but not plate, stamp and smelt metal	Power of machines > 50 H.P. and factories which plate, stamp or smelt metal
81(1)	38500	Manufacture of professional and scientific and measuring and controlling equipment not elsewhere classified, and of photographic and optical goods	Power of machines ≤20 H.P. but not plate or coated with chemical	Power of machines ≤50 H.P. but not plate or coated with chemical	Power of machines > 50 H.P. and factories which plate or coated with chemical
81(2)	38500	Manufacture of Cyclotrons, Betatrons or Accelerators	Power of machines ≤20 H.P. but not plate or coated with chemical	Power of machines ≤50 H.P. but not plate or coated with chemical	Power of machines > 50 H.P. and factories which plate or coated with chemical
81(3)	38500	Manufacture of medical equipment	Power of machines ≤20 H.P. but not plate or coated with chemical	Power of machines ≤50 H.P. but not plate or coated with chemical	Power of machines > 50 H.P. and factories which plate or coated with chemical
82	38500	Manufacture about eye or duplicator	Power of machines ≤20 H.P. but not plate or coated with chemical	Power of machines ≤50 H.P. but not plate or coated with chemical	Power of machines > 50 H.P. and factories which plate or coated with chemical
83	38500	Manufacture of clock or watch	Power of machines ≤20 H.P. but not plate or coated with chemical	Power of machines ≤50 H.P. but not plate or coated with chemical	Power of machines > 50 H.P. and factories which plate or coated with chemical
84(1)	39012	Manufacture of knicknack by diamond, supphire, pearl, nickel, gold, Silver, jewel	Power of machines ≤20 H.P. and Employee ≤20 H.P.	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
84(2)	39013	Manufacture of things by gold, nickel, Silver	Power of machines ≤20 H.P. and Employee ≤20 H.P. but not plate stamp and smelt metal	Power of machines ≤50 H.P. and Employee ≤50 persons but not plate stamp and smelt metal	Power of machines > 50 H.P. or Employee > 50 persons and factories which plate, stamp or smelt metal
84(3)	39011	to grind to shape diamond or jewel	Power of machines ≤20 H.P. and Employee ≤20 H.P.	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee ≤50 persons
84(4)	39012	To burn or bake sapphire or jewel	-	All scale factories	-
84(5)	39012	A seal or decorations and medals of houses	-	-	All scale factories
85	39020	Manufacture of musical instruments	Power of machines ≤20 H.P. and Employee ≤20 H.P.	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons
86	39030	Manufacture of sporting and athletic goods	Power of machines ≤20 H.P. and Employee ≤20 H.P.	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons
87(1)	39090	Manufacture of toy	Power of machines ≤20 H.P. and Employee ≤20 H.P.	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons
87(2)	39090	Manufacture of stationary	Power of machines ≤20 H.P. and Employee ≤20 H.P.	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons
87(3)	39090	Diamend or supphire for show	Power of machines ≤20 H.P. and Employee ≤20 H.P.	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons
87(4)	39090	Make to umbrella, lantern, pipe, lighter	Power of machines ≤20 H.P. and Employee ≤20 H.P.	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
87(5)	39090	Make to paint, rubber, Stencils	Power of machines ≤20 H.P. and Employee ≤20 H.P.	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons
87(6)	39090	Make to net or wig	Power of machines ≤20 H.P. and Employee ≤20 H.P.	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons
87(7)	39090	Other	Power of machines ≤20 H.P. and Employee ≤20 H.P.	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons
88	41010	Manufacture of produce, send or to sell electric energy	-	-	All scale factories
89	95130	Factories produce gases (non-natural gas)	-	-	All scale factories
90	42000	Manufacture of pure water	-	-	All scale factories
91(1)	71910	Other services incidental to transport	Power of machines ≤20 H.P. and Employee ≤20 H.P.	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons
91(2)		gas Containing	-	-	All scale factories
92	71920	Manufacture of Frozen	Power of machines ≤20 H.P. and Employee ≤20 H.P.	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons
93	95110	Repair of shoe or leather Industrial	All scale factories	-	-
94	95120	Repair of electric Industrial with house	All scale factories	-	-
95(1)	95131	Repair of motor vehicles	-	-	All scale factories
95(2)	95191	Repair of tricycle, bicycle or composition	-	-	All scale factories
95(3)	99999	Paint anti rust chemical on vehicle	-	-	All scale factories
95(4)	99999	To lubricate or wash motor	All scale factories	-	-
96	95140	Repair of clock or knicknaek by diamond, supphire, nickel, gold, Silver or jewel	All scale factories	-	-
97	95190	Other repair shops not elsewhere classified	Power of machines ≤20 H.P.	Power of machines ≤50 H.P.	Power of machines > 50 H.P.

Industrial		Description	Scale of factory		
MOI code	TSIC Code		Group 1	Group 2	Group 3
			and Employee ≤20 H.P.	and Employee ≤50 persons	or Employee > 50 persons
98	95200	Laundries, laundry services, and cleaning and dyeing plants	Power of machines ≤20 H.P. and Employee ≤20 H.P.	Power of machines ≤50 H.P. and Employee ≤50 persons	Power of machines > 50 H.P. or Employee > 50 persons
99	35291	Manufacture of firearms, explosive	-	-	All scale factories
100(1)	38198	Coating, engraving and allied color services	-	-	All scale factories
100(2)	38198	Coating, engraving and allied lacqour or vanish service	-	-	All scale factories
100(3)	38198	To apply black lacqour or decorate with glass, mirror. pearl, gold or precious stone	All scale factories	-	-
100(4)	38198	The polish	-	-	All scale factories
100(5)	38198	Plating anodizing	-	-	All scale factories
100(6)	38198	Heat treatment	-	-	All scale factories
101	99999	Central waste treatment plant	-	-	All scale factories
102	38210	Steam generating and sale	-	-	All scale factories
103(1)	29030	Salt production	-	-	All scale factories
103(2)	29030	Manufacture of pump salt from underground	-	-	All scale factories
103(3)	29030	Manufacture of grinded salt	Power of machines ≤20 H.P.	Power of machines ≤50 H.P.	Power of machines > 50 H.P.
103(4)	29030	Manufacture of pure salt	-	-	All scale factories
104		Manufacture of producted, repaired of steam and boiler	-	-	All scale factories

Annex 5.2 MOI Notifications Concerning IWM

Annex 5.2.1 The Notification of the Ministry of Industry No.6 [B.E. 2540 (1997)] Issued Pursuant to the Factory Act B.E. 2535 (1992)

Subject: Disposal of Wastes or Unusable Materials

(Unofficial Translation)

By virtue of Article 13(3), Article 13(3)(a) and Article 13(3)(b) of the Ministerial Regulations No. 2 [B.E. 2535 (1992)] issued pursuant to the Factory Act B.E. 2535(1992), the Minister of Industry issues a notification as follows :-

Article 1. The owner of factory having wastes or unusable materials which have such characteristics and properties as defined in Appendix 1[1] hereto must carry out the disposal of the wastes or unusable materials as defined in Article 2 and Article 3.

Article 2. The wastes or unusable materials under Article 1 shall not be taken out of the factory except with prior approval[2] from the Director-General of Industrial Works Department or the person assigned by Director-General of Industrial Works Department to take them out to detoxify, dispose, discard or landfill by method and at the place according to the criterion and the method defined in Appendix 2[3] hereto.

Article 3. Details on type, quantity, characteristics, properties and storing place of the wastes or unusable materials concerned as well as method of storage, detoxification, disposal, discarding, landfilling and transport according to "Form Ro Ngo 6[4]", attached hereto must be notified to the Department of Industrial Works within the limit of 90 days from the effective date hereof, except that factory operators who operate a factory after the effective date hereof shall notify within the limit of 90 days from the commencing date of factory operation.

The details under paragraph one must be further notified every year by 30th day of December and this notice may be done by receipt-returned registered mail, which shall be deemed to be received on the date delivered by the postman.

This shall, thus, come into force after the date of the publication hereof in the Royal Government Gazette.

Announced on the 29th October 1997.

(Signed): Korn Thappharangsi
(Mr. Korn Thappharangsi)
Minister of Industry.

Published in the Royal Government Gazette, Volume 114, Special Section 106 Ngor. dated 13th November 1997 (B.E.2540).

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[1] see Annex 5.2.3
[2] see Annex 5.3.1
[3] see Annex 5.2.4
[4] see Annex 5.3.2

Attachment of the Notification of The Ministry of Industry No.6 [B.E. 2540 (1997)]

Appendix 1: List of characteristics and properties to wastes or unusable materials. (Details are shown in Annex 5.2.3 of this report.)

Appendix 2: Regulations and procedure of poisonous Destruction, Disposal or Land filling of waste or unuseful materials. (Details are shown in Annex 5.2.4 of this report.)

Annex 5.2.2 The Notification of the Ministry of Industry No.1 [B.E. 2541 (1998)] Issued Pursuant to the Factory Act B.E. 2535 (1992)

Subject: Disposal of Wastes or Unusable Materials

(Unofficial Translation)

By the virtue of article 13(3) and Article 13(3)(a) of the Ministerial Regulation, no 2. B.E. 2535 (1992), issued pursuant to the Factory Act B.E. 2535(1992), the Minister of Industry issues a notification as follows:-

Article 1. The owner of factory located in the Provinces of Bangkok Metropolis, Samut Prakarn, Nonthaburi, Pathum Thani, Samut Sakhon, Nakhon Pathom, Chon Buri, Chasoengsao, Rayong, Prachin Buri, Nakhon Ratchasima, Lamphun, Sara Buri and Phra Nakhon Si Ayutthaya which have wastes or unusable materials having characteristic and properties as defined in the Appendix 1 attached to this notification, must proceed with the disposal of such waste or unusable used materials as defined in Article 2.

Article 2. It is prohibited to take the wastes or unusable materials in article 1 out of the factory except with prior approval from the Director General of the Department of Industrial Works or the person whom the Director General of the Department of Industrial Works has delegated to take them out for detoxification, disposal, discarding or landfilling with the method and at the place according to the criterion and methods as defined in the Appendix 2 of this notification.

This shall, thus, come into force after the lapse of a period of 60 days from the publication in the Royal Government Gazette onwards.

Announced on the 26th May 1998.
(Signed): Somsak Thepsuthin
(Mr. Somsak Thepsuthin)
Minister of Industry.

Published in the Royal Government Gazette Volume 115, Special Part 44 Ngor. dated 5th June 1998. (B.E. 2541)

Attachment of the Notifications of The Ministry of Industry No.1 [B.E. 2541(1998)]

Appendix 1: List of waste or unuseful materials

Appendix 2: Regulations and procedure of poisonous destruction, disposal or landfill of waste or unuseful materials. (Details are shown in Annex 5.2.5 of this report.)

Annex 5.2.3 List of Characteristics and Properties of Wastes or Unusable Materials Attached to the Notification of the Ministry of industry No.6 [B.E. 2540 (1997)]

Section 1

Wastes or Unusable Materials of the Categories of Ignitable Substances, Corrosive Substances, Reactive Substances, Toxic Substances and Leachable Substances

Article 1. Ignitable substances with characteristics and properties as follows :-

1.1 Being a liquid with flash point less than 60 degrees Celsius (140 degrees Fahrenheit) but not including an aqueous solution with alcohol content less than 24 percent by volume, the test method or the analysis method measured by Pensky Martens Closed Cup Tester according to the test method of ASTM Standard D-93-79 or D-93-80 or by the Setaflash Closed Cup Tester according to the test method of ASTM Standard D-3278-78.

1.2 Being a substance other than liquid but capable of causing fire through fiction, absorption of moisture or spontaneous chemical reaction when ignited will burn vigorously and continuously, causing a severe hazard under the standard temperature and pressure (Pressure of 1 atmosphere and temperature of 0 degree Celsius).

1.3 Being an ignitable compressed gas, which shall mean any material or mixture contained in a container with absolute pressure more than 2.81 kilograms per square centimeter (40 pounds per square inch) at 21 degrees Celsius (70 degree Fahrenheit) or with absolute pressure more than 7.31 Kilogram per square) at 55 degrees Celsius (130 degree Fahrenheit), the test method or the analysis method done by measurement according to the test method of ASTM Standard D-323.

1.4 Being an oxidizer which gives oxygen quickly and is capable of exciting the combustion of organic substances, e.g. chlorate, permanganate, inorganic peroxide and nitrate.

Article 2. Corrosive substances with characteristics and properties as follows :-

2.1 Being an aqueous substance with pH equal to or less than 2 and pH equal to or more than 12.5, the test method of the analysis method measured by the pH-meter according to the test method of US.EPA. Method 9040.

2.2 Being a liquid capable of corroding steel of the class of SAE 1020 at a rate higher than 6.35 millimeters (0.250 inch) per year at temperature of 55 degrees Celsius (130 degrees Fahrenheit), the test method or the analysis method measured by the method of NACE (National Association of Corrosion Engineers) Standard TM-01-69.

Article 3. Reactive substances with characteristics and properties as follows :-

3.1 Being a substance with unstable condition and capable of reacting quickly and violently without detonating.

3.2 Being a substance which reacts violently with water.

3.3 Being a substance which, when combined with water, will yield an explosive mixture.

3.4 Being a substance which, when combined with water, will generate toxic gases, toxic vapor, or toxic fumes in a quantity potential to cause a hazard to human health and the environment.

3.5 Being a substance consisting of cyanide or sulfide which, when having pH between 2 to 11.5, will generate a toxic gas, toxic vapor or toxic fume in a quantity potential to cause a hazard to human health and the environment.

3.6 Being a substance which, when heated in a confined space, will have a reaction of exploding viorently or when being in a place where there is the standard temperature and pressure (pressure of 1 atmosphere and temperature of 0 degree Celsius) will have a viorently reaction and may explode.

Article 4. Toxic substances with characteristics and properties as follows :-

4.1 Being a substance hazardous to human health by causing death in only a small quantity, the test method or the analysis method measured by the US EPA Method of toxicity test.

4.2 Being a substance with characteristics and properties as follows :-

When rats are used as experimental animals, LD50(Oral LD50) is less than 50 milligrams per kilogram of the body weight or LC50 (inhalation LC50) less than 100 parts per million (vapor or gas) or when rabbits are used as experimental animals, LD50(dermal rabbit LD50) is less than 32 milligrams per kilogram of the body weight, in which case LD50 means the medium lethal dosage causing the death of one half of the animals used in the experiment (50%), LD50 having its unit in milligrams of substance per kilogram of the animal body weight, and LC50 means the medium lethal concentration in the medium causing the death of one half of the animals used in the experiment (50%), LC50 having its unit in parts (by volume or weight) of substance per million of the medium.

4.3 Being a substance generated from a production process containing or contaminated with carcinogen under the list in Group 1, Group 2A and Group 2B of the International Agency for Research on Cancer (IARC).

4.4 Being a substance toxic to experimental aquatic life with LC50 less than 5 milligram per liter within 96 hours.

4.5 Being a substance which, when diluted for concentration less than 20 percent, still causes LC50 to the experimental animals within 96 hours.

Article 5. Leachable substances are substances which, when extracted by the leachate extraction procedure and the extract analysis method under the criterion

specified in Article 3 of Annex 2 hereto, has heavy metals or toxic materials content in the extract equal to or more than any of the following values :-

Arsenic (total)	5.0	mg/l
Barium	100.0	mg/l
Benzene	0.5	mg/l
Cadmium (total)	1.0	mg/l
Carbon tetrachloride	0.5	mg/l
Chlordance	0.03	mg/l
Chlorobenzene	100.0	mg/l
Chloroform	6.0	mg/l
Chromium (total)	5.0	mg/l
Ortho-Cresol	200.0	mg/l
Meta-Cresol	200.0	mg/l
Para-Cresol	200.0	mg/l
Cresol (total)	200.0	mg/l
2-4 D	10.0	mg/l
1,4-Dichlorobenzene	7.5	mg/l
1,2-Dichloroethane	0.5	mg/l
1,1-Dichloroethylene	0.7	mg/l
Endrin	0.02	mg/l
Heptachlor and its epoxide	0.008	mg/l
Hezachlorobenzene	0.13	mg/l
Hezachlorobutadiene	0.5	mg/l
Hezachloroethane	3.0	mg/l
Leand (total)	5.0	mg/l
Lindane	0.4	mg/l
Mercury (total)	0.2	mg/l
Methozychlor	10.0	mg/l
Methyl ethyl ketone	200.0	mg/l
Nitrobenzene	2.0	mg/l
2,4-Nitrotoluene	0.13	mg/l
Pentachlorophenol	100.0	mg/l
Pyridine	5.0	mg/l
Selenium	1.0	mg/l
Silver	5.0	mg/l

Tetrachloroethylene	0.7	mg/l
Tozaphene	0.5	mg/l
Trichloroethylene	0.5	mg/l
2,4,5-Trichlorophenol	400.0	mg/l
2,4,6-Trichlorophenol	2.0	mg/l
2,4,5-TP (Silvex)	1.0	mg/l
Vinyl Chloride	0.2	mg/l

Section 2

Wastes or Unusable Materials From Non-specific Sources and Specific Sources

Article 6. Hazardous wastes from non-specific sources with characteristics and properties as follows :-

6.1 Spent halogenated solvents which are used in degreasing process, i.e. tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1 - trichloroethane, carbon tetrachloride, chlorinated fluorocarbon, including the case of being a mixture with other solvent used in the degreasing process, in which before being used there is one or more kinds of such solvent in a quantity of 10 per cent or more (by volume) and still bottoms generated from the recovery process from the mixture of such solvents.

6.2 Spent halogenated solvents, i.e. Tetrachloroethylene, Methylene chloride, Trichloroethylene, 1,1,1 - trichloroethane, Chlorobenzene, 1,1,2 - trichloro - 1,2,2 - trifluroethane, ortho-dichlorobenzene, trichlofluoro methane, 1,1,2 - trichloroethane, including the case of being a mixture with other solvents, in which before being used there is one or more kinds of such solvent mixed in a quantity of 10 per cent or more (by volume) and still bottoms generated from the recovery process from the mixture of such solvents.

6.3 Spent non-halogenated solvents of Group 1, i.e. Xylene, Acetone, Ethyl acetate, Ethyl benzene, Ethyl ether, Methyl isobutylketone, N-butyl alcohol, Cyclo hexanone and Methanol, including the case of being a mixture with other kinds of solvent, in which before being used there is one or more kinds of such solvent mixed in a quantity of 10 percent or more (by volume) and still bottoms generated from the recovery process from the mixture of such solvents.

6.4 Spent non-halogenated solvents of Group 2, i.e. Cresols, Cresylic acid and Nitrobenzene, including a mixture of other solvents, in which case before being used there is one or more kinds of such solvent mixed in a quantity of 10 percent or more (by volume) and still bottoms generated from the recovery process from the mixture of such solvents.

6.5 Spent non-halogenated solvents of Group 3, i.e. Toluene, Methyl ethyl ketone, Carbon disulfide, Isobutanol, Pyidine, Benzene, 2-ethoxyethanol and 2-nitropropane, including a mixture of other solvents, in which case before being used there is one or more kinds of such solvent mixed in a quantity of 10 percent or more (by volume) and still bottoms generated from the recovery process from the mixture of such solvents.

6.6 Wastewater treatment sludges from electroplating operations, except from the process of sulfuric acid anodizing of aluminium, the process of tin plating on carbon steel, the process of zinc plating on carbon steel, the process of aluminium or zinc plating on carbon steel, including cleaning/stripping water from the processes of plating carbon steel with tin, zinc and aluminium and chemical agents used in the etching and milling of aluminium.

6.7 Spent cyanide plating bath solutions from electroplating.

6.8 Plating bath residues from bottom of plating bath using cyanide in the plating process.

6.9 Spent solution from cleaning stripping using cyanide in the electroplating processes.

6.10 Quenching bath residues from oil baths in the metal heat treating operations using cyanide in the process.

6.11 Spent cyanide solution from cleaning workpieces by the salt bath pot cleaning method from metal heat treating operations.

6.12 Sludges of the wastewater treatment system from quenching in metal heat treating operation using cyanide in the process.

6.13 Wastewater treatment sludge from chemical conversion coating, of aluminium except from zirconium phosphating in aluminium can washing operations.

6.14 Wastes from the production or industrial use of tri- or tetrachlorophenol or of an intermediate in the production of chlorophenol derivatives, which is used to serve as reactant or chemical intermediate or component in the formulating process. This does not include wastes from the production of hexachlorophene from purified 2, 4, 5 - trichlorophenol and except wastewater and spent carbons from the process of hydrogen chloride purification.

6.15 Wastes from the production or industrial use of pentachloro phenol or of an intermediate used in the production of pentachloro phenol derivatives, which is used to serve as reactant or chemical intermediate or component in the formulating process, except wastewater and spend carbons from the process of hydrogen chloride purification.

6.16 Wastes from the production or industrial use of tetra-, penta- or hexachlorobenzenes in the alkaline condition, which is used to serve as reactant or chemical intermediate or component in the formulating process, except wastewater and spent carbons from the process of hydrogen chloride purification.

6.17 Wastes from the production of any material or substance using tools or devices used in the production process of tri- and tetrachlorophenols, which does not include wastes from the tools or devices used only in the production (or use) of hexachlorophene from purified 2, 4, 5 - trichlorophenol and except wastewater and spent carbons from the process of hydrogen chloride purification.

6.18 Wastes from the production process of chlorinated aliphatic hydrocarbons using free radical catalyzed process, including distillation residues, heavy ends, tars and wastes from reaction tank cleaning from the production process of chlorinated aliphatic hydrocarbons by using free radical catalyzed process, these chlorinated aliphatic hydrocarbons may have a carbon chain length from 1 to 5 and regardless of what quantity and position of a chlorine substitute or at any position.

This does not include wastewater sludges from the wastewater treatment and spent catalysts.

6.19 Condensed light ends, filter aids and spent desiccants from the production of chlorinated aliphatic hydrocarbons using free radical catalyzed process. These chlorinated aliphatic hydrocarbons may have carbon chain length from 1 to 5 and regardless of any quantity and position of a chlorine substitution or at any position.

6.20 Wastes from the production of any material or substance using tools or devices in the production or industrial use process of tetra-, penta-, hexa-chlorobenzene in the acid condition, which is used to serve as reactant or chemical intermediate or component in the formulating process, except wastewater and spent carbons from the process of hydrogen chloride purification.

6.21 Discarded unused formulations containing tre, -tetra or penta chlorophenol compound derived from tri-, tetra- or penta chlorophenol: this does not include discarded unused formulations containing hexachlorophenol synthesized from purified 2, 4, 5 - trichlorophenol.

6.22 Residues from incineration or thermal treatment of soil contaminated soil with wastes or unusable materials under Article 6.14, Article 6.15, Article 6.16, Article 6.17, Article 6.20 and Article 6.21.

6.23 Wastewater and residues form wood preserving process including preservative drippage and spent formulation in factory using chlorophenolic except wastewater not contaminated from the process.

6.24 Wastewater and residues from wood preserving process using creosote formulation including preservative drippage and spent formulation, not including wastewater treatment sludge from wood preserving process using creosote or pentachlorophenol and except wastewater not contaminated from the process.

6.25 Wastewater or residues from the wood preserving process in factories using

inorganic preservatives containing arsenic and chromium, including preservative drippage and spent formulations, not including wastewater treatment sludges arising from the wood preserving process using creosote or pentachlorophenol and except wastewater not contaminated from the producing process.

6.26 Primary sludges of petroleum refinery derived from oil/water/solids separation, including any oil sludge, water or solid derived from sludge gravitational separation in wastewater storage or treatment or from oily cooling wastewater sludge, sludges arising in oil / water / solid separators in tanks and impoundments, in ditches, in conveyances, in sumps and in stormwater units whether receiving or not receiving dry weather flows, sludges arising from the separation of cooling water or cooling water mixed with oil, biological treatment system sludges, including sludges arising from other treatment units after biological treatment.

6.27 Emulsified secondary sludges of petroleum refinery derived from oil/water/solids separation, including any sludges or floats arising from physical or chemical separation of oil, water, solids in the wastewater treatment process (including wastewater from cooling), which sludges include sludges and floats arising in the process of separating sludges with air foams or induced air flotation (IAF), sludges in tanks and impoundments and all sludges arising in DAF (dissolved

air flotation) system, sludges arising in stormwater units not receiving dry weather flows, sludges arising from the separation of cooling water and cooling water mixed with oil, biological treatment system sludges, including sludges arising from other treatment units after biological treatment.

Article 7. Hazardous wastes from specific sources with characteristics and properties as follows :-

7.1 Wood preservation industry, i.e. wastewater treatment sludges from the process of wood preservation with creosote or pentachloro phenol.

7.2 Inorganic pigments production industry, i.e. wastewater treatment sludges from the production process of chrome yellow and orange pigments, molybdate orange pigments, zinc yellow pigments, chrome green pigments, chrome oxide green pigments, both anhydrous and hydrated forms, iron blue pigments, including oven residues from the chrome oxide green pigment.

7.3 Organic chemicals production industry, i.e.

7.3.1 Distillation bottoms in the production of acetaldehyde from ethylene.

7.3.2 Distillation side cuts in the production of acetaldehyde from ethylene.

7.3.3 Bottom stream from wastewater strippers in the production of acrylonitrile.

7.3.4 Bottom stream from acrylonitrile column in the production of acrylonitrile.

7.3.5 Bottoms from acrylonitrile purification column in the production of acrylonitrile.

7.3.6 Still bottoms in the distillation of benzyl chloride.

7.3.7 Distillation residues or heavy ends in the production of carbon tetrachloride.

7.3.8 Heavy ends or still bottoms from purification column in production of epichlorhydrin.

7.3.9 Heavy ends from fractionation column in the production of ethyl chloride.

7.3.10 Heavy ends from the distillation of ethylene dichloride in the production of ethylene dichloride.

7.3.11 Heavy ends from the distillation of vinyl chloride in the production of vinyl chloride monomers.

7.3.12 Wastewater from use of the antimony catalyst in the production of fluoromethane.

7.3.13 Distillation bottom tars in the production of phenol/acetone from cumene.

7.3.14 Distillation light ends in the production of phthalic anhydride from naphthalene.

7.3.15 Distillation bottoms in the production of phthalic anhydride from naphthalene.

7.3.16 Distillation bottoms in the production of nitrobenzene by the nitration of benzene.

7.3.17 Stripping still tails from the production of methyl ethyl pyridine.

7.3.18 Residues from centrifugation and distillation in the production of toluene diisocyanate.

7.3.19 Spent catalysts from the hydrochlorinator in the production of 1,1,1 - trichloroethane.

7.3.20 Wastes from the product stream stripper in the production of 1,1,1 - trichloroethane.

7.3.21 Column bottoms or heavy ends in the joint production of trichloroethylene and perchloroethylene.

7.3.22 Distillation bottoms in the production of aniline.

7.3.23 Distillation bottoms or fractionation column bottoms in the production of chlorobenzene.

7.3.24 Distillation light ends in the production of phthalic anhydride from ortho-xylene.

7.3.25 Distillation bottoms in the production of phthalic anhydride from ortho-xylene.

7.3.26 Distillation bottoms in the production of 1,1,1 - trichloroethane.

7.3.27 Heavy ends from heavy ends column in the production of 1,1,1 - trichloroethane.

7.3.28 Residues from the distillation of aniline in the production of aniline.

7.3.29 Combined wastewater in the production of nitrobenzene and aniline.

7.3.30 Wastewater separated from the reactor product washing procedure in the production of chlorobenzene.

7.3.31 Column bottoms from product separation in the production of 1,1 - dimethyl hydrazine or UDMH from carboxylic acid hydrazine.

7.3.32 Condensed column overheads from product separation procedure and condense reaction vent gases from the production of 1, 1 dimethyl hydrazine or UDMH from carboxylic acid hydrazine.

7.3.33 Filter cartridges from product purification procedure in the production of 1,1 - dimethyl hydrazine or UDMH from carboxylic acid hydrazine.

7.3.34 Condensed column overheads from intermediates separation procedure in the production of 1,1 - dimethyl hydrazine or UDMH from carboxylic acid hydrazine.

7.3.35 Wastewater in dinitrotoluene production by nitration of toluene.

7.3.36 Reaction by-products from drying column in toluenediamine production by hydrogenation of dinitrotoluene.

7.3.37 Condensed liquid light ends from toluene diamine purificaiton procedure in the Toluene diamine production by hydrogenation of dinitrotoluene.

7.3.38 Vicinals from toluenediamine purification in toluened amine production by hydrogenation of dinitrotoluene.

7.3.39 Heavy ends from toluenediamine purification procedure in toluenediamine production by hydrogenation of dinitrotoluene.

7.3.40 Organic condensate from solvent recovery column in toluene diisocyanate production by phosphogenation of toluenediamine.

7.3.41 Wastewater from reactor vent gas scrubber in ethylene dibromide production by bromination of ethene.

7.3.42 Spent absorbent solids from purification of ethylene dibromide in ethylene dibromide production by bromination of ethene.

7.3.43 Still bottoms from purification of ethylene dibromide in ethylene dibromide production by bromination of ethene.

7.3.44 Distillation bottoms in production of alpha-/methyl-/ring-chlorinated toluene, benzoyl chlorides and compounds with a mixture of such functional groups, except still bottoms from benzyl chloride distillation.

7.3.45 Organic residuals from spent chlorine gas and hydrochloric acid recovery in production of alpha-/methyl-/ring-chlorinated toluene, benzoyl chlorides and compounds with a mixture of such functional groups, except spent carbon absorbents.

7.3.46 Wastewater Treatment sludges from production of alpha-/methyl-/ring-chlorinated toluene, benzoyl chlorides and compounds with a mixture of such functional groups, except sludges from neutralization and biological sludges.

7.4 Inorganic chemicals production industry, i.e.

7.4.1 Brine purification muds from chlorine production by mercury cell in which separately per purified brine is not used.

7.4.2 Chlorinated hydrocarbon wastes from purification procedure in chlorine production by diaphragm cell.

7.4.3 Wastewater treatment sludges from chlorine production by mercury cell.

7.5 Pesticide production industry, i.e.

7.5.1 By-products salts generated in MSMA and cacodylic acid production.

7.5.2 Wastewater treatment sludges in chlordane production.

7.5.3 Wastewater and water from scrubbing from chlorination of cyclopentadiene in chlordane production.

7.5.4 Filter solids from hexachloro cyclopentadiene filtration in chlordane production.

7.5.5 Wastewater treatment sludges in creosote production.

7.5.6 Still bottoms from toluene recovery in disulfoton production.

7.5.7 Wastewater treatment sludges in disulfoton production.

7.5.8 Wastewater from cleaning/stripping in phorate production.

7.5.9 Filter cake in diethylphosphorodithioic acid filtration in phorate production.

7.5.10 Wastewater treatment sludges in phorate production.

7.5.11 Wastewater treatment sludges in toxaphene production.

7.5.12 Distillation residue or heavy ends from tetrachlorobenzene distillation in 2,4,5 - T production.

7.5.13 2,6 - dichlorophenol wastes in 2,4 - D production.

7.5.14 Wastewater from vacuum stripper from chlorinator of chlordane in chlordane production.

7.5.15 Untreated wastewater in toxaphene production.

7.5.16 Untreated wastewater in 2,4-D production.

7.5.17 Wastewater in production of ethylenebisdithio carbamic acid and salt, including wash water supernates and filtrates.

7.5.18 Wastewater from reactor vent scrubber in ethylenebisdithiocarbamic acid and its salt production.

7.5.19 Materials derived from filtration, evaporation and centrifugation in ethylenebisdithio carbamic acid and its salt production .

7.5.20 Baghouse dust and floor sweeping dust from milling and packaging in production or formulation of ethylenebisdithio carbamic acid and its salt.

7.5.21 Wastewater from reactor and spent sulfuric acid from acid dryer in methyl bromide production .

7.5.22 Materials separated from wastewater and spent absorbents in methyl bromide production .

7.6 Production of explosives, i.e. wastewater treatment sludges from explosive production , spent carbons contaminated with explosive, wastewater treatment sludges from production, formulation or loading of initiating lead-based compounds and pink/red water from TNT preparation.

7.7 Petroleum refining industries, i.e. floats from dissolved air flotation (DAF) system, slop oil emulsions, tank bottoms contaminated with lead, sludges from API separator and sludges from heat exchange bundle.

7.8 Iron and steel production industry, i.e. wastes and dust from emission control in primary steel production using an electric furnace and spent pickle liquid from the steel finishing process arising in various production units.

7.9 Primary copper production industry, i.e. sludge and slurry blowdown in thickening in an acid plant.

7.10 Primary lead production industry, i.e. residues being in or scraped from surface impoundment in a smelting unit.

7.11 Primary zinc production industry, i.e. sludge or blowdown from an acid plant.

7.12 Primary aluminium production industry, i.e. spent potliners.

7.13 Secondary lead production industry, i.e. wastes and dust arising in production and spent solutions from leaching of wastes and dust derived from emission control with acid leaching.

7.14 Veterinary pharmaceuticals production industry, i.e. wastewater treatment sludges and distillation tars from distillation of aniline-based compounds and residues of activated carbon for decolorization in the production using arsenic or organo-arsenic compound.

7.15 Ink formulation industry, i.e. sludges and washes of solvents, caustic soda or water derived from cleaning tubs and equipment used in ink formulation from pigments, driers, soaps and stabilizers having chromium and lead as components.

7.16 Coking industry, i.e.

7.16.1 Ammonia still lime sludges from coking.

7.16.2 Tar sludges in decanter tank.

7.16.3 Residues from coal tar recovery , e.g. collecting sump residues in producing coke from coal or from recovery of coke by-products.

7.16.4 Tar storage tank residues in producing coke from coal or recovery of coke by-products.

7.16.5 Residues from light oil recovery , e.g. residues arising in stills, in decanters and in wash oil recovery units, which are in coke by-product, recovery .

7.16.6 Wastewater sump residues from light oil refining, including sludges from interception or contamination unit in coke by-product recovery .

7.16.7 Naphthalene collection and recovery residues in coke by-product recovery .

7.16.8 Tar storage tank residues in coal tar refining .

7.16.9 Coal tar distillation residues, including still bottoms.

7.17 Petrochemical industry, i.e. plastic products contaminated with solvents, plastic scrap arising from incomplete polymerization or contaminated with various types of solvents, wastewater treatment sludges contaminated with solvents

or plastics of incomplete polymerization and surplus or spent catalysts and intermediates of all kinds.

Section 3

Wastes or Unusable Materials Having Characteristics and Properties of Unusable or Discarded chemical product, Off-specification species, Container Residues or Spill Residues

Article 8. Acute Hazardous chemicals.

8.1 Acetaldehyde, chloro-
8.2 Acetamide, N-(aminothiomethyl)-
8.3 Acetamide, 2-fluoro-
8.4 Acetic acid, fluoro-, (sodium salt)
8.5 1-Acetyl-2-thiourea
8.6 Acrolein
8.7 Aldicarb
8.8 Aldrin
8.9 Allyl alcohol
8.10 Aluminium phosphide
8.11 5-(Aminomethyl)-3-isoxazolol
8.12 4-Aminopyridine
8.13 Ammonium picrate
8.14 Ammonium vanadate
8.15 Argentate (1-), bis(cyano-C)-, potassium
8.16 Arsenic acid H3AsO4
8.17 Arsenic oxide As2O3
8.18 Arsenic oxide As2O5
8.19 Arsenic pentoxide
8.20 Arsenic trioxide
8.21 Arsine, diethyl-
8.22 Arsonous dichloride, phenyl-
8.23 Aziridine
8.24 Aziridine, 2-methyl-
8.25 Barium cyanide
8.26 Benzenamine, 4-chloro-
8.27 Benzenamine, 4-nitro-

8.28 Benzene, (chloromethyl)-

8.29 1, 2-Benzenadiol, 4-[1-hydroxy-2-(methylamino)ethyl]-

8.30 Benzeneethanamine, alpha, alpha-dimethyl-

8.31 Benzenethiol

8.32 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl-butyl)- salt when present at concentration more than 0.3 %

8.33 Benzyl chloride

8.34 Beryllium powder

8.35 Bromoacetone

8.36 Brucine

8.37 2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[(methylamino)carbonyl] oxime

8.38 Calcium cyanide

8.39 Calcium cyanide Ca(CN)2

8.40 Carbon disulfide

8.41 Carbonic dichloride

8.42 Chloroacetaldehyde

8.43 p-Chloroaniline

8.44 1-(o-Chlorophenyl)thiourea

8.45 3-Chloropropionitrile

8.46 Copper cyanide

8.47 Copper cyanide Cu(CN)

8.48 Cyanides (soluble cyanide salts)

8.49 Cyanogen

8.50 Cyanogen chloride

8.51 Cyanogen chloride (CN)Cl

8.52 2-Cyclohexyl-4, 6-dinitrophenol

8.53 Dichloromethyl ether

8.54 Dichlorophenylarsine

8.55 Dieldrin

8.56 Diethylarsine

8.57 Diethyl-p-nitrophenyl phosphate

8.58 O, O-Diethyl O-pyrazinyl phosphorothioate

8.59 Diisopropylfluorophosphate (DFP)

8.60 1, 4, 5, 8-Dimethanonaphthalene, 1, 2, 3, 4, 10, 10-hexa- chloro- 1, 4,4a, 5, 8, 8a, -hexahydro-, (1alpha, 4alpha, 4abeta, 5alpha, 8alpha, 8abeta)-

8.61 1, 4, 5, 8-Dimethanonaphthalene, 1, 2, 3, 4, 10, 10-hexa- chloro- 1, 4, 4a, 5, 8, 8a, -hexahydro-, (1alpha, 4alpha, 4abeta, 5beta, 8beta, 8abeta)-

8.62 2, 7:3, 6-Dimethanonaphth[2, 3-b]oxirene, 3, 4, 5, 6, 9, 9-hexachloro-1a, 2, 2a, 3, 6, 6a, 7, 7a-octahydro-, (1aalpha, 2beta, 2aalpha, 3beta, 6beta, 6aalpha, 7beta, 7aalpha)-

8.63 2, 7:3, 6-Dimethanonaphth[2, 3-b]oxirene, 3, 4, 5, 6, 9, 9-hexachloro-1a, 2, 2a, 3, 6, 6a, 7, 7a-octahydro-, (1aalpha, 2beta, 2abeta, 3alpha, 6alpha, 6abeta, 7beta, 7aalpha) and metabolites

8.64 Dimethoate

8.65 alpha, alpha-Dimethylphenethylamine

8.66 4, 6-Dinitro-o-cresol, salt

8.67 2, 4-Dinitrophenol

8.68 Dinoseb

8.69 Diphosphoramide, octamethyl-

8.70 Diphosphoric acid, tetraethyl ester

8.71 Disulfoton

8.72 Dithiobiuret

8.73 Endosulfan

8.74 Endothall

8.75 Endrin

8.76 Endrin and metabolites

8.77 Epinephrine

8.78 Ethanedinitrile

8.79 Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester

8.80 Ethyl cyanide

8.81 Ethyleneimine

8.82 Famphur

8.83 Fluorine

8.84 Fluoroacetamide

8.85 Fluoroacetic acid , sodium salt

8.86 Fulminic acid mercury (+2), salt

8.87 Heptachlor

8.88 Hexaethyl tetraphosphate

8.89 Hydrazinecarbothioamide

8.90 Hydrazine, methyl-

8.91 Hydrocyanic acid

8.92 Hydrogen cyanide

8.93 Hydrogen phosphide

8.94 Isodrin

8.95 3(2H)-Isoxazolone, 5-(aminomethyl)-

8.96 Mercury, (acetato-O)phenyl-

8.97 Mercury fulminate

8.98 Methanamine, N-methyl-N-nitroso-

8.99 Methane, isocyanato-

8.100 Methane, oxybis[chloro-

8.101 Methane, tetranitro-

8.102 Methanethiol, trichloro-

8.103 6, 9-Methano-2, 4, 3-benzodioxathiepin, 6, 7, 8, 9, 10, 10-hexachloro-1, 5, 5a, 6, 9, 9a-hexahydro-, 3-oxide

8.104 4, 7-Methano-1H-indene, 1, 4, 5, 6, 7, 8, 8-heptachloro-3a, 4, 7, 7a-tetrahydro-

8.105 Methomyl

8.106 Methyl hydrazine

8.107 Methyl isocyanate

8.108 2-Methyllactonitrile

8.109 Methyl parathion

8.110 alpha-Naphthylthiourea

8.111 Nickel carbonyl

8.112 Nickel carbonyl Ni(CO)4

8.113 Nickel cyanide

8.114 Nickel cyanide Ni(CN)2

8.115 Nicotine, salts

8.116 Nitric oxide

8.117 p-Nitroaniline

8.118 Nitrogen dioxide

8.119 Nitrogen oxide NO

8.120 Nitrogen oxide NO2

8.121 Nitroglycerine

8.122 N-Nitrosodimethylamine

8.123 N-Nitrosomethylvinylamine

8.124 Octamethylpyrophosphoramide

8.125 Osmium oxide OsO4

8.126 Osmium tetroxide

8.127 7-Oxabicyclo[2.2.1]heptane-2, 3-dicarboxylic acid

8.128 Parathion

8.129 Phenol, 2-cyclohexyl-4, 6-dinitro-

8.130 Phenol, 2, 4-dinitro-

8.131 Phenol, 2-methyl-4, 6-dinitro-, salts

8.132 Phenol, 2-(1-methylpropyl)-4, 6-dinitro-,

8.133 Phenol, 2, 4, 6-trinitro-, Amonium salt

8.134 Phenylmercury acetate

8.135 Phenylthiourea

8.136 Phorate

8.137 Phosgene

8.138 Phophine

8.139 Phosphoric acid, diethyl 4-nitrophenyl ester

8.140 Phosphorodithioic acid, O, O-diethyl S-[(ethylthio)ethyl] ester

8.141 Phosphorodithioic acid, O, O-diethyl S-[(ethylthio)methyl] ester

8.142 Phosphorodithioic acid, O, O-dimethyl S-[2-(methylamino)-oxoethyl] ester

8.143 Phosphorofluoridic acid, bis(1-methylethyl) ester

8.144 Phosphorothioic acid, O, O-diethyl O-(4-nitrophenyl) ester

8.145 Phosphorothioic acid, O, O-diethyl O-pyrazinyl ester

8.146 Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O, O-dimethyl ester

8.147 Phosphorothioic acid, O, O-dimethyl O-(4-nitrophenyl) ester

8.148 Plumbane, tetraethyl-

8.149 Potassium cyanide

8.150 Potassium cyanide K(CN)

8.151 Potassium silver cyanide

8.152 Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime

8.153 Propanenitrile

8.154 Propanenitrile, 3-chloro-

8.155 Propanenitrile, 2-hydroxyl-2-methyl-

8.156 1, 2, 3-Propanetriol, trinitrate

8.157 2-Propanone, 1-bromo-

8.158 Propargyl alcohol

8.159 2-Propenal

8.160 2-Propen-1-ol
8.161 1, 2-Propylenimine
8.162 2-Propyn-1-ol
8.163 4-Pyridinamine
8.164 Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, salts
8.165 Selenious acid, dithallium (1+) salt
8.166 Selenourea
8.167 Silver cyanide
8.168 Silver cyanide Ag(CN)
8.169 Sodium azide
8.170 Sodium cyanide
8.171 Sodium cyanide Na(CN)
8.172 Strychnidin-10-one, salts
8.173 Strychnidin-10-one, 2, 3-dimethoxy-
8.174 Strychnine, salts
8.175 Sulfuric acid, dithallium (1+) salt
8.176 Tetraethyldithiopyrophosphate
8.177 Tetraethyl lead
8.178 Tetraethyl pyrophosphate
8.179 Tetranitromethane
8.180 Tetraphosphoric acid, hexaethyl ester
8.181 Thallic oxide
8.182 Thallium oxide Tl2O3
8.183 Thallium selenite
8.184 Thallium sulfate
8.185 Thiodiphosphoric acid, tetraethyl ester
8.186 Thiofanox
8.187 Thioimidodicarbonic diamide [(H2N)C(S)]2NH
8.188 Thiophenol
8.189 Thiosemicarbazide
8.190 Thiourea, (2-chlorophenyl)-
8.191 Thiourea, 1-naphthalenyl-
8.192 Thiourea, phenyl-
8.193 Toxaphene
8.194 Trichloromethanethiol

8.195 Vanadic acid, amonium salts

8.196 Vanadium oxide V2O5

8.197 Vanadium pentoxide

8.198 Vinylamine, N-methyl-N-nitroso-

8.199 Warfarin, salts, when present at concentration more than 0.3 %

8.200 Zinc cyanide

8.201 Zinc cyanide Zn(CN)2

8.202 Zinc phosphide Zn3P2, when present at concentration more than 10 %

Article 9. Toxic hazardous chemicals

9.1 Acetaldehyde

9.2 Acetaldehyde, trichloro-

9.3 Acetamide, N-(4-ethoxyphenyl)-

9.4 Acetamide, N-9-fluoren-2-yl-

9.5 Acetic acid, (2, 4-dichlorophenoxy)-, salt and esters

9.6 Acetic acid ethyl ester

9.7 Acetic acid, lead (2+), salt

9.8 Acetic acid, thallium (1+), salt

9.9 Acetic acid, (2, 4, 5-trichlorophenoxy)-,

9.10 Acetone

9.11 Acetonitrile

9.12 Acetophenone

9.13 2-Acetylaminofluorene

9.14 Acetyl chloride

9.15 Acrylamide

9.16 Acrylic acid

9.17 Acrylonitrile

9.18 Amitrole

9.19 Aniline

9.20 Arsenic acid, dimethyl-

9.21 Auramine

9.22 Azaserine

9.23 Azirino[2', 3':3, 4]pyrrolo[1, 2-a]indole-4, 7-dione, 6-amino-8-[[(aminocarbonyl)oxy] methyl]-1, 1a, 2, 8, 8a, 8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha, 8beta, 8aalpha, 8balpha)]-

9.24 Benz[j]aceanthrylene, 1, 2-dihydro-3-methyl-

9.25 Benz[c]acridine
9.26 Benzal chloride
9.27 Benzamide, 3, 5-dichloro-N-(1, 1-dimethyl-2-propynyl)-
9.28 Benz[a]anthracene
9.29 Benz[a]anthracene, 7, 12-dimethyl-
9.30 Benzenamine
9.31 Benzenamine, 4, 4'-carbonimidoylbis[N, N-dimethyl-
9.32 Benzenamine, 4-chloro-2-methyl-, hydrochloride
9.33 Benzenamine, N, N-dimethyl-4-(phenylazo)-
9.34 Benzenamine, 2-methyl-
9.35 Benzenamine, 4-methyl-
9.36 Benzenamine, 4, 4'-methylenebis[2-chloro-
9.37 Benzenamine, 2-methyl-5-nitro-
9.38 Benzene
9.39 Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester
9.40 Benzene, 1-bromo-4-phenoxy-
9.41 Benzenebutanoic acid, 4-[bis(2-chloroethyl) ester
9.42 Benzene, chloro-
9.43 Benzenediamine, ar-methyl-
9.44 1, 2-Benezenedicarboxylic acid, bis(2-ethylhexyl) ester
9.45 1, 2-Benezenedicarboxylic acid, dibutyl ester
9.46 1, 2-Benezenedicarboxylic acid, diethyl ester
9.47 1, 2-Benezenedicarboxylic acid, dimethyl ester
9.48 1, 2-Benezenedicarboxylic acid, dioctyl ester
9.49 Benzene, 1, 2-dichloro-
9.50 Benzene, 1, 3-dichloro-
9.51 Benzene, 1, 4-dichloro-
9.52 Benzene, 1, 1'-(2, 2-dichloroethylidene)bis[4-chloro-
9.53 Benzene, (dichloromethyl)-
9.54 Benzene, 1, 3-diisocyanatomethyl-
9.55 Benzene, dimethyl-
9.56 1, 3-benzenediol
9.57 Benzene, hexachloro-
9.58 Benzene, hexahydro-

9.59 Benzene, methyl-

9.60 Benzene, 1-methyl-2, 4-dinitro-

9.61 Benzene, 2-methyl-1, 3-dinitro-

9.62 Benzene, (1-methylethyl)-

9.63 Benzene, nitro-

9.64 Benzene, pentachloro-

9.65 Benzene, pentachloronitro-

9.66 Benzenesulfonic acid chloride

9.67 Benzenesulfonyl chloride

9.68 Benzene, 1, 2, 4, 5-tetrachloro-

9.69 Benzene, 1, 1'-(2, 2, 2-trichloroethylidene)bis[4-chloro-

9.70 Benzene, 1, 1'-(2, 2, 2-trichloroethylidene)bis[4-methoxy-

9.71 Benzene, (trichloromethyl)-

9.72 Benzene, 1, 3, 5-trinitro-

9.73 Benzidine

9.74 1, 2-Benzisothiazol-3(2H)-one, 1, 1-dioxide, salts

9.75 1, 3-Benzodioxole, 5-(2-propenyl)-

9.76 1, 3-Benzodioxole, 5-(1-propenyl)-

9.77 1, 3-Benzodioxole, 5-propyl-

9.78 Benzo(rst)pentaphene

9.79 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, salts, when present at concentration of 0.3 % or less

9.80 Benzo(a)pyrene

9.81 p-Benzoquinone

9.82 Benzotrichloride

9.83 2, 2'-Bioxirane

9.84 [1, 1'-Biphenyl]-4, 4'-diamine

9.85 [1, 1'-Biphenyl]-4, 4'-diamine, 3, 3'-dichloride-

9.86 [1, 1'-Biphenyl]-4, 4'-diamine, 3, 3'-dimethoxy-

9.87 [1, 1'-Biphenyl]-4, 4'-diamine, 3, 3'-dimethyl

9.88 Bromoform

9.89 4-Bromophenyl phenyl ether

9.90 1, 3-Butadiene, N-butyl-N-nitroso-

9.91 1-Butanol

9.92 2-Butanone

9.93 2-Butanone, peroxide

9.94 2-Butenal

9.95 2-Butene, 1, 4-dichloro-

9.96 2-Butenoic acid, 2-methyl-, 7-[[2, 3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl-2, 3, 5, 7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z), 7(2S0, 3R0), 7aalpha]]-

9.97 n-Butyl alcohol

9.98 Cacodylic acid

9.99 Calcium chromate

9.100 Carbamic acid, ethyl ester

9.101 Carbamic acid, methylnitroso-, ethyl ester

9.102 Carbamic chloride, dimethyl-

9.103 Carbamodithioic acid, 1, 2-ethanediylbis-, salt and esters

9.104 Carbamodithioic acid, bis(1-methylethyl)-, S-(2, 3-dichloro-2-propenyl) ester

9.105 Carbonic acid, dithallium (1+) salt

9.106 Carbonic difluoride

9.107 Carbonochloridic acid, methyl ester

9.108 Carbon tetrachloride

9.109 Chloral

9.110 Chlorambucil

9.111 Chlordane, alpha and gamma isomers

9.112 Chlornaphazin

9.113 Chlorobenzene

9.114 Chlorobenzilate

9.115 p-Chloro-m-cresol

9.116 2-Chloroethyl vinyl ether

9.117 Chloroform

9.118 Chloromethyl methyl ether

9.119 beta-Chloronaphthalene

9.120 o-Chlorophenol

9.121 4-Chloro-o-toluidine, hydrochloride

9.122 Chromic acid H2CrO4, calcium salts

9.123 Chrysene

9.124 Creosote

9.125 Cresol (Cresylic acid)

9.126 Crotonaldehyde

9.127 Cumene

9.128 Cyanogen bromide (CN)Br

9.129 2, 5-Cyclohexadiene-1, 4-dione

9.130 Cyclohexane

9.131 Cyclohexane, 1, 2, 3, 4, 5, 6-hexachloro-, (1alpha, 2alpha, 3beta, 4alpha, 5alpha, 6beta)-

9.132 Cyclohexanone

9.133 1, 3-Cyclopentadiene, 1, 2, 3, 4, 5, 5-hexachloro-

9.134 Cyclophosphamide

9.135 2, 4-D, salt and esters.

9.136 Daunomycin

9.137 DDD

9.138 DDT

9.139 Diallate

9.140 Dibenz[a, h]anthracene

9.141 Dibenzo[a, i]pyrene

9.142 1, 2-Dibromo-3-chloropropane

9.143 Dibutyl phthalate

9.144 o-Dichlorobenzene

9.145 m-Dichlorobenzene

9.146 p-Dichlorobenzene

9.147 3, 3'-Dichlorobenzidine

9.148 1, 4-Dichloro-2-butene

9.149 Dichlorodifluoromethane

9.150 1, 1-Dichloroethylene

9.151 1, 2-Dichloroethylene

9.152 Dichloroethyl ether

9.153 Dichloroisopropyl ether

9.154 Dichloromethoxyl ethane

9.155 2, 4-Dichlorophenol

9.156 2, 6-Dichlorophenol

9.157 1, 3-Dichloropropane

9.158 1, 2:3, 4-Diepoxybutane

9.159 1, 4-Diethyleneoxide

9.160 Diethylhexyl phthalate
9.161 N, N'-Diethylhydrazine
9.162 O, O'-Diethyl S-methyl dithiophosphate
9.163 Diethyl phthalate
9.164 Diethylstilbesterol
9.165 Dihydrosafrole
9.166 3, 3'-Dimethoxybenzidine
9.167 Dimethylamine
9.168 p-Dimethylaminoazobenzene
9.169 7, 12-Dimethylbenz[a]anthracene
9.170 3, 3'-Dimethylbenzidine
9.171 alpha, alpha-Dimethylbenzylhydroperoxide
9.172 Dimethylcarbamoyl chloride
9.173 1, 1-Dimethylhydrazine
9.174 1, 2-Dimethylhydrazine
9.175 2, 4-Dimethylphenol
9.176 Dimethyl phthalate
9.177 Dimethyl sulfate
9.178 2, 4-Dinitrotoluene
9.179 2, 6-Dinitrotoluene
9.180 Di-n-octyl phthalate
9.181 1, 4-Dioxane
9.182 1, 2-Diphenylhydrazine
9.183 Dipropylamine
9.184 Di-n-propylnitrosamine
9.185 Epichlorohydrin
9.186 Ethanal
9.187 Ethanamine, N-ethyl-N-nitroso-
9.188 1, 2-Ethanediamine, N, N-dimethyl-N'-2-pyridinyl-N'-(2- thienylmethyl)-
9.189 Ethane, 1, 2-dibromo-
9.190 Ethane, 1, 1-dichloro-
9.191 Ethane, 1, 2-dichloro-
9.192 Ethane, hexachloro-
9.193 Ethane, 1, 1'-[methylenebis(oxy)bis[2-dichloro-
9.194 Ethane, 1, 1'-oxybis-

9.195 Ethane, 1, 1'-oxybis[2-dichloro-
9.196 Ethane, pentachloro-
9.197 Ethane, 1, 1, 1, 2-tetrachloro-
9.198 Ethane, 1, 1, 2, 2-tetrachloro-
9.199 Ethanethioamide
9.200 Ethane, 1, 1, 1-trichloro-
9.201 Ethane, 1, 1, 2-trichloro-
9.202 Ethanol, 2-ethoxy-
9.203 Ethanol, 2, 2'-(nitrosoimino)bis-
9.204 Ethanone, 1-phenyl-
9.205 Ethene, chloro-
9.206 Ethene, (2-chloroethoxy)-
9.207 Ethene, 1, 1-dichloro-
9.208 Ethene, 1, 2-dichloro-, (E)-
9.209 Ethene, tetrachloro-
9.210 Ethene, trichloro-
9.211 Ethyl acetate
9.212 Ethyl acrylate
9.213 Ethyl carbamate (urethane)
9.214 Ethyl ether
9.215 Ethylenebisdithiocarbamic acid, salt and esters
9.216 Ethylene dibromide
9.217 Ethylene dichloride
9.218 Ethylene glycol monoethyl ether
9.219 Ethylene oxide
9.220 Ethylenethiourea
9.221 Ethylidene dichloride
9.222 Ethyl methacrylate
9.223 Ethyl methanesulfonate
9.224 Fluoranthene
9.225 Formaldehyde
9.226 Formic acid
9.227 Furan
9.228 2-Furancarboxaldehyde
9.229 2, 5-Furandione

9.230 Furan, tetrahydro-
9.231 Furfural
9.232 Furfuran
9.233 Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-, D-
9.234 D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)-carbonyl]amino]-
9.235 Glycidyaldehyde
9.236 Guanidine, N-methyl-N'-nitro-N'-nitroso-
9.237 Hexachlorobenzene
9.238 Hexachlorobutadiene
9.239 Hexachlorocyclopentadiene
9.240 Hexachloroethane
9.241 Hexachlorophene
9.242 Hexachloropropene
9.243 Hydrazine
9.244 Hydrazine, 1, 2-diethyl-
9.245 Hydrazine, 1, 1-dimethyl-
9.246 Hydrazine, 1, 2-dimethyl-
9.247 Hydrazine, 1, 2-diphenyl-
9.248 Hydrofluoric acid
9.249 Hydrogen fluoride
9.250 Hydrogen sulfide
9.251 Hydrogen sulfide H2S
9.252 Hydroperoxide, 1-methyl-1-phenylethyl-
9.253 2-Imidazolidinethione
9.254 Indeno[1, 2, 3-cd]pyrene
9.255 1, 3-Isobenzofurandione
9.256 Isobutyl alcohol
9.257 Isosafrole
9.258 Kepone
9.259 Lasiocarpine
9.260 Lead acetate
9.261 Lead, bis(acetato-O)tetrahydroxytri-
9.262 Lead phosphate
9.263 Lead subacetate
9.264 Lindane

9.265 MNNG

9.266 Maleic anhydride

9.267 Maleic hydrazide

9.268 Malononitrile

9.269 Melphalan

9.270 Mercury

9.271 Methacrylonitrile

9.272 Methanamine, N-methyl-

9.273 Methane, bromo-

9.274 Methane, chloro-

9.275 Methane, chloromethoxy-

9.276 Methane, dibromo-

9.277 Methane, dichloro-

9.278 Methane, dichlorofluoro-

9.279 Methane, iodo-

9.280 Methanesulfonic acid, ethyl ester

9.281 Methane, tetrachloro-

9.282 Methanethiol

9.283 Methane, tribromo-

9.284 Methane, trichloro-

9.285 Methane, trichlorofluoro-

9.286 4, 7-Methano-1H-indene, 1, 2, 4, 5, 6, 7, 8, 8-octachloro-2, 3, 3a, 4, 7,7a-hexahydro-

9.287 Methanol

9.288 Methapyrilene

9.289 1, 3, 4-Meno-2H-cyclobuta[cd]pentalen-2-one, 1, 1a, 3, 3a, 4, 5, 5a, 5b, 6-decachlorooctahydro-

9.290 Methoxychlor

9.291 Methyl alcohol

9.292 Methyl bromide

9.293 1-Methylbutadiene

9.294 Methyl chloride

9.295 Methyl chlorocarbonate

9.296 Methyl chloroform

9.297 3-Methylcholanthrene

9.298 4, 4'-Methylenebis(2-chloroaniline)

9.299 Methylene bromide

9.300 Methylene chloride

9.301 Methyl ethyl ketone (MEK)

9.302 Methyl ethyl ketone peroxide

9.303 Methyl iodide

9.304 Methyl isobutyl ketone

9.305 Methyl methacrylate

9.306 4-Methyl-2-pentanone

9.307 Methylthiouracil

9.308 Mitomycin C

9.309 5, 12-Naphthacenedione, 8-acetyl-10-[(3-amino-2, 3, 6-trideoxy)-alpha-L-lyxo-hexopyranosy]oxy]-7, 8, 9, 10-tetrahydro-6, 8, 11-trihydroxy-1-methoxy-, (8S-cis)-

9.310 1-Naphthalenamine

9.311 2-Naphthalenamine

9.312 Naphthalenamine, N, N'-bis(2-chloroethy3)-

9.313 Naphthalene

9.314 Naphthalene, 2-chloro-

9.315 1, 4-Naphthalenedione

9.316 2, 7-Naphthalenedisulfonic acid, 3, 3'-[(3, 3'-dimethyl[1, 1'-biphenyl] -4-4'-diyl)bis[5-amino-4-hydroxy]-, tetrasodium salt

9.317 1, 4-Naphthoquinone

9.318 alpha-Naphthylamine

9.319 beta-Naphthylamine

9.320 Nitric acid, thallium (1+) salts

9.321 Nitrobenzene

9.322 p-Nitrophenol

9.323 2-Nitropropane

9.324 N-Nitrosodi-n-butylamine

9.325 N-Nitrosodiethanolamine

9.326 N-Nitrosodiethylamine

9.327 N-Nitroso-N-ethylurea

9.328 N-Nitroso-N-methylurea

9.329 N-Nitroso-N-methylurethane

9.330 N-Nitrosopiperidine

9.331 N-Nitrosopyrrolidine

9.332 5-Nitro-o-toluidine

9.333 1, 2-Oxathiolane, 2, 2-dioxide

9.334 2H-1, 3, 2-Oxazaphosphorin-2-amine N, N-bis(2-chloroethyl) tetrahydro-, 2-oxide

9.335 Oxirane

9.336 Oxiranecarboxyaldehyde

9.337 Oxirane, (chloromethyl)-

9.338 Paraldehyde

9.339 Pentachlorobenzene

9.340 Pentachloroethane

9.341 Pentachloronitrobenzene (PCNB)

9.342 Pentachlorophenol

9.343 Pentanol, 4-methyl-

9.344 1, 3-Pentadiene

9.345 Phenacetin

9.346 Phenol

9.347 Phenol, 2-chloro-

9.348 Phenol, 4-chloro-3-methyl-

9.349 Phenol, 2, 4-dichloro-

9.350 Phenol, 2, 6-dichloro-

9.351 Phenol, 4, 4'-(1, 2-diethyl-1, 2-enediyl)bis-, (E)-

9.352 Phenol, 2, 4-dimethyl-

9.353 Phenol, methyl-

9.354 Phenol, 2, 2'-methylenebis[3, 4, 6-trichloro-

9.355 Phenol, 4-nitro-

9.356 Phenol, pentachloro-

9.357 Phenol, 2, 3, 4, 6-tetrachloro-

9.358 Phenol, 2, 4, 5-trichloro-

9.359 Phenol, 2, 4, 6-trichloro-

9.360 L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-

9.361 Phosphoric acid, lead (2+) (2:3)

9.362 Phosphorodithioic acid, O, O-diethyl S-methyl ester

9.363 Phosphorus sulfide

9.364 Phthalic anhydride

9.365 2-Picoline

9.366 Piperidine, 1-nitroso-
9.367 Pronamide
9.368 1-Propanamine
9.369 1-Propanamine, N-nitroso-N-propyl-
9.370 1-Propanamine, N-propyl-
9.371 Propane, 1, 2-dibromo-3-chloro-
9.372 Propane, 1, 2-dichloro-
9.373 Propanedinitrile
9.374 Propane, 2-nitro-
9.375 Propane, 2, 2'-oxybis[2-chloro-
9.376 1, 3-Propane sultone
9.377 Propanoic acid, 2-(2, 4, 5-trichlorophenoxy)-
9.378 1-Propanol, 2, 3-dibromo-, phosphate (3:1)
9.379 1-Propanol, 2-methyl-
9.380 2-Propanone
9.381 2-Propenamide
9.382 1-Propene, 1, 3-dichloro-
9.383 1-Propene, 1, 1, 2, 3, 3-hexachloro-
9.384 2-Propenenitrile
9.385 2-Propenenitrile, 2-methyl-
9.386 2-Propenoic acid
9.387 2-Propenoic acid, ethyl ester
9.388 2-Propenoic acid, 2-methyl-, ethyl ester
9.389 2-Propenoic acid, 2-methyl-, methyl ester
9.390 n-Propylamine
9.391 Propylene dichloride
9.392 3, 6-Pyridazinedione, 1, 2-dihydro-
9.393 Pyridine
9.394 Pyridine, 2-methyl-
9.395 2, 4-(1H, 3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-
9.396 4(1H)-Pyrimidione, 2, 3-dihydro-6-methyl-2-thioxo-
9.397 Pyrrolidine, 1-nitroso-
9.398 Reserpine
9.399 Resorcinol
9.400 Saccharin, salts

9.401 Safrole
9.402 Selenious acid
9.403 Selenium dioxide
9.404 Selenium sulfide
9.405 Selenium sulfide SeS2
9.406 L-Serine, diazoacetate (ester)
9.407 Silvex (2, 4, 5-TP)
9.408 Streptozotocin
9.409 Sulfuric acid, dimethyl ester
9.410 Sulfur phosphide
9.411 2, 4, 5-T
9.412 1, 2, 4, 5-Tetrachlorobenzene
9.413 1, 1, 1, 2-Tetrachloroethane
9.414 1, 1, 2, 2-Tetrachloroethane
9.415 Tetrachloroethylene
9.416 2, 3, 4, 6-Tetrachlorophenol
9.417 Tetrachlorofuran
9.418 Thallium acetate
9.419 Thallium carbonate
9.420 Thallium chloride
9.421 Thallium chloride TlCl
9.422 Thallium nitrate
9.423 Thioacetamide
9.424 Thiomethanol
9.425 Thioperoxydicarbonic diamide [(H2N)C(S)]2S2, tetramethyl-
9.426 Thiourea
9.427 Thiram
9.428 Toluene
9.429 Toluenediamine
9.430 Toluene diisocyanate
9.431 o-Toluidine
9.432 p-Toluidine
9.433 o-Toluidine hydrochloride
9.434 1H-1, 2, 4-Triazol-3-amine
9.435 1, 1, 2-Trichloroethane

9.436 Trichloroethylene

9.437 Trichloromonofluoromethane

9.438 2, 4, 5-Trichlorophenol

9.439 2, 4, 6-Trichlorophenol

9.440 1, 3, 5-Trinitrobenzene

9.441 1, 3, 5-Trioxane, 2, 4, 6-trimethyl-

9.442 Tris(2, 3-dibromopropyl) phosphate

9.443 Trypan blue

9.444 Uracil mustard

9.445 Urea, N-ethyl-N-nitroso-

9.446 Urea, N-methyl-N-nitroso-

9.447 Vinyl chloride

9.448 Warfarin, salts, when present at concentration of 0.3 % or less

9.449 Xylene

9.450 Yohimban-16-carboxylic acid, 11, 17-dimethoxy-18-[(3, 4, 5-trimethoxybenzoyl)oxy]-, methyl ester, (3beta, 16beta, 17alpha, 18beta, 20alpha)-

9.451 Zinc phosphide Zn3P2, when present at concentration of 10 % or less

Section 4

Wastes or Unusable Materials Having Characteristics and Properties of Chemical Wastes

Article 10. Residues arising from Industrial waste disposal operations.

Article 11. Wastes from manufacture, formulation and use of wood preserving chemicals in industrial production.

Article 12. Wastes from production, formulation and use of organic solvents in industrial production.

Article 13. Used lubricating oil.

Article 14. Waste mineral oils unfit for their originally intended use and with petroleum oil mixing more than 70 %.

Article 15. Waste oils/water, hydrocarbons/water mixer emulsions in industrial production.

Article 16. Waste substances and articles containing or contaminated with polychlorinated biphenyls (PCBs) and/or polychlorinated terphenyls (PCTs) and/or polybrominated biphenyls (PBBs).

Article 17. Waste tarry residues arising from refining, distillation and any pyrolytic treatment.

Article 18. Wastes from production, formulation and use of inks, dyes, pigments, paints, lacquers, varnish in industrial production .

Article 19. Wastes from production and formulation of resins, latex, plasticizers, glues/adhesives in industrial production .

Article 20. Wastes from production and formulation of photographic chemicals and

processing materials.

Article 21. Wastes resulting from surface treatment of metals or plastics in industrial production.

Article 22. Wastes having as constituents

22.1 Metal carbonyls
22.2 Beryllium ; beryllium compounds
22.3 Hexavalent chromium compounds
22.4 Copper compounds
22.5 Zinc Compounds
22.6 Arsenic; arsenic compounds
22.7 Selenium; selenium compounds
22.8 Cadmium; cadmium compounds
22.9 Antimony; antimony compounds
22.10 Tellurium; tellurium compounds
22.11 Mercury; mercury compounds
22.12 Thallium; thallium compounds
22.13 Lead; lead compounds
22.14 Inorganic fluorine compounds excluding calcium fluoride
22.15 Organic or inorganic cyanides
22.16 Acidic solutions or acids in solid form
22.17 Basic solutions or base in solid form
22.18 Asbestos (dust and fibers)
22.19 Organic phosphorus compounds
22.20 Phenols; phenol compounds including chlorophenols
22.21 Ethers
22.22 Halogenated organic solvents
22.23 Organic solvents excluding halogenated solvents
22.24 Any congenor of polychlorinated dibenzo-furan
22.25 Any congenor of polychlorinated dibenzo-p-dioxin

Annex 5.2.4 Criteria and Methods of Detoxification, Disposal, Discarding or Landfilling of Wastes and Unusable Materials Attached to the Notification of the Ministry of Industry No. 6 [B.E. 2540(1997)]

Article 1. Detoxification, disposal, discarding or landfilling of wastes or unusable materials as prescribed in Appendix 1 (of the Notification) shall be done by the factory operator by any single or chain treatments or disposal methods, depending on characteristics and properties of the wastes or unusable materials concerned, which is subject to the approval of the Director General of the Industrial Works Department or the person assigned by the Director General of the Department of Industrial Works, as follows :-

1.1 Physical treatment.

1.1.1 Centrifugation

1.1.2 Steam distillation and Steam stripping

1.1.3 Multi-media filtration

1.1.4 Reverse osmosis, Micro-/Ultra-filtration

1.1.5 Evaporation

1.1.6 Air flotation

1.1.7 Gravity thickening

1.1.8 Oil/water separator or Coalescence separator

1.2 Physical/Chemical treatment.

1.2.1 Soil washing

1.2.2 Air stripping

1.2.3 Activated carbon adsorption

1.2.4 Precipitation/Flocculation

1.2.5 Dissolved air flotation

1.2.6 Ion exchange

1.2.7 Liquid/liquid extraction

1.2.8 Filter press, dewatering, vacuum filtration and belt-press filtration

1.3 Chemical treatment

1.3.1 Neutralization and pH adjustment

1.3.2 Oxidation/reduction reactions
1.3.3 Ozonation and UV/ozonation
1.3.4 Electrodialysis
1.3.5 Precipitation
1.3.6 Dechlorination
1.3.7 Dehalogenation

1.4 Biological treatment
1.4.1 Attached film reactors
1.4.2 Activated sludge
1.4.3 Anaerobic digestion
1.4.4 Composting
1.4.5 Stabilization ponds
1.4.6 In situ biological decomposition
1.4.7 Biological detoxification

1.5 Thermal processes for treatment and/or disposal
1.5.1 Wet-air oxidation
1.5.2 Liquid injection incineration
1.5.3 Cement kiln incineration and Rotary kiln incineration
1.5.4 Fluidized bed incineration
1.5.5 Solar evaporation

1.6 Stabilization/fixation/solidification processes
1.6.1 Molten glass
1.6.2 Chemical fixation
1.6.3 Pozzolanic and cement based solidification
1.6.4 Thermoplastic encapsulation
1.6.5 Polymer encapsulation

1.7 Land treatment and/or disposal
1.7.1 Land farming
1.7.2 Spray irrigation
1.7.3 Engineered, secured landfill
1.7.4 Above ground long-term storage
1.7.5 Deep well injection

1.8 The factory operator may use other methods of detoxification, disposal, discarding or landfilling of wastes or unusable materials differing from

those specified in Article 1.1 to Article 1.7 or other methods verifiable to be equivalent or superior to the specified ones or being methods that reduce the quantities of waste or unusable materials which must be taken to be disposed of by way of adjusting their condition or properties so that they may be safety reused/recycled, i.e. solvent recovery, oil recovery, acid regeneration and metal recovery or fuels blending for use in co-incineration in industrial kilns/furnaces or wastes exchange for use in production process, as well as use of such various action services of other persons instead.

Article 2. Wastes or unusable materials having undergone stabilization and solidification operations must have the following properties :-

2.1 Being capable of bearing an unconfined compressive strength tested under ASTM standards D-1633 and D-2166 not less than 3.5 kilograms per square centimeter or essentially being capable of safety bearing a load pressing on top of it when in secured landfill.

2.2 Having a density not less than 1.15 ton per cubic meter.

2.3 Having a concentration of the leachate or extraction fluid meeting the leachate extraction procedure so as to test that the wastes or unusable materials has fully undergone detoxification and stabilization procedures according to the methods set forth in Article 3 before being taken to landfill.

Article 3. The leachate extraction procedure and the leachate or extraction fluid concentrate analysis procedure shall follow the following methods :-

3.1 Extraction for the purpose of determining the quantities of leachable substance in the wastes or unusable materials and for the purpose of testing that the waste or unusable material has fully undergone the detoxification or stabilization procedure shall follow the following methods :-

3.1.1 If the waste or unusable material sample is a liquid or has dry solid mixing in a quantity less than 0.5 per cent, filter that sample with a glass fiber filter with a filter hole size of 0.6 to 0.8 micron / and the filtered liquid is analyzed according to Article 3.2.

3.1.2 If the waste or unusable material sample has dry solid mixing in a quantity exceeding 0.5 per cent, take action as follows :-

(1) Pulverize the waste or unusable material sample and sift it through a sieve with a mesh hole size of 9.5 millimeters.

(2) Add the resultant sample from (1) weighing 100 grams with a leachate or synthetic acid rain extraction fluid, which consists of distilled water mixed with a solution of sulfuric acid and nitric acid (in a ratio of 80 to 20 by weight), until the pH of the mixture has a constant value equal to 5 and then adjust the volume of the mixture so that the ratio of the volume of the mixture so that the ratio of the volume of the leachate is 20 times (milliliters) the weight (grams) of the sample.

(3) Agitate it on a rotary agitator with a revolution speed of 30 revolutions per minute at temperature of 25 degrees Celsius for 18 hours.

(4) Filter the leachate with a glass fiber filter with a filter hold diameter size of 0.6 to 0.8 micron.

(5) Subject the filtered liquid to the analysis under Article 3.2

3.2 To analyze for the value of hazardous substances constitute in the filtered liquid from Article 3.1.1 or 3.1.2, use the US. EPA. SW 864 standard method or the standard method used in analyzing effluent under the Notification of the Ministry of Industry No. 2 [B.E. 2539(1996)] dated 14th June 1996. Where the analysis result of the leachate shows a value exceeding such standard as set forth in Article 5, Section 1, carry out to redetoxify in order to meet properties as specified.

Annex 5.2.5 Criteria and Methods of Detoxification, Disposal, Discharging or Landfilling Attached to the Notification of the Ministry of Industry No.1 [B.E. 2541(1998)]

Article 1. The owner factory who want to detoxify, dispose, discard or landfill the wastes or unusable materials according to this notification must proceed with the following methods :-

1.1 Landfilling, in order to landfill the wastes or unusable materials without having any affect to the environment, the liner system, leak detection system, gas emission and wastewater treatment system must be provided depending on type or category of wastes or unusable materials. In addition, there must be an approval from the Industrial Works Department.

1.2 Incineration, the waste must be incinerated by controlling air emission not exceeding emission standards, according to the Notification of the Ministry of Science, Technology and Environment regarding emission standard of solid waste incinerator dated 17th June 1997.

1.3 Disposal by other methods, requiring approval form the Industrial Works Department.

1.3.1 Composting and land reclamation.

1.3.2 Recycle/reuse/recovery for only the wastes and unusable materials in article 3, Section 2 of Appendix 1 in the notification.

Article 2. The owner of factory use who want to used others person's service for disposal of the wastes or unusable materials according to this notification must obtain an approval from the Industrial Works Department.